

The Musical Resonance Method (MRM)

A Conceptual Framework for Responsive Musical Interaction

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Summary

A Musical Resonance Method (MRM) session creates a responsive relational environment through improvised music in which the listener's own regulatory capacities may become more accessible. To shape a meaningful interaction, the MRM musician uses an instrument with a wide vocabulary such as the piano in a 1:1 session online or in person.

During an MRM session, the musician continuously perceives and responds to the listener through music, which may create conditions that support attunement, rapport and co-regulation. These conditions may, in turn, make the listener's own capacity for self-regulation more accessible.

Self-regulation can take many forms. A person may experience relaxation, increased presence, emotional expression, inner imagery, a sense of connection or simply a greater sense of ease. The direction and meaning of such changes remain individual. MRM does not aim to produce a predefined emotional state or experience, but offers a conceptual framework for a musical relationship where a listener may feel seen and met in the present moment, without pressure, without words, without judgement: empathy may become experientially perceptible.

This may be particularly relevant for people whose capacity for self-regulation has been challenged by prolonged stress or overwhelming experiences. MRM may therefore offer a supportive complement to therapeutic work, including for people affected by trauma.

These possibilities raise important boundaries. The musician does not regulate the listener, and cannot access or control the listener's inner processes. Self-regulation remains the listener's own process. MRM does not diagnose, process or treat trauma, and it is not a substitute for psychotherapy, medical care or evidence-based trauma treatment where such treatment is indicated. In therapeutic settings, a therapist may provide professional support before, during or after a session, where appropriate.

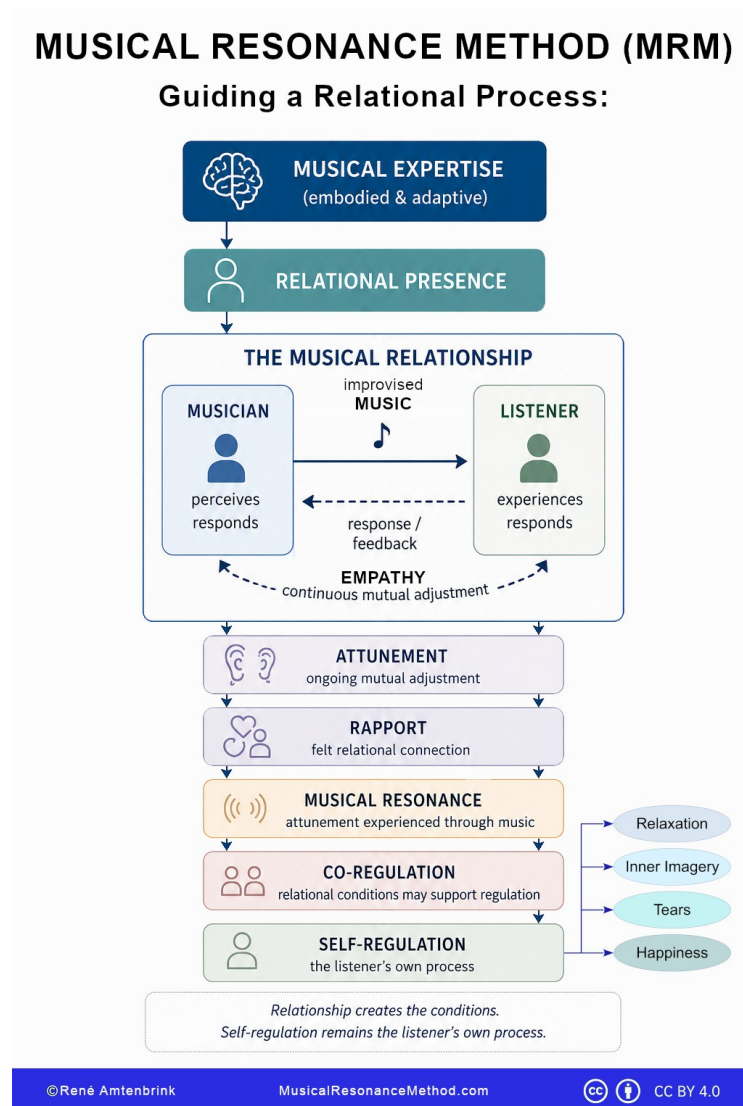
The paper explores how the proposition of MRM can be understood through perspectives from developmental psychology, attachment theory, neuroscience, embodiment, music therapy and trauma research. It also describes how the method emerged through my own musical practice and the observations that gradually led me to ask what was happening beneath the experience of the music.

Relationship emerged as the connecting layer across many aspects of the interaction during an MRM session. There seems to be a fundamental human need for relationship in our development. Perhaps this is why we can be touched on a deeper level when we experience relationship in a way that feels right for us.

I invite you to explore the story behind MRM.

René Amtenbrink

Graphical summary:



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1. The Story of Relationship

»***Every human life begins in relationship***«

Before language develops, before conscious and autobiographical memory forms, before children develop the capacity to reflect upon themselves or others, they are already participating in relationship.

Long before the first spoken word, communication is already taking place. Facial expression, body posture, eye contact, touch, movement, rhythm and vocalisation form an ongoing dialogue between infant and caregiver. These interactions provide the earliest conditions under which safety, regulation and human development can begin to emerge.

Developmental psychology observed these processes and gradually developed a deeper understanding of how profoundly early relationships shape human development. Rather than viewing infants as passive recipients of care, research increasingly described them as active participants in a continuous process of mutual interaction.

This shift fundamentally changed our understanding of human development.

Relationship before Language

For much of the twentieth century, psychological theories often focused on cognition, behaviour or intrapsychic processes. While these perspectives provided important insights, they were gradually complemented by another observation: human development unfolds within relationships.

John Bowlby's attachment theory proposed that early relationships are not merely emotionally meaningful but biologically adaptive. Secure attachment provides more than comfort; it creates conditions under which exploration, learning and emotional development become possible (Bowlby, 1969/1982).

Mary Ainsworth later demonstrated that differences in caregiver responsiveness were associated with distinct patterns of attachment behaviour, illustrating how subtle qualities of interaction influence a child's developing sense of safety (Ainsworth et al., 1978).

These findings shifted attention away from isolated behaviours toward the quality of the relationship itself.

Observing Relationship

One of the most influential developments came through the work of Daniel Stern. Rather than asking what parents or infants intended, Stern carefully observed what they actually did together.

Using detailed microanalysis of video recordings, he demonstrated that relationships are continuously shaped through countless small adjustments in timing, rhythm, facial expression, vocal tone and movement (Stern, 1985). These interactions often occur below conscious awareness.

Yet, together they create the lived experience of being understood, responded to and emotionally met by another person. Stern described this process as **attunement** - not imitation, but the capacity to resonate with another person's inner state through appropriately matched forms of expression. His work suggested that relationship is built through moment-to-moment responsiveness.

Relationship as Regulation

Subsequent research further expanded this perspective, for example:

Allan Schore proposed that emotional regulation develops initially not within the isolated individual but through repeated experiences of co-regulation between caregiver and infant (Schore, 1994; 2003).

Daniel Siegel later integrated findings from attachment research, developmental psychology and neuroscience, describing the human mind as fundamentally shaped through interpersonal processes (Siegel, 1999; 2012).

