Feeling Safe with Another: Co-regulation at the Intersection of Attachment Theory and Polyvagal Theory

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Abstract:

This article advances a conceptual dialogue between Attachment Theory and Polyvagal Theory, positioning co-regulation as their central point of convergence. While Attachment Theory explains how early relational experiences shape emotional regulation and internal working models, Polyvagal Theory provides a neurophysiological framework for understanding how states of safety and threat organize affective and relational functioning. Integrating these perspectives, the paper examines how the experience of *feeling safe with another* constitutes a foundational condition for emotional regulation and psychotherapeutic change.

Rather than proposing a unified model, the article offers an integrative conceptual framework that preserves the specificity of each theory while highlighting their shared clinical focus on embodied relational safety. The analysis demonstrates how attachment patterns and autonomic states interact through co-regulation within therapeutic encounters, fostering emotional tolerance, relational trust, and narrative integration. This perspective contributes a refined clinical lens for understanding affective dysregulation, relational trauma, and attachment-based difficulties in contemporary psychotherapy.

Keywords: attachment theory; polyvagal theory; co-regulation; relational safety; psychotherapy; affect regulation.

Introduction

Human experience is fundamentally relational from its earliest beginnings. Not only in a symbolic, interpersonal, or cultural sense, but at its most basic biological level: a living organism that regulates, or fails to regulate, itself in the presence of another. From this perspective, emotional life emerges not primarily as an intrapsychic achievement, but as a dynamic process shaped through embodied relational encounters.

Contemporary developments in developmental psychology, interpersonal neurobiology, and trauma-informed psychotherapy increasingly converge on this understanding, highlighting the central role of co-regulation in the organization of affect, identity, and relational functioning (Schore, 2001, 2022; Siegel, 2020).

Although originating from distinct disciplinary traditions, Attachment Theory and Polyvagal Theory converge around this foundational premise. Attachment Theory, developed by Bowlby (1984) and further elaborated through empirical and clinical research (Ainsworth et al., 2015; Mikulincer & Shaver, 2007), offers a developmental framework for understanding how early caregiving relationships shape internal working models that organize expectations of self, others, and emotional availability across the lifespan. In parallel, Polyvagal Theory, proposed by Porges (2011), describes how states of safety and threat are instantiated within the autonomic nervous system, thereby regulating social engagement, defensive mobilization, or shutdown. From this perspective, safety is not merely a psychological experience but a physiological condition that enables relational presence, emotional openness, and interpersonal connection (Porges & Dana, 2022).

Recent advances in affective neuroscience and interpersonal neurobiology further emphasize that relational experiences are deeply embodied and neurobiologically mediated (Feldman, 2023; Schore, 2022). These perspectives suggest that emotional regulation, attachment security, and narrative identity emerge from continuous interactions between physiological regulation and interpersonal meaning. Within this broader scientific context, the integration of attachment-based and polyvagal-informed models offers a particularly fertile conceptual and clinical dialogue, capable of deepening psychotherapeutic understanding and intervention.

At the center of this dialogue lies the concept of co-regulation. Co-regulation refers to the relational process through which one individual support another in returning to a state of emotional and physiological balance. Rather than a deliberate technique or conscious strategy, co-regulation emerges as an embodied relational condition, unfolding through rhythm, attunement, predictability, and affective presence (Feldman, 2023; Porges & Dana, 2022). Through repeated experiences of co-regulation, individuals gradually internalize capacities for emotional tolerance, self-soothing, and relational trust. In this sense, self-regulation is developmentally constructed upon a history of shared regulation (Fonagy et al., 2002; Schore, 2001).

Disruptions in co-regulation, particularly during early developmental periods, profoundly shape both attachment patterns and autonomic responses. When caregiving relationships are characterized by inconsistency, emotional unavailability, intrusion, or threat, the developing nervous system organizes itself around defence rather than safety. Such adaptations, while often necessary for survival, can later manifest as affective instability, relational avoidance, hypervigilance, dissociation, or difficulties in intimacy (Gray, 2016; Mikulincer & Shaver, 2007). These enduring patterns reflect not only symbolic meanings but also deeply ingrained physiological states, which continue to shape emotional and relational experience across the lifespan.