Across different disciplines, a remarkably consistent picture began to emerge. Many of the capacities that later support independent self-regulation first develop through repeated experiences of regulation with another person. Therefore, relationship is more than the context in which development occurs; **relationships shape development**.

From Observation to Understanding

Although these concepts emerged from different scientific traditions, they describe complementary aspects as follows:

- Attachment theory explains why relationships matter
- Developmental psychology demonstrates how relationships unfold
- Neuroscience explores how relational experiences become biologically embedded
- Psychotherapy increasingly recognises that the therapeutic relationship itself is one of the central conditions through which change becomes possible

These perspectives give rise to a more complete understanding of human development.

Relationship within MRM

Within MRM, relationship is understood as the primary foundation from which the music unfolds.

The quality of musical resonance depends less on musical complexity or technical perfection than on the musician's relational presence, attentiveness and responsiveness.

The improvised music is not directed toward another person as an intervention; rather, it becomes a language of relationship between musician and listener. As the relationship deepens, the music naturally evolves with it, giving audible expression to the relationship.

Chapter Summary

- Human development begins within relationship long before language emerges
- Developmental psychology, attachment theory and neuroscience describe complementary aspects of how relationships shape regulation and development
- Attunement and co-regulation provide important foundations for understanding relational processes
- Contemporary psychotherapy increasingly recognises the therapeutic relationship itself as a central mechanism of change
- MRM explores improvised music as a relational language through which similar processes may unfold

Related Core Literature

- [Bowlby, J. \(1969/1982\): *Attachment and Loss. Vol. 1: Attachment*](#)
- [Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. \(1978\): *Patterns of Attachment*](#)
- [Stern, D. N. \(1985\): *The Interpersonal World of the Infant*](#)
- [Schore, A. N. \(1994\): *Affect Regulation and the Origin of the Self*](#)
- [Siegel, D. J. \(1999\): *The Developing Mind*](#)

2. The Story of Music

»***Music may be one of humanity's oldest relational languages***«

Long before written language emerged, human beings were already making music together.

Across cultures and throughout history, music has accompanied birth and death, celebration and mourning, work and ritual. While musical traditions differ enormously, one characteristic appears remarkably consistent: music is rarely experienced in complete isolation. It is shared, responded to and shaped within human relationship.

Rather than asking what music means, researchers increasingly began to ask what music does within human interaction.

Beyond Sound

For much of Western history, music was often studied primarily as an artistic object. Harmony, melody, rhythm and form became central subjects of music theory, while psychology explored how music influences emotion, attention or cognition.

Making music together brings people into relationship. Whether singing with a child, clapping in synchrony, dancing with others or simply breathing with the phrasing of a melody, musical experience frequently involves coordination between people.

Music therefore appears not only as an acoustic phenomenon but also as a relational one.

The Discovery of Communicative Musicality

One of the most influential contributions to this perspective came from developmental psychologist Colwyn Trevarthen. Observing interactions between infants and caregivers, Trevarthen noticed that many exchanges resembled the structure of music long before children had acquired language. The elements are:

- Timing
- Rhythm
- Pauses
- Dynamics (different volumes)
- Variation
- Expectation
- Response

These interactions possessed qualities remarkably similar to musical improvisation. Together with musicologist Stephen Malloch, Trevarthen later described this phenomenon as **Communicative Musicality** (Malloch & Trevarthen, 2009).

Human beings appear biologically prepared to organise interaction through rhythm, timing, movement and vocal expression from the very beginning of life.

Synchrony and Connection

Research from psychology and neuroscience has further demonstrated that moving, singing or making music together can increase experiences of social connection. When people coordinate rhythmically, they often report stronger feelings of trust, cooperation and belonging.

Studies suggest that interpersonal synchrony may influence prosocial behaviour, emotional bonding and the perception of social closeness. The significance appears to lie less in musical performance than in the shared experience of coordinated interaction.

Music becomes a way of organising attention together.

Music within MRM

Builds upon this relational understanding of music, within Musical Resonance Method sessions, the improvised music's primary purpose is to support the emergence of an adaptive and responsive musical relationship.

The musician does not begin by asking: *"What should I play?"*

Instead, the guiding questions becomes:

"How can I respond to what is happening between us?"

Musical decisions emerge from this ongoing relational process. As relational presence deepens, music gradually becomes less of a performance and more of a shared language through which attention, responsiveness and human connection may unfold.

Music is therefore not the goal of MRM, but the medium through which relationship finds expression. The musician continuously responds to the listener using musical parameters such as tempo (slow, fast), dynamics (loud, soft, accents), articulation (legato, staccato) and musical patterns (repetitive, chaotic, harmonic) allowing the improvisation to evolve with the unfolding relationship.

Chapter Summary

- Across cultures, music has consistently accompanied human relationship.
- Contemporary research increasingly understands music not only as sound, but also as coordinated human interaction.
- The concept of Communicative Musicality suggests that rhythm, timing and expressive interaction are fundamental components of early human relationships.
- Synchrony research demonstrates that shared musical activity may strengthen experiences of connection, trust and cooperation.
- MRM builds upon these established perspectives by understanding improvised music primarily as a relational language rather than a musical performance.

Related Core Literature

- [Perret, D., Trevarthen, C. \(2005\): *Roots of Musicality: Music Therapy and Personal Development*](#)
- [Malloch, S., Trevarthen, C. \(2009\): *Communicative Musicality: Exploring the Basis of Human Companionship*](#)
- [Cross, I. \(2003\): *Music and Evolution: Consequences and causes*](#)
- [Koelsch, S. \(2014\). *Brain Correlates of Music-Evoked Emotions*](#)
- [Dissanayake, E. \(2000\). *Art and Intimacy: How the Arts Began*](#)

3. The Story of Attunement

»*Understanding often begins with careful observation*«

Some of the most influential discoveries in psychology did not begin with new theories. They began with people watching carefully.

During the second half of the twentieth century, researchers gained access to a new tool: video recording. Interactions between infants and caregivers could now be observed repeatedly, slowed down and analysed frame by frame. What appeared effortless in everyday life suddenly revealed an extraordinary level of complexity:

- A brief glance
- A pause
- A slight change in facial expression
- A shift in breathing
- A variation in vocal tone

None of these moments seemed important in isolation. Together, however, they formed a continuous process of mutual adaptation. Relationship revealed itself not as a sequence of isolated behaviours, but as an ongoing dance of mutual responsiveness.

Beyond Imitation

One of the researchers who fundamentally shaped this perspective was Daniel Stern. Rather than asking what parents intended to communicate, Stern became interested in how emotional experiences were shared between people.

His observations suggested that infants were not merely responding to external behaviour. They appeared to respond to the quality of another person's presence. When caregivers adjusted their timing, rhythm, intensity or vocal expression to match the infant's emotional state, something remarkable occurred.

The infant often became calmer, more engaged or more expressive. Importantly, this was not imitation. A smiling face did not simply produce another smiling face. Instead, emotional qualities were translated into different forms of expression while preserving their underlying vitality.

Stern described this phenomenon as **attunement** (Stern, 1985). Attunement therefore refers to the capacity to perceive another person's emotional state and respond in a way that feels meaningfully connected without merely copying external behaviour.