Within psychotherapeutic contexts, these embodied relational histories frequently become activated in the immediacy of the therapeutic relationship. Patients may oscillate between proximity-seeking and withdrawal, emotional flooding and shutdown, or relational longing and defensive detachment. Such dynamics highlight the importance of attending not only to narrative meaning and cognitive insight, but also to moment-to-moment shifts in

physiological regulation (Dana, 2018; Schore, 2022). From this perspective, psychotherapy becomes a relational space in which co-regulation can be gradually restored, allowing defensive autonomic patterns to soften and new relational possibilities to emerge.

Rather than proposing a unified or reductive theoretical synthesis, this article advances a conceptual articulation that preserves the theoretical distinctiveness of Attachment Theory and Polyvagal Theory while identifying co-regulation as their shared clinical concern. The originality of this contribution lies in situating attachment patterns and autonomic states as mutually informing dimensions of a single relational process, thereby offering clinicians a refined framework for understanding how bodily regulation and relational meaning interact within therapeutic work.

This paper presents a theoretical and clinically grounded integration. It does not aim to provide empirical validation, but rather to advance contemporary psychotherapeutic understanding by offering a conceptual lens through which clinicians can recognize, track, and therapeutically engage the embodied dynamics of attachment as they unfold in real time. By foregrounding co-regulation at the intersection of relational history and autonomic physiology, the article seeks to deepen clinical sensitivity to the lived experience of safety, threat, and connection, core dimensions of human psychological life.

1. Polyvagal Theory: Autonomic Regulation and Relational Safety

Polyvagal Theory offers an expanded understanding of the autonomic nervous system that moves beyond the classical dichotomy between the sympathetic and parasympathetic branches. Porges (2011) conceptualizes a hierarchical organization of three neural circuits shaped through phylogenetic development: the dorsal vagal system, associated with immobilization and shutdown; the sympathetic system, related to mobilization and defensive responses; and the ventral vagal system, which supports social engagement, emotional regulation, and interpersonal connection.

What distinguishes Polyvagal Theory is its emphasis on safety as a specific physiological state, rather than merely the absence of threat. When the ventral vagal system is dominant, the organism becomes available for relational engagement. Facial expressivity, vocal prosody, eye contact, and rhythmic interpersonal coordination emerge not as deliberate social strategies, but as spontaneous expressions of autonomic regulation and physiological safety.

The concept of the polyvagal ladder illustrates this hierarchical organization, describing how the nervous system dynamically shifts between states of engagement, mobilization, and immobilization in response to perceived environmental and relational cues. Under conditions of threat, the organism transitions toward defensive mobilization or shutdown. When cues of safety are detected, ventral vagal functioning is restored, enabling social connection and emotional openness. These shifts occur largely outside conscious awareness and typically precede cognitive appraisal.

From this perspective, relational safety is established less through verbal reassurance or interpretive insight than through embodied interpersonal signals. In clinical contexts, this framework underscores the importance of the therapist's regulated presence as a primary therapeutic instrument. For individuals whose nervous systems are chronically organized around threat or collapse, psychotherapeutic work often begins by restoring the physiological conditions that permit relational contact and emotional engagement. The therapist's embodied presence thus functions not as a technique, but as a relational resource facilitating co-regulation and psychological integration.

2. Attachment Theory: Secure Bonds and Internal Working Models

Attachment Theory is grounded in the premise that human beings are biologically predisposed toward proximity, connection, and relational safety. Attachment is not a secondary developmental phenomenon, but a central organizing principle of emotional life. The search for closeness to protective figures serves a fundamental regulatory function, shaping how affect is modulated in the presence or absence of relational availability.

Through repeated interactions with primary caregivers, the child develops internal working models that organize expectations about the self, others, and interpersonal relationships. When caregiving is sufficiently sensitive, consistent, and attuned, these models support a foundational sense of security. Emotional distress becomes more tolerable, as the child anticipates that comfort, containment, and regulation are accessible through relational engagement.

Secure attachment is therefore not defined by the absence of distress, but by the expectation of reliable relational repair. Emotional regulation emerges through repeated experiences of being soothed, mirrored, and emotionally held. Over time, these relational experiences are internalized, supporting the gradual development of autonomous self-regulatory capacities and emotional resilience.

Conversely, when caregiving relationships are marked by inconsistency, emotional unavailability, intrusion, or threat, attachment patterns may organize around insecurity or disorganization. Although such adaptations often serve protective functions within adverse developmental contexts, they may later manifest as heightened anxiety, emotional withdrawal, impaired affect regulation, and difficulties with trust, intimacy, and relational stability. These enduring patterns reflect not characterological deficits, but developmentally embedded strategies shaped by early relational environments.

3. Co-regulation: Where Body and Bond Converge

Co-regulation represents the most generative point of convergence between Attachment Theory and Polyvagal Theory. Although articulated through distinct theoretical languages, both frameworks describe a shared foundational process: the regulation of emotional and physiological states through relational engagement. Contemporary developmental, neurobiological, and clinical research increasingly positions co-regulation as a core mechanism underlying attachment security, affect regulation, and psychological resilience (Atzil et al., 2018; Feldman, 2023; Schore, 2022).

From a polyvagal perspective**,** co-regulation is conceptualised as a neurophysiological process through which cues of safety conveyed by another individual facilitate the activation of the ventral vagal system**,** enabling social engagement and emotional openness. Facial expression, vocal prosody, eye contact, rhythm of interaction, and bodily posture function as embodied signals that support autonomic stabilization. These regulatory cues operate largely outside conscious awareness, preceding cognitive appraisal and symbolic interpretation. When safety is detected at the level of the nervous system, defensive mobilization or shutdown can subside, allowing the organism to re-enter states of relational availability.

To clarify the conceptual integration between Attachment Theory and Polyvagal Theory, Table 1 summarizes their convergences and distinctions, highlighting co-regulation as a shared clinical process.

Table 1. Conceptual integration of attachment theory and polyvagal theory through co-regulation

Dimension	Attachment Theory	Polyvagal Theory	Integrated Perspective via Co-regulation
Core focus	Relational bonds and internal working models	Autonomic nervous system regulation	Embodied relational regulation
Primary mechanism	Sensitive caregiving and emotional attunement	Detection of safety and threat cues	Interpersonal modulation of physiological and emotional states
Developmental function	Formation of attachment security and emotional expectations	Establishment of physiological safety for social engagement	Construction of emotional regulation capacities through shared regulation
Pathology focus	Insecure and disorganized attachment patterns	Chronic sympathetic activation or dorsal vagal shutdown	Persistent dysregulation embedded in relational history and bodily states
Therapeutic target	Revision of internal working models	Restoration of ventral vagal regulation	Re-establishment of embodied relational safety
Clinical intervention	Attunement, emotional containment, interpretive insight	Somatic awareness, grounding, regulation techniques	Simultaneous engagement of relational meaning and physiological regulation
Change mechanism	Corrective emotional experiences	Neurophysiological reorganization	Co-regulated experiences fostering emotional tolerance and relational trust

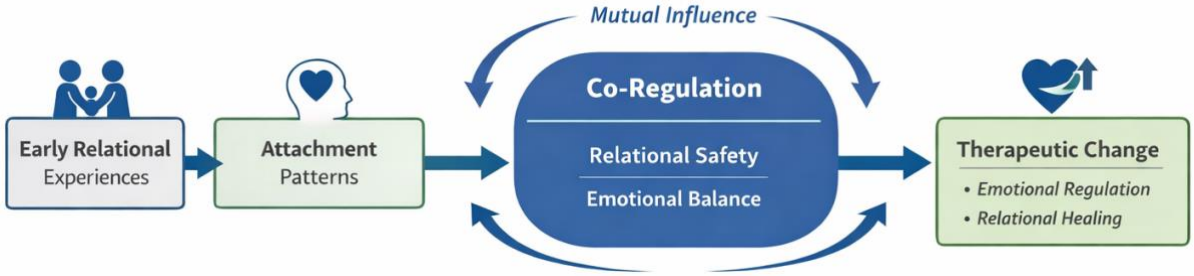
Source: Prepared by author

From an attachment perspective, co-regulation emerges through the caregiver's capacity to perceive, interpret, and respond sensitively to the child's emotional signals. Through repeated cycles of distress and repair, the child internalizes expectations of relational availability and emotional containment, which gradually support the development of self-regulatory capacities. Over time, these experiences consolidate into internal working models that shape affective expectations, interpersonal strategies, and emotional tolerance across the lifespan (Feldman, 2023; Halle et al., 2022).