Feeling Understood: Empathy

A conversation in which one feels truly understood often contains remarkably few explanations. Likewise, moments of misunderstanding rarely result from incorrect words alone. They frequently arise because timing, emotional tone or responsiveness fail to match the lived experience of the other person.

Attunement therefore concerns the subjective experience of being emotionally met. In an MRM session, this may occur without words, as the listener experiences being noticed, met and responded to through music, which may be described as an empathic experience.

Empathy is a broader, closely related concept to attunement, that has been extensively discussed across psychology, healthcare and psychotherapy. Although definitions vary, contemporary perspectives commonly describe empathy as involving some combination of understanding another person's experience, affective responsiveness to it, and maintaining a distinction between one's own experience and that of the other person.

In psychotherapy, empathy is understood not only as an internal capacity of the therapist, but also in terms of how empathic understanding is perceived and experienced by the client. Research has found a meaningful association between therapist empathy and therapeutic outcomes, although the relationship is complex and varies across contexts.

This perspective has profoundly influenced contemporary psychotherapy. Across many therapeutic approaches, the therapist's capacity to remain emotionally present, responsive and appropriately attuned is increasingly recognised as an essential component of the therapeutic relationship.

Attunement as Embodied Expertise

Attunement is rarely experienced as a conscious technique. Experienced therapists do not mentally calculate every facial expression before responding. Similarly, experienced musicians do not consciously analyse every phrase while improvising. Years of performance gradually transform explicit knowledge into embodied expertise. This allows attention to remain available for the unfolding relationship itself.

Attunement therefore represents more than empathy. Empathy may be understood as involving the capacity to understand and respond to another person's experience while maintaining a distinction between self and other. Empathy provides an important foundation for attunement. Attunement reflects an embodied capacity to perceive, respond and continuously adjust within an ongoing interpersonal process.

Through ongoing mutual adjustment, attunement may gradually give rise to a felt sense of connection often described as rapport. Like many forms of expertise, attunement becomes increasingly implicit with experience.

Attunement within MRM

Attunement can be understood as one of the central organising principles of the Musical Resonance Method. Within MRM, the musician's attention remains directed toward the evolving quality of the relationship with the listener. During the first few minutes, rapport

may gradually emerge, allowing the relationship to deepen, enabling a more meaningful musical interaction to unfold naturally.

Once rapport is established, at the core of a MRM session, musical choices emerge from perceiving the listener rather than from conscious planning. Tempo, dynamics, silence, harmony, rhythm and melodic development continuously attune to the unfolding interaction. In this way, the music is lead by the relationship between musician and listener and improvisation can be seen as a relational process of ongoing attunement.

The quality of the musical interaction is reflected in the degree to which it supports the relationship and sustains rapport in the present moment. Without sufficient attunement, musical expression is unlikely to give rise to resonance.

From Attunement to Resonance

Attunement does not necessarily imply that two people feel the same. Rather, it creates conditions under which another person's experience can be sensed, acknowledged and met. Within MRM, this ongoing process of musical attunement may gradually give rise to what can be described as **musical resonance**.

Resonance is understood here as the experience that emerges when relational attunement is perceived through music, creating an impact on the listener. From this perspective, musical resonance may be understood as an artistic form of attunement.

Chapter Summary

- Frame by frame observation of early parent-infant interactions fundamentally changed the scientific understanding of human relationship: revealing a finely coordinated pattern of small, timed gestures to express relationship.
 - Daniel Stern introduced **attunement** to describe the capacity to share emotional experience through appropriately matched forms of expression rather than simple imitation.
 - Contemporary psychotherapy increasingly recognises attunement as a core quality of effective therapeutic relationships.
 - Attunement develops through embodied expertise rather than conscious technique alone.
 - Within MRM, improvised music becomes a medium through which relational attunement may be expressed and experienced. Empathy may become experientially perceptible through the listener's experience of being noticed, met and understood non-verbally as musical resonance emerges.
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Related Core Literature

- [Stern, D. N. \(1985\): *The Interpersonal World of the Infant*](#)
- [Stern, D. N. \(2004\): *The Present Moment in Psychotherapy and Everyday Life*](#)
- [Beebe, B., & Lachmann, F. M. \(2002\): *Infant Research and Adult Treatment*](#)
- [Tronick, E. \(2007\): *The Neurobehavioral and Social-Emotional Development of Infants and Children*](#)

- [Schore, A. N. \(2012\): *The Science of the Art of Psychotherapy*](#)
- [Gerdes et al./Håkansson et al. \(2020\). *Toward a consensus on the nature of empathy: A review of reviews*](#)
- [Elliott et al. \(2018\). *Therapist empathy and client outcome: An updated meta-analysis*](#)

4. The Story of Co-Regulation

»***Human beings are born with the capacity to develop self-regulation, but not with fully developed self-regulation itself***«

One of the most significant shifts in contemporary developmental science has been the growing recognition that emotional regulation does not begin within the isolated individual. It begins between people.

Long before children are able to calm themselves independently, regulate overwhelming emotions or organise complex internal states, these functions are gradually supported by another nervous system. A caregiver soothes. Waits. Responds. Adjusts. The child's nervous system does not regulate in isolation. It regulates in relationship.

The Developing Nervous System

Throughout the twentieth century, psychology increasingly moved away from viewing emotional regulation as a purely individual achievement. Developmental research demonstrated that the capacity for self-regulation gradually emerges through thousands of experiences of being regulated by others. This process has become known as co-regulation.

Co-regulation describes a dynamic process through which one person's stable presence, responsiveness and emotional availability support another person's capacity to regain or strengthen internal regulation. Over time, these repeated relational experiences contribute to the development of increasingly autonomous self-regulation. In this sense, self-regulation grows out of co-regulation.

Safety before Change

Stephen Porges' Polyvagal Theory further contributed to this understanding by highlighting the close relationship between physiological regulation, perceived safety and social engagement (Porges, 2011). According to this perspective, the human nervous system continuously evaluates the environment for cues of safety or danger - a largely unconscious process that Porges termed *neuroception*.

When sufficient cues of safety are present, social engagement becomes more accessible: Curiosity increases and attention broadens. The organism becomes more available for connection, exploration and learning.

Although different theoretical models describe these processes in different ways, they converge around a similar observation: Experiences of safety often precede the capacity for meaningful change.

Co-Regulation throughout Life

Co-regulation begins in infancy. Close relationships continue to influence emotional regulation throughout life. Supportive conversations, shared silence, compassionate presence or simply sitting with another trusted person may alter physiological arousal, emotional experience and subjective wellbeing. Co-regulation is not a developmental stage that is eventually left behind, but is a lifelong human capacity.

Psychotherapy itself increasingly recognises that therapeutic change does not occur solely through interpretation or insight. The therapeutic relationship provides an interpersonal context in which new regulatory experience becomes possible.

Music and Co-Regulation

Music introduces a unique dimension to this relational process.

Unlike spoken language, music can organise attention, breathing, timing, emotional pacing and silence without requiring conceptual understanding. Two individuals do not need to interpret the same melody in identical ways to share a deeply coordinated experience.

Improvised music therefore offers a flexible relational medium through which attunement and co-regulation may unfold simultaneously. Instead of directing the listener toward a predetermined emotional outcome, the music continuously adapts to the evolving relationship.

Co-Regulation within MRM

Within the Musical Resonance Method, the musician seeks to cultivate conditions in which a responsive musical relationship may gradually emerge, which may support processes of co-regulation. The listener may begin to feel safe, feel understood without words and gradually settle into a calmer psychological state.

The musician focuses on the listener and observes, feels, responds. The musician may enter a state of flow beyond deliberate thought, not consciously knowing what will be played next. The musician explores the relationship.

The intention is to remain sufficiently present and responsive that the relationship itself can support the listener's own capacity for regulation. The intention is never to produce a specific emotional state.

In this sense, the music does not regulate the listener. The relationship, expressed through music, may support regulation.

From Co-Regulation to Self-Regulation

The capacity for self-regulation may become more accessible under certain relational conditions within a MRM session: When experiences of attunement and co-regulation are sustained over time, many listeners report increasing inner calm, emotional spaciousness or a renewed sense of connection with themselves.

From the perspective of MRM, these experiences are understood as possible expressions of the listener's own emerging self-regulatory capacities. The musician cannot access or control them. Self-regulation remains the listener's own process, which will be explored further in the next chapter.

Chapter Summary

- Contemporary developmental science understands self-regulation as emerging through repeated experiences of co-regulation
 - Co-regulation describes a dynamic relational process rather than external control or dependency
 - Perceived safety plays a central role in supporting regulation, exploration and learning
 - Music offers a unique relational medium capable of supporting attunement and co-regulation without relying on verbal communication
 - Within MRM, music itself does not regulate the listener directly; rather, a responsive musical relationship may provide conditions that support the listener's own capacity for regulation
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Related Core Literature

- [Schore, A. N. \(1994\): *Affect Regulation and the Origin of the Self*](#)
- [Schore, A. N. \(2003\): *Affect Dysregulation and Disorders of the Self*](#)
- [Porges, S. W. \(2011\): *The Polyvagal Theory*](#)
- [Siegel, D. J. \(2012\): *The Developing Mind* \(2nd ed.\)](#)
- [Tronick, E. \(2007\): *The Neurobehavioral and Social-Emotional Development of Infants and Children*](#)

5. The Story of Self-Regulation

»Self-regulation is one of the central processes through which human beings adapt to their inner and outer environment«

In the context of MRM, it provides an important perspective on what may happen within the listener during and after a musical relationship.

Understanding Self-Regulation

In psychology, self-regulation describes the processes through which people influence and manage their own internal states, including emotions, attention, thoughts and behaviour.

Emotion regulation is one important aspect of this broader capacity. James Gross described emotion regulation as the processes through which people influence which emotions they experience, when they experience them, and how they experience or express them. His process model shows that regulation can occur at different stages of an emotional response: by influencing a situation, directing attention, changing how an event is interpreted, or modulating the resulting response (Gross, 1998).

Self-regulation is a dynamic capacity that develops throughout life and is influenced by experience, environment and relationships.

Regulation develops through Relationship

Early in life, infants depend on caregivers to help regulate states they cannot yet regulate independently. Through repeated interactions, the child gradually develops an increasing capacity to recognise, tolerate and influence internal states. Regulation therefore begins as a relational process and becomes increasingly integrated within the individual.

This connection between interpersonal and individual regulation continues throughout adulthood. Sbarra and Hazan describe co-regulation and self-regulation as interconnected processes within close relationships. Their work shows how relational states can influence physiological and psychological regulation, while individual regulatory processes remain essential for adaptation and recovery (Sbarra & Hazan, 2008).

A person may experience greater safety, stability or connection within a relationship (co-regulation). This can create conditions in which their own regulatory capacities become more accessible (supporting self-regulation).

Expressions of Self-Regulation

Self-regulation can take many different forms:

- Types of relaxation:
 - physical tension decreases
 - breathing changes
 - feeling more settled
- Regulation may involve emotional expression:
 - Tears can accompany a shift in emotional state, allowing an experience to be felt and processed rather than remaining held in tension
- Other experiences may include:
 - Happiness
 - inner imagery
 - memories
 - increased presence
 - a sense of emotional clarity

Importantly, self-regulation is not necessarily about moving towards one predefined emotional state. The direction of change depends on the person, the situation and what is needed at that moment. When self-regulation occurs in the presence of another person, this emphasises the need of a suitable response within the relationship to sustain attunement.

For one person, regulation may mean becoming calmer. For another, it may mean becoming able to feel something that had previously been difficult to access. For another, it may simply mean finding enough inner space to remain present with an experience.

Self-Regulation within MRM

Because the music is created in real time, it can continuously adapt to the relationship. Rather than directing the listener towards a predetermined outcome, the music can be understood as a musical response that accompanies and ideally resonates with the listener's changing state.

The role of the musician is not to produce a particular state in another person. It is to remain sufficiently present and responsive for a meaningful relational process to develop, which may support the unfolding of self-regulation. A suitable musical response during a

process of self-regulation may further support the listener. If strong emotional states are expressed by the listener, the musician may verbally ask the listener what is needed in that moment – if the music should continue or if the listener prefers to have some time and space to breathe to settle.

The musician needs to be able to remain present especially in those emotional moments. When sufficient attunement is sustained, a musical response may be given. At other times, the musician may simply remain present without music or words, continuing to support the conditions for self-regulation. Often, it may already be helpful to simply witness the process, communicating without words that the listener is not alone. If the listener becomes tearful, a gentle gesture such as handing over a tissue may be supportive; where appropriate and welcomed by the listener, holding a hand may also provide a sense of connection. Also, a moment of silence at the end of a session can give space for the experience to settle.

Possibilities and Boundaries

Self-regulation is a fundamental human capacity, but its availability varies with circumstances. Stress, exhaustion, emotional load, health and the quality of the surrounding environment can all influence how a person can regulate at a given moment.

A supportive relationship can therefore become an important resource to make a difference. Therefore, MRM sessions may lead to a broad variety of experiences: One listener may relax deeply, another may become tearful, another may experience vivid imagery, while someone else may simply enjoy the music without experiencing a noticeable emotional response or shift in self-regulation. Also, the same person may have very different experiences from one MRM session to another.

If a session brings up severe or overwhelming trauma-related responses, the listener should seek appropriate professional support to help process the experience.

The Listener's Own Process

The concept of self-regulation completes the relational process described throughout this paper:

- Attunement allows the musician to perceive
- Rapport establishes a felt relational connection
- Musical resonance describes the experience of this relationship through music
- Co-regulation describes how regulation may be supported within the relationship
- Self-regulation describes what ultimately happens within the listener

These processes are interconnected and may unfold simultaneously throughout a session.

The listener already possesses capacities for regulation, adaptation and growth. The listener is not regarded as someone who needs to be changed or directed by the musician, but as someone to be accepted, met, seen and responded to. This requires both musical and social adaptive expertise to be embodied by the musician, covered later in this paper.

While the musician has a guiding and supportive role, being in relationship with the listener may also affected the musician. This may give rise to the need for reflection and, where appropriate, professional supervision, particularly when a session has been emotionally intense or raises personal questions for the musician.

The next chapter explores the possibilities and limitations of self-regulation.