Across both frameworks, regulation is fundamentally relational before it becomes individual. The capacity for self-regulation does not emerge autonomously but is constructed upon a developmental history of shared regulation. When such experiences are disrupted, inconsistent, or threatening, emotional states may become overwhelming, giving rise to defensive strategies such as hyperactivation, emotional withdrawal, or dissociation. Developmental and clinical research demonstrates that these relational histories become embedded in the nervous system, shaping enduring patterns of affect regulation, interpersonal expectation, and bodily response (Schore, 2022; Gray, 2016).

To illustrate the clinical micro-process through which co-regulation unfolds within therapeutic encounters, Figure 1 presents a dynamic model linking attachment activation, autonomic regulation, and psychotherapeutic change.

Figure 1: Conceptual model of co-regulation integrating attachment and polyvagal processes.



Source: Prepared by author

These dynamics become particularly salient within the psychotherapeutic setting, where attachment patterns and autonomic states are reactivated in real time through the immediacy of the therapeutic relationship. For instance, a patient may present with a recurring pattern: as emotional closeness begins to emerge in therapy, she experiences a tightening in her chest, shallow breathing, and an impulse to withdraw. From an attachment perspective, this reaction may reflect an avoidant relational strategy shaped by early experiences of emotional unavailability. Simultaneously, from a polyvagal perspective, the same moment can be understood as a shift toward sympathetic activation or dorsal vagal withdrawal, signalling the perception of relational threat.

Rather than addressing this pattern solely through interpretive insight, the therapist attends carefully to its embodied manifestation. Subtle cues including changes in posture, respiration, vocal tone, and gaze, are recognised as indicators of autonomic state shifts. Through a calm, regulated presence, steady eye contact, and attuned vocal prosody, the therapist offers neurophysiological signals of safety. Drawing on polyvagal-informed practices (Dana, 2018), brief orienting or grounding interventions, such as inviting slow environmental scanning, extending the exhalation, or noticing somatic sensations, may support ventral vagal re-engagement. As physiological arousal decreases, the subjective experience of threat softens, enabling renewed relational contact (Dana, 2018; Ogden & Fisher, 2015).

The subjective experience of threat softens, enabling renewed relational contact. In this process, the attachment pattern is not primarily addressed through cognitive interpretation but through direct modulation of autonomic state. By working with the nervous system, the therapist creates the conditions necessary for symbolic meaning-making and emotional integration. Defensive relational strategies, once tightly coupled to physiological threat responses, gradually acquire flexibility. Over time, these micro-processes of co-regulation accumulate, fostering increased affect tolerance, relational trust, and emotional coherence. Neurobiological and clinical evidence suggests that repeated experiences of embodied safety and interpersonal synchrony promote long-term reorganization of neural networks involved in affect regulation and social engagement, supporting durable psychotherapeutic change (Cammisuli & Castelnuovo, 2023)

From this integrative perspective, co-regulation is not merely supportive of psychotherapeutic work; it is constitutive of therapeutic change itself. The therapeutic relationship becomes a living laboratory in which new patterns of safety, connection, and emotional containment are repeatedly enacted. Through this embodied relational process, patients may gradually revise internal working models of attachment while simultaneously reorganizing autonomic regulation.

Thus, co-regulation provides a powerful conceptual bridge between relational meaning and physiological process. By recognising how attachment patterns are instantiated as autonomic states, therapists can intervene with greater precision and sensitivity, aligning psychotherapeutic technique with the embodied realities of emotional life. This integrated clinical lens deepens therapeutic effectiveness, particularly in work with trauma, chronic dysregulation, and complex relational disturbances, where verbal insight alone is often insufficient to produce enduring change.