Chapter Summary

- Self-regulation describes the human capacity to influence and adapt internal states, including emotions, attention, thoughts and behaviour
- Psychological research shows that regulation is dynamic and can occur through different processes, including changes in attention, interpretation and emotional response (Gross, 1998)
- Self-regulation develops within a relational environment and remains interconnected with co-regulation throughout life (Sbarra & Hazan, 2008)
- Within MRM, the musical relationship may create conditions that support the listener's own regulatory capacities such as self-regulation
- Possible experiences such as relaxation, emotional expression, happiness or inner imagery may accompany changes in the listener's internal state, while the specific form and meaning of these experiences remain individual

Related Core Literature

- **Gross, J. J. (1998):** *The Emerging Field of Emotion Regulation: An Integrative Review.*
Review of General Psychology, 2(3), 271–299:
<https://doi.org/10.1037/1089-2680.2.3.271>
- **Sbarra, D. A., & Hazan, C. (2008):** *Coregulation, Dysregulation, Self-Regulation: An Integrative Analysis and Empirical Agenda for Understanding Adult Attachment, Separation, Loss, and Recovery*
Personality and Social Psychology Review, 12(2), 141–167:
<https://doi.org/10.1177/1088868308315702>

6. The Story of Trauma

»Trauma can profoundly affect a person's sense of safety, connection and ability to regulate«

Trauma provides another perspective on why self-regulation and relationship can become particularly important after overwhelming experiences.

What is Trauma?

A traumatic experience can arise when a person is exposed to an event or situation that overwhelms their ability to cope with what is happening. Such experiences may include serious accidents, violence, abuse, war, torture, serious illness or other events involving actual or threatened death, serious injury or sexual violence. Traumatic experiences may occur as single events, repeated experiences or occur over longer periods of time.

A traumatic event does not inevitably result in lasting psychological trauma. People respond differently to overwhelming experiences, and many acute stress reactions gradually settle with time. However, when difficulties persist, they can affect emotions, thoughts, bodily states, behaviour and relationships.

Post-traumatic stress disorder (PTSD) can involve re-experiencing, avoidance, hyperarousal, changes in mood and thinking, emotional numbing, dissociation, emotional dysregulation and difficulties in relationships.

Trauma can therefore be understood not only in terms of what has happened to a person, but also how the experience continues to affect the person's sense of safety and regulation, which may be expressed through altered responses to different life situations.

When Regulation Becomes Difficult

The human nervous system continuously adapts to changing demands. Following overwhelming experiences, this adaptive process can remain highly activated even when the immediate danger has passed.

A person may:

- remain alert to possible threats
- experience intrusive memories or images
- have difficulty sleeping
- avoid reminders of what happened
- find emotional states difficult to regulate

These responses can make it harder to return to a stable sense of safety and presence.

When a person's capacity for self-regulation cannot meet the demands placed on it following a traumatic experience, they may need increased external support and relational safety before their own regulatory resources become sufficiently accessible again.

Trauma is not meant to be reduced to a problem of self-regulation. Regulation is one part of the broader process through which a person adapts to and recovers from overwhelming experiences, which is the focus of this paper.

What Supports Recovery?

Recovery from trauma is influenced by many factors. A person's circumstances, existing resources, relationships, physical state, psychological state, and the nature and duration of the traumatic experience can all play a role.

One important factor is **safety**. A person needs sufficient stability and protection from further harm for recovery to become possible.

Another important factor is **social connection**. Research has consistently found an association between social support and PTSD symptoms. A longitudinal meta-analysis including 75 samples and more than 32,000 participants found a reciprocal relationship: greater social support predicted fewer later PTSD symptoms, while PTSD symptoms also predicted reductions in social support over time (Wang et al., 2021).

Supportive relationships can therefore become an important resource during recovery. Being met by another person with calmness, responsiveness and respect may contribute to a greater sense of safety and connection.

The World Health Organization's concept of Psychological First Aid similarly emphasises humane, supportive and practical assistance for people experiencing acute distress. It includes listening without pressuring people to talk, helping them feel calm, connecting them with social support and protecting them from further harm.

At the same time, supportive regulation is only one part of recovery. When a person develops PTSD or clinically significant trauma-related symptoms, evidence-based trauma-focused treatment may be indicated. Current clinical guidelines recommend trauma-focused CBT (Cognitive Behavioural Therapy) for children, young people and adults in relevant circumstances, and EMDR (Eye Movement Desensitisation and Reprocessing) is also recommended for adults with PTSD under specified conditions. These approaches include structured work with traumatic memories, trauma-related emotions, meanings, avoidance and the restoration of adaptive functioning.

This distinction is important: creating conditions for regulation and providing support are different from processing a traumatic memory therapeutically.

Relationship and Trauma

Trauma can affect a person's relationship with themselves, their body and other people. Trust may become more difficult. A person may feel unsafe even in situations that are objectively safe, or find it difficult to remain present when strong emotions or bodily sensations arise.

A responsive relationship can provide a helpful experience. Someone who remains present without demanding anything, responds sensitively and respects the person's boundaries may contribute to a sense of safety. This does not require the person to explain or analyse what happened. Sometimes, simply being accompanied without pressure can be meaningful.

This is reflected in approaches to psychological support after crisis. Psychological First Aid, for example, explicitly emphasises listening without pressuring people to talk and helping people feel calm and connected to appropriate social support. From the perspective developed throughout this paper, such experiences can be understood through the sequence of **attunement, rapport, co-regulation and self-regulation**.

Trauma and Music

Music offers a particular form of human interaction because it can communicate without requiring words. It can convey emotional qualities, changes in intensity, rhythm, tension and release. It can also provide a shared temporal structure between people.

For someone who finds verbal expression difficult, a musical interaction may therefore provide another way of experiencing connection and being met. A distinctive feature of MRM is that the music is created in response to the listener.

Rather than selecting a predetermined piece of music, the musician continuously perceives the listener and responds through sound. The musical process can therefore remain flexible as the listener's state changes. This makes music part of the relationship rather than merely something presented to the listener.

Trauma within MRM

Within MRM, the musician's role is to provide a responsive and supportive relational environment in which the listener's own capacities for regulation may become more accessible. The music may accompany changes in the listener's state, while the musician remains attentive to the person rather than pursuing a predetermined emotional outcome.

For someone affected by traumatic experiences, this may support experiences such as settling, increased presence, emotional expression, connection or a temporary sense of safety. Such experiences may be relevant to recovery, but they are not equivalent to trauma processing or treatment of PTSD.

MRM does not aim to deliberately evoke traumatic memories or emotional states. The focus remains on the person's present experience and on maintaining a sufficiently responsive relationship. The musician may therefore respond to a listener becoming emotionally activated by changing the music, becoming quieter, stopping the music, allowing silence or simply remaining present. If appropriate, the musician may also ask what the listener needs in that moment.

In the context of trauma, this relational process may create conditions in which self-regulation becomes more accessible.

The musician perceives the listener.

The music responds.

The relationship develops.

Neither the musician nor the music is understood to heal trauma. Rather, the framework of an MRM session may provide a supportive environment in which the listener's own regulatory and adaptive capacities can become active.

Where significant trauma-related symptoms or overwhelming responses are present, appropriate professional assessment and therapeutic support remain important. Evidence-based trauma-focused therapies are specifically designed to address the processing of traumatic memories and associated emotions and meanings, which is beyond the scope of MRM.