4. Convergences, Distinctions, and Clinical Implications

Although Attachment Theory and Polyvagal Theory originate from distinct disciplinary traditions, developmental psychology and neurophysiology, respectively, their convergence around co-regulation reflects a shared understanding of emotional functioning as fundamentally relational and embodied. Both frameworks challenge purely intrapsychic models of affect regulation, emphasizing instead the central role of interpersonal context, physiological safety, and embodied experience in shaping emotional resilience and psychological well-being. At the same time, their theoretical differences offer complementary lenses through which clinicians can more precisely understand the multi-layered nature of psychological distress and therapeutic change. Contemporary clinical and neuroscientific research increasingly supports this integrative view, highlighting the dynamic interplay between relational experience, emotion regulation, and neurobiological organization (Eilert & Buchheim, 2023; Morella et al., 2022).

Theoretical Convergences

At their point of convergence, both theories conceptualize emotional regulation as fundamentally interpersonal before becoming intrapersonal. Attachment Theory emphasizes how early caregiving relationships establish internal working models that organize expectations of emotional availability, safety, and repair across the lifespan. Polyvagal Theory, in parallel, elucidates how the autonomic nervous system continuously evaluates environmental and relational cues to determine whether social engagement, defensive mobilization, or shutdown is most adaptive. Together, these perspectives articulate a unified understanding in which relational meaning and physiological state are inseparable dimensions of the same regulatory process.

This convergence becomes particularly evident in the construct of co-regulation. From an attachment perspective, co-regulation unfolds through cycles of distress, attunement, and repair that gradually scaffold the child's emerging capacity for emotional self-regulation. From a polyvagal perspective, these same cycles are instantiated as moment-to-moment shifts in autonomic state, mediated by facial expression, vocal prosody, posture, and rhythm of interaction. Co-regulation thus emerges as a biopsychosocial process, simultaneously shaping subjective experience, relational expectation, and physiological organization.

Importantly, this integrative perspective reframes psychopathology not merely as maladaptive cognition or affect, but as the persistence of defensive relational and autonomic patterns shaped by earlier experiences of threat, unpredictability, or emotional unavailability. Emotional dysregulation, interpersonal avoidance, hypervigilance, or dissociation can thus be understood as adaptive strategies that once served to preserve safety, but later constrain relational flexibility and psychological well-being.

Conceptual Distinctions and Complementarities

Despite their shared emphasis on relational regulation, Attachment Theory and Polyvagal Theory differ in their primary levels of analysis. Attachment Theory focuses on developmental trajectories, representational systems, and relational meaning, offering a narrative and symbolic framework for understanding how early relationships shape identity and interpersonal expectations. Polyvagal Theory, by contrast, foregrounds neurophysiological mechanisms, illuminating how safety and threat are encoded in the body and expressed through autonomic state shifts.

These distinctions are not theoretical liabilities but rather sources of clinical complementarity. Attachment-based approaches offer interpretive depth, enabling therapists to explore the historical and symbolic dimensions of relational suffering. Polyvagal-informed approaches, meanwhile, provide concrete strategies for stabilizing physiological arousal and restoring embodied safety. When integrated, these perspectives allow clinicians to move fluidly between meaning-making and physiological regulation, tailoring interventions to the patient's moment-to-moment regulatory capacity.

This complementarity is particularly crucial in clinical work with complex trauma, developmental trauma, and disorganized attachment, where autonomic dysregulation often precedes cognitive processing. In such cases, premature interpretive interventions may inadvertently intensify defensive responses. By contrast, interventions that prioritize physiological safety and co-regulation can create the conditions necessary for reflective functioning, narrative integration, and emotional insight to emerge organically.

Clinical Implications for Psychotherapeutic Practice

From this integrative standpoint, psychotherapy can be reconceptualized as a process of restoring relational and autonomic flexibility. Therapeutic change unfolds not solely through cognitive insight or emotional catharsis, but through repeated experiences of co-regulated safety, which gradually reorganize both attachment expectations and autonomic patterns. The therapist's embodied presence, expressed through calm affect, vocal tone, rhythm, and attuned responsiveness, thus becomes a central mechanism of therapeutic action.