Possibilities and Boundaries

The potential relevance of MRM to trauma therefore lies primarily in supporting the conditions for regulation and connection. A session may offer a person an experience of being accompanied without pressure, of being perceived without having to explain, and of having the musical environment adapt to their present state.

The response remains individual. One person may experience relaxation, another may become tearful, someone else may experience imagery, memories or increased presence, while another may simply enjoy the music or experience no noticeable change.

Especially in the context of trauma, the musician needs to recognise the limits of their role. A strong emotional response does not automatically mean that therapeutic processing is taking place. Emotional activation may also exceed what can be appropriately supported within a musical session.

For this reason, MRM is best understood as a potentially supportive complement to therapeutic work, not as a treatment for trauma or PTSD. The distinction is fundamental: MRM may support regulation. Therapeutic trauma work addresses trauma.

The next chapter will explore the bodily layer of the relationship, where clues to the listener's state can be recognised to assess how to provide supportive presence.

Chapter Summary

- Traumatic experiences can profoundly affect a person's sense of safety, regulation, connection and presence
 - Recovery is influenced by multiple factors, including safety, social support, individual regulatory capacities and appropriate therapeutic intervention when clinically indicated
 - Supportive relationships can contribute to conditions in which a person's own regulatory capacities become more accessible
 - Within MRM, responsive musical interaction may provide such a relational environment, potentially supporting experiences of safety, connection and self-regulation
 - MRM is therefore understood as a potentially supportive complement to therapeutic work, not as a treatment for trauma or PTSD
-

Related Core Literature

- **Wang, Y., Chung, M. C., Wang, N., Yu, X., & Kenardy, J. (2021).** *Social support and posttraumatic stress disorder: A meta-analysis of longitudinal studies.* Clinical Psychology Review, 85, 101998:
<https://pubmed.ncbi.nlm.nih.gov/33714168/>
- **Zalta, A. K., Tirone, V., Orlowska, D., et al. (2021).** *Examining moderators of the relationship between social support and self-reported PTSD symptoms: A meta-analysis.* Psychological Bulletin, 147(1), 33–54:
<https://pmc.ncbi.nlm.nih.gov/articles/PMC8101258/>
- **National Institute for Health and Care Excellence (NICE) (2018, reviewed 2025).** *Post-traumatic stress disorder guideline (NG116):*
<https://www.nice.org.uk/guidance/ng116>
- **World Health Organization, War Trauma Foundation, & World Vision International (2011).** *Psychological First Aid: Guide for Field Worker:*
<https://www.who.int/publications/i/item/9789241548205>

7. The Story of Embodiment

»***Human experience is something we live through the body***«

For much of modern psychology, the mind was often studied as if it could be understood independently of the body. Thoughts, beliefs and cognition became central topics of research.

Gradually, however, another perspective emerged: Perception, emotion, movement and bodily sensation were increasingly recognised not as separate from psychological experience, but as integral to it. The human body actively participates in shaping experience itself.

From Cognition to Lived Experience

Phenomenology and embodied cognition further expanded this understanding. Thinkers such as Maurice Merleau-Ponty argued that human beings do not first observe the world and then relate to it. We are already immersed in it through perception and bodily presence (Merleau-Ponty, 1945/2012).

Contemporary embodied cognition similarly proposes that thinking cannot be fully separated from movement, sensation and interaction with the environment. Our understanding of ourselves and others is continuously shaped through lived bodily experience. This perspective has influenced psychology, neuroscience, psychotherapy and, increasingly, music therapy.

The Body within Relationship

Embodiment also changes how relationship is understood. Human interaction can include expression for example through:

- Posture
- Gesture
- Breathing
- Facial expression
- Movement
- Touch
- Absence

Often these processes occur beneath conscious awareness. Yet, they continuously shape how another person's presence is experienced.

Relationship is embodied: two individuals may also express how comfortable they feel with somebody by the distance between each other.

Attunement is embodied: two individuals are for example attuned when sitting in silence or while running. If one individual is excited and one is sleepy, there is not much attunement.

Co-regulation is embodied: breathing or even the heartbeat may sync.

Music is profoundly embodied as well: From sitting quietly and listening to dancing in a loud club:

- Breathing changes
 - Attention shifts
 - Muscle tone softens or increases
 - Internal rhythms gradually reorganise
 - Listening itself becomes a bodily experience
-

Musical Embodiment

Unlike spoken language, music does not require conceptual understanding in order to be experienced. The following embodied qualities may help explain why music can reach people in a different way than words:

- Its *rhythms* invite movement and make dancing together possible
- Its *tempo* influences breathing and heartbeat
- High *volumes* of music or touching a vibrating surface can be felt physically
- Even its *stillness* communicates

Importantly, this does not imply that music bypasses cognition. Rather, music engages multiple dimensions of human experience simultaneously. Thinking, feeling, sensing and relating remain interconnected.

Therefore, music becomes a uniquely rich medium for embodied human relationship.

Embodiment within MRM

Within the Musical Resonance Method, the listener is understood as an embodied human being whose experience continuously unfolds through perception, sensation, emotion and relationship. The listener's response to the musical interaction may express as:

- Changes in breathing
- Moments of stillness
- Subtle shifts in posture
- Tears
- Relaxation
- Happiness
- Emerging imagery

Improvised music does not seek to guide thoughts but to accompany embodied experience as it unfolds. These experiences are understood as possible expressions of an individual engaging in its own process of regulation and integration. The musician does not attempt to enforce or direct these processes and these expressions cannot be the goal of a session. The goal is to be in relationship with the listener.

The musician remains present in the moment, expressing the relationship through attunement with the listener and thereby creating conditions in which such processes may occur depending on the individual's state.

Embodiment reminds us that human relationship is never merely an exchange of thoughts. It is lived through perception, movement, emotion and presence. Music allows these dimensions to become audible.

Presence before Interpretation

One consequence of an embodied perspective is that experience is given priority over explanation. After a MRM session, the listener is invited to remain with the experience and, if desired, share reflections later, once the experience has been processed.

Meaning may emerge through reflection. It does not need to be produced during the musical encounter itself.

Chapter Summary

- Contemporary psychology increasingly understands human experience as fundamentally embodied.
 - Perception, emotion, movement and bodily sensation continuously interact in shaping human experience.
 - Relationship, attunement and co-regulation are always embodied processes rather than purely cognitive events.
 - Music engages multiple dimensions of embodied experience simultaneously, making it a unique medium for human relationship.
 - Within MRM, the musician accompanies, witnesses and participates in embodied relational process.
-

Related Core Literature

- [Merleau-Ponty, M. \(1945/2012\): *Phenomenology of Perception*](#)
- [Damasio, A. \(1994\): *Descartes' Error: Emotion, Reason and the Human Brain*](#)
- [Damasio, A. \(1999\): *The Feeling of What Happens*](#)
- [Fuchs, T. \(2018\): *Ecology of the Brain: The Phenomenology and Biology of the Embodied Mind*](#)
- [Koch, S. C. \(2017\): *Body Memory, Metaphor and Movement*](#)

8. The Story of Music Therapy

»***Music has long served as a medium of care***«

Throughout history, music has accompanied healing practices in many cultures.

- Lullabies comforted infants.
- Songs accompanied communal rituals.
- Music offered structure during grief, celebration and transition.

Although these practices differed widely across societies, they shared a common observation: Music appeared capable of supporting people in ways beyond entertainment. The emergence of modern music therapy transformed these observations into a professional discipline.

From Practice to Profession

During the twentieth century, music therapy gradually developed as an interdisciplinary field drawing upon music, psychology, medicine and education. Rather than viewing music solely as artistic expression, music therapists began exploring how musical experience could support emotional, cognitive, social and physical wellbeing across diverse clinical contexts.

Different schools of music therapy emerged. Some emphasised receptive listening. Others focused on active improvisation. Some worked psychodynamically. Others integrated neurological, behavioural or humanistic perspectives. Across this diversity, one principle gradually became increasingly clear: The therapeutic potential of music cannot be separated from the therapeutic relationship.

Improvisation as Relationship

Among the most influential developments within music therapy was the growing recognition of improvisation. Pioneers such as Juliette Alvin, Paul Nordoff and Clive Robbins demonstrated that improvised music could become a powerful medium for communication, particularly when verbal language was limited.

Improvisation allowed therapist and client to create something together in the present moment. Rather than applying predetermined musical material, music could emerge responsively within the unfolding relationship. This represented more than a change in musical technique. It reflected a fundamentally relational understanding of music. Music was no longer simply something delivered to a client. It became something created between people. This form of non-verbal musical communication may foster attunement.

A Growing Scientific Foundation

Over recent decades, music therapy has developed an increasingly robust scientific foundation. Research has explored applications across mental health, neurorehabilitation, palliative care, dementia care, developmental disorders and many other areas.

Systematic reviews and meta-analyses suggest that music therapy may contribute positively to emotional wellbeing, quality of life and psychological functioning in a range of clinical populations.

Importantly, however, contemporary music therapy research increasingly recognises that therapeutic outcomes cannot be attributed solely to music itself. The quality of the therapeutic relationship consistently emerges as one of the most important factors influencing clinical work. Once again, relationship appears at the centre.

Music Therapy and MRM

The Musical Resonance Method builds upon many of the relational insights that music therapy has developed through decades of clinical practice and scientific research.

Where music therapy encompasses a broad professional discipline with diverse theoretical orientations and clinical applications, MRM describes a specific relational musical practice cultivating conditions that may support self-regulation.

In this sense, MRM may be understood as a complementary framework that shares important philosophical foundations with contemporary music therapy while offering a clearly defined relational musical practice.

Chapter Summary

- Modern music therapy emerged from longstanding observations that music may support human wellbeing.
- Contemporary music therapy represents a diverse interdisciplinary profession with a strong and growing scientific foundation.
- Improvisation became one of the defining relational practices within contemporary music therapy.
- Across many music therapy approaches, the therapeutic relationship consistently remains a central factor.
- MRM builds upon these relational foundations while proposing a distinct relational musical practice that may complement existing therapeutic work.

Related Core Literature

- [Alvin, J. \(1975\): *Music Therapy*](#)
- [Nordoff, P., & Robbins, C. \(1977 / 2005\): *Journey into creative Music Therapy*](#)
- [Bruscia, K. E. \(2014\): *Defining Music Therapy* \(3rd ed.\)](#)
- [Wigram, T., Pedersen, I. N., & Bonde, L. O. \(2002\): *A Comprehensive Guide to Music Therapy*](#)
- [Bunt, L., & Stige, B. \(2014\): *Music Therapy: An Art Beyond Words*](#)

9. The Story of Human Expertise

»**The highest levels of expertise often become increasingly invisible**«

Watching an experienced professional at work can be surprisingly deceptive.

- A skilled surgeon appears calm while performing procedures of extraordinary complexity
- An experienced police officer moves through chaotic situations with remarkable clarity
- A experienced musician does not think about every note when improvising and is capable of speaking, singing or sometimes dancing while playing an instrument

Although these professions differ greatly, they share one remarkable characteristic:

Expertise changes perception.

Performances at this level represent the embodiment of thousands of hours of deliberate practice. From the outside, such expertise may appear simple and effortless. Years of experience gradually transform explicit knowledge into embodied expertise.

As expertise develops, attention is progressively liberated from technical execution and becomes available for perceiving the unfolding situation itself. Therefore, the highest levels of expertise become visible not through greater effort, but through greater presence, making exceptional skill appear effortless.

From Explicit Knowledge to Adaptive Expertise

Learning typically begins consciously:

- Tasks are analysed
- Concepts are studied
- Techniques are practised deliberately
- Mistakes are corrected
- Actions require continuous attention and conscious decision

Through repeated practice, however, explicit knowledge gradually becomes embodied competence. Familiar examples include:

- Learning to walk
- Learning to ride a bicycle
- Learning to drive a car

While learning, holding a conversation or being exposed to something else that requires attention as well, may increase failure in the new task to perform. Once such a skill has become embodied, we can even hold a conversation while doing it.

Experienced professionals can notice patterns that remain invisible to beginners. They recognise meaningful relationships where others perceive isolated details. Their attention gradually shifts away from planning and monitoring their own actions toward perceiving the unfolding situation itself. In relational professions, increasingly more attention becomes available for other human beings and the surroundings, as technical execution recedes into the background and becomes embodied. Rather than selecting from numerous possible options, they often perceive and respond naturally to what the situation itself requires.

This process has become known as **adaptive expertise**.

Unlike routine expertise, which relies primarily on familiar solutions, adaptive expertise enables flexible responses to situations that have never occurred in exactly the same way before.

While performing a task, subtle changes in a client's facial expression, posture, breathing, rhythm or emotional atmosphere become meaningful rather than merely observable, allowing the professional to adapt continuously.

Adaptive Expertise within Musical Relationship

Musical improvisation develops through the same process.

Beginning musicians consciously search for scales, harmonic possibilities and rhythmic ideas. When playing with others the first times – in a band or an orchestra, for example – the musician's full attention is often occupied simply by playing the correct notes at the correct time.

Audiences often notice, how beginning musicians focus primarily on their instrument, whereas experienced performers are free to move, interact and become fully present within the musical situation.

With gaining expertise of the musician, musical language gradually becomes embodied: an emotion or situation is expressed immediately and fluently without thinking consciously. The musician no longer needs to divide attention between technical execution and the situation unfolding: The musician becomes deeply involved into the evolving musical situation, expressing effortlessly and responding fluently to fellow musicians and the audience. Technical adaptive expertise enables capacity for relational presence and in this form musical interaction.

4E Cognition

A related perspective comes from the contemporary framework of *4E cognition*, which understands cognition as embodied, embedded, enacted and, in some accounts, extended. From this perspective, skilled perception and action emerge through the ongoing interaction of brain, body, environment and activity rather than through detached mental processing alone. This perspective is particularly relevant to musical improvisation, where perception, bodily action, learned expertise and the unfolding social situation are continuously integrated.

This perspective provides a useful complementary lens for understanding relational musical expertise. Within MRM, musical decisions emerge through the continuous interaction between embodied musical skill, sensory perception, the physical environment and the developing relationship with the listener.