This perspective carries several important clinical implications. First, it highlights the necessity of tracking physiological cues within therapeutic encounters. Subtle changes in posture, breathing, facial expression, and vocal quality often provide early indicators of shifts in autonomic state. Attending to these signals allows therapists to intervene proactively, supporting regulation before defensive patterns become entrenched.

Second, it underscores the importance of therapist self-regulation. The clinician's own autonomic stability directly influences the patient's nervous system through processes of interpersonal resonance. Cultivating embodied awareness and regulatory capacity thus becomes not merely a matter of professional self-care, but an ethical and clinical imperative.

Third, this integrative model invites a reorientation of therapeutic technique. Rather than privileging verbal interpretation or emotional exposure, clinical interventions are guided by the patient's momentary window of tolerance. Grounding, orienting, pacing, and relational attunement are deployed strategically to maintain physiological safety, thereby facilitating deeper emotional processing and narrative coherence. (Bateman & Fonagy, 2010).

Over time, these micro-processes of co-regulation accumulate, fostering increased affect tolerance, relational trust, and symbolic integration. Defensive attachment strategies gradually soften, autonomic reactivity diminishes, and patients develop greater flexibility in emotional

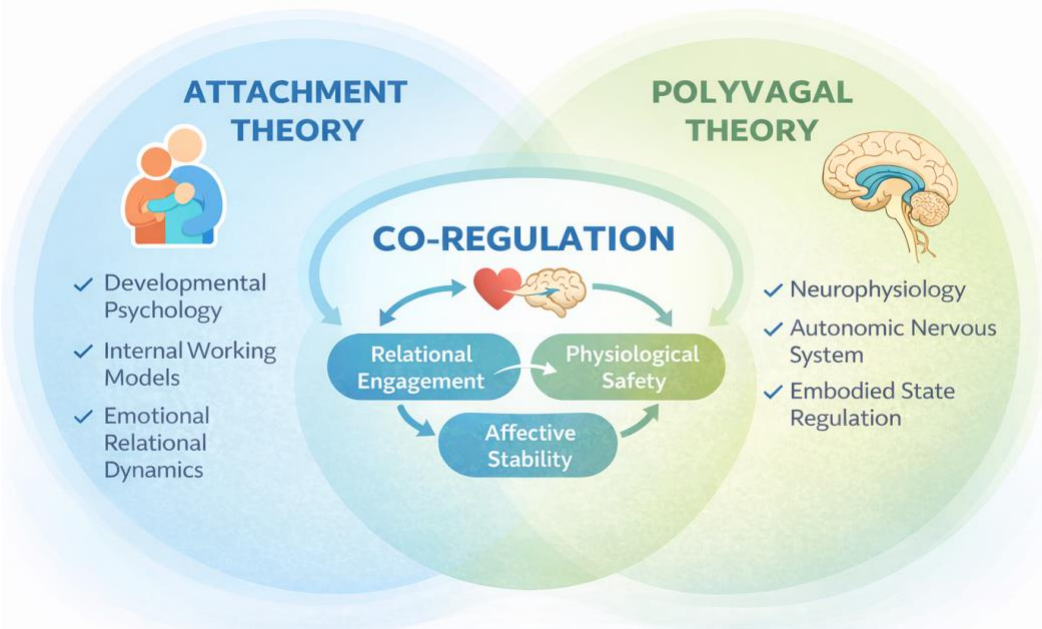
and interpersonal functioning. In this sense, co-regulation serves not merely as a supportive backdrop to therapy, but as the primary catalyst of enduring psychological change.

Toward an Embodied Relational Model of Psychotherapy

By situating co-regulation at the intersection of attachment and autonomic processes, this integrative framework contributes to the emergence of a more embodied, relationally attuned model of psychotherapy. Such a model bridges long-standing divisions between cognitive, emotional, and somatic approaches, offering a unified understanding of how relational safety and physiological regulation jointly shape psychological healing.

Figure 2 illustrates this embodied relational model of psychotherapy, highlighting co-regulation as the central mechanism linking attachment processes, autonomic regulation, and therapeutic change.

Figure 2. Embodied relational model of psychotherapy through co-regulation



Source: Prepared by author

This perspective aligns psychotherapy more closely with contemporary findings in affective neuroscience, developmental psychology, and trauma research, affirming that therapeutic change unfolds not only through insight and interpretation, but through lived relational experience enacted repeatedly within the therapeutic dyad. In doing so, it invites clinicians to cultivate a deeper sensitivity to the embodied dimensions of therapeutic presence, transforming psychotherapy into a space where new relational and physiological patterns can emerge together.

Conclusion

This article has advanced an integrative conceptual framework positioning co-regulation as the central mechanism linking Attachment Theory and Polyvagal Theory, thereby contributing to the development of a more embodied and relationally attuned model of psychotherapy. By bringing developmental, neurophysiological, and clinical perspectives into dialogue, the paper highlights how emotional regulation, relational safety, and psychological change emerge through dynamic interpersonal and bodily processes rather than solely through intrapsychic or cognitive mechanisms.

The proposed framework underscores that emotional regulation is fundamentally relational before it becomes individual, shaped through repeated experiences of embodied attunement, affective containment, and physiological safety. Within this model, co-regulation is not merely a supportive backdrop to therapeutic work but constitutes the core process through which attachment representations and autonomic patterns are gradually reorganized. This perspective reframes psychopathology as the persistence of defensive relational and physiological adaptations, offering clinicians a refined lens for understanding affective dysregulation, relational trauma, and disturbances of emotional integration.

Clinically, this integrative approach invites a reorientation of psychotherapeutic practice toward heightened sensitivity to embodied and relational processes. By attending to subtle cues of autonomic state and relational engagement, therapists can intervene with greater precision, fostering physiological stabilization and relational safety as prerequisites for emotional processing and narrative coherence. The therapeutic relationship thus becomes a living matrix in which new patterns of safety, trust, and emotional flexibility are repeatedly enacted, supporting enduring psychological change. In this sense, psychotherapy emerges as a process of co-created regulation, grounded in embodied presence and relational attunement.

Beyond its immediate clinical implications, the present framework contributes to broader theoretical efforts aimed at bridging long-standing divides between cognitive, emotional, and somatic approaches to psychotherapy. By integrating attachment-based and polyvagal-informed perspectives, the model affirms the inseparability of meaning and physiology, highlighting how narrative identity, emotional experience, and bodily regulation continuously shape one another. This synthesis aligns psychotherapeutic theory and practice more closely with contemporary findings in developmental neuroscience, affective science, and trauma research, reinforcing the central role of embodied relational experience in psychological healing.

Several limitations should be acknowledged. As a conceptual and theoretically grounded contribution, the present work does not provide direct empirical validation of the proposed model. Future research should aim to examine the neurophysiological and relational dynamics of co-regulation within therapeutic contexts using multimodal methodologies, including psychophysiological assessment, observational coding of interactional synchrony, and longitudinal outcome studies. Such investigations may further elucidate the mechanisms through which embodied relational processes facilitate emotional integration and therapeutic change.

In conclusion, by situating co-regulation at the heart of psychotherapeutic transformation, this article offers a coherent, clinically grounded, and theoretically integrative model that deepens our understanding of emotional regulation, relational safety, and psychological healing. It invites clinicians and researchers alike to engage more deeply with the embodied dimensions of therapeutic presence, fostering a psychotherapy that honors the profound interconnectedness of body, mind, and relationship.

Credit Authorship Contribution Statement

Suliani, P.R. conceived the study, developed the theoretical framework, conducted the literature review and conceptual analysis, and wrote the original manuscript. The author also contributed to manuscript revision, visualization of conceptual models, and final approval of the version to be published.

Conflict of Interest Statement

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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N/A

Ethical Approval Statement

As this study is based exclusively on theoretical analysis and review of existing literature, it did not involve human participants or personal data. Consequently, ethical approval was not required.

Data Availability Statement

Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

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