Adaptive Expertise within MRM

Within the Musical Resonance Method, the musician's capacity for relational presence enables the quality of interaction with the listener described earlier as a process of attunement leading to rapport:

In this paper, the resulting phenomenon of rapport between musician and listener is referred to as **musical resonance**: The seamlessly improvised music creates a non-verbal dialogue with the listener, ideally creating the experience of being understood through music.

This may support co-regulation, which, in turn, may facilitate the listener's own capacity for self-regulation. To create such a MRM experience, it requires both musical and social adaptive expertise from the musician:

Adaptive musical expertise: The foundation is sufficient musical routine to enable a rich and fluent language on the musical instrument. This technical competence needs to be implicit and embodied to a sufficient degree so the musician can respond in musical improvisation without conscious thinking. This is a prerequisite for the musician's focus to remain primarily with the unfolding relationship to the listener.

Social adaptive expertise: Embodied perception of and responsive adaptation to the listener's nuances in non-verbal communication, expressed through both authentic body language and fluent musical expression.

The intention of a MRM session is to sustain a responsive musical relationship for several minutes up to half an hour, in which presence continuously guides musical decision-making. Any experience of self-regulation remains the listener's own process and cannot be promised.

In practice, if the musician occasionally thinks something like:

“This feels strange to play, I have never played quite like this before.”

This may indicate that the musician is attuned to the listener. Here, the musician is no longer guided primarily by deliberate analysis, but by embodied adaptive expertise responding in a flow-state. Technical mastery creates the conditions. Relationship guides the music.

Ultimately, to some degree, the musician may feel passive while playing music:

The musician witnesses the musical response rather than constructing it consciously.

Psychology would describe such moments as states as flow. Within MRM, these may be understood as expressions of musical resonance formed by the deepening relationship between the musician and the listener.

Chapter Summary

- Accumulated experience gradually transforms explicit knowledge into implicit knowledge and embodied expertise.
- As expertise develops, technical skill needs less conscious effort, so attention becomes increasingly available for relational presence.
- Adaptive expertise enables flexible responses to the uniqueness of every human encounter.
- Within MRM, musical improvisation functions as an embodied relational language.
- When musical expertise serves relationship, it allows attunement, rapport and musical resonance to emerge naturally.

Related core literature for this chapter is moved to the appendix.

First Part Paper Summary: Relationship as the Destination

Throughout this paper, developmental psychology, attachment theory, neuroscience, embodiment research, and music therapy have gradually converged around one consistent understanding resulting in the following:

- Human beings develop through relationship
- Music has accompanied human relationships throughout history
- Attunement and rapport strengthen relational connection, enabling co-regulation and self-regulation to emerge
- Expertise gradually becomes embodied, freeing attention to become adaptive, enabling relational awareness and individual response in the present moment
- Music therapy has demonstrated the profound relational potential of music

The Musical Resonance Method brings these established perspectives together within one coherent musical practice by asking:

**What becomes possible when musical expertise
is devoted primarily to relationship?**

10. The Story behind The Musical Resonance Method

MRM gradually emerged through years of playing piano sessions:

1:1 or for groups, both in various venues across several countries and online by me, René Amtenbrink.

Lifelong learning expanded my capacity to perceive relationship.

Learning a Musical Language

For more than thirty years, music shaped my life.

It began behind a drum set at the age of 8, in 1990. Up until today, I have performed at approximately 800 events across a wide range of musical settings, primarily as a drummer and percussionist. Rhythm, timing and improvisation gradually became second nature and the stage a home. Feeling into the mood of an audience was key to deliver a good show.

When I began teaching drums in 2010, I had to rethink many of the things I had previously done on autopilot in order to explain them to others, helping me to understand drumming and musicianship even better. And, as younger children tend to not know what they need or want for learning an instrument, you as a teacher need to find out what suits them by observing what resonates with them and what they are capable of as a next step.

In 2020, I began exploring the piano after moving to Sweden – I had rented a house that had a piano, without searching for this musical opportunity. Reproducing existing pieces did not become my primary interest here. Neither was my goal to go on stage with a piano – I have had a career as musician and considered it finished. Instead, I found myself exploring ways to express ideas for myself, like a melody I had on my mind. I transferred rhythmic concepts from the drums, combined them with basic music theory I had learned while playing the vibraphone.

Soon, playing became increasingly intuitive. Learning to tune an old piano myself refined my listening even further. I began noticing subtleties in sound that I had previously overlooked, not only while playing but also while listening to music.

Integrating the Other Side

Looking back, I realise that this period was about far more than learning another instrument. Previously, as a drummer I was focusing on rhythm, timing and structure of music. When trying other instruments that were about expressing a melody like the vibraphone, a guitar or piano, they never really spoke to me.

Now a whole new language opened up to me on the piano (and in parallel on a bass guitar and handpan), the language of harmony, melody and musical emotion. I was not having a fixed goal or outcome, I was just curious exploring at this stage. Rhythm had always been my native language. The piano guided me into harmony, melody and emotional expression.

Being able to find these different musical dimensions in me – the rhythm and the melody – felt wholesome, like completing me at a personal level. Many musicians have a strong side just in one of them: while drummers usually have weaknesses in understanding harmony, vocalists, pianists and guitarists can have a difficult time to embody rhythm. Several studies suggest that drumming promotes complex sensorimotor coordination across both sides of the body, requiring continuous integration of movement, timing and perception. And it feels like a wonderful gift, if you can finally find the other side of music within you as well. This may also explain my developing interest in dancing 2022, exploring this kind of language as a new way of expression too.

First Encounters with Piano-Sessions

On 11 October 2023, I gave my first improvised piano session to a friend. I simply wanted to create a pleasant moment of relaxation for him and was merely curious to see what would happen. We had a good time, nothing special happened.

A few months later, I had the opportunity to improvise on a grand piano during a charity event in Sweden (probably, in early 2024, Filadelfia in Sorsele). In the first place, I was there as a part of a choir performing, alongside other musical acts. And the organiser liked my offering to play some piano as well spontaneously.

There was no time to get to know the piano before. And so I simply began with simple notes, exploring how the piano wanted to be played. After a while some melody emerged. I added some bass. And just played, got into some flow.

Afterwards, a woman approached me. She described seeing herself flying over a landscape like a bird while listening to my music. She appeared deeply touched by the experience. And so I was curious (again), what would happen when I improvise for friends.

Soon, I was surprised when a friend became tearful as I played online for her. She

asked me to continue playing, and I gladly did. Although we were separated by distance, the sense of connection was unmistakable. Others described deep relaxation, vivid inner imagery or a sense of emotional release.

These responses were remarkably different from other performances that I had done. So the question arose: *What are people actually responding to?*

Evolving Exposure

When I was in Cyprus November 2024, I was ready to put my improvisational skills to the test: I went to a wellbeing fair as exhibitor (MBS Limassol) and invited people passing by for a session. The feedback was surprisingly good. Across twenty sessions, fifteen people described feeling relaxed, happy, emotionally touched or deeply moved. Three reported little or no resonance, while one cried afterwards.

One time, somebody came straight toward me, placed herself on the chair opposite of my keyboard and said “somebody recommended that I should have a session here.” These sessions were usually about 10 minutes long each. And I was very happy after those two days as well, I would have liked to continue playing.

I kept experimenting on the format of delivery: online and offline, one-to-one or groups, long vs. short sessions, concert setups, combining piano sessions and massage. Later, I was invited to play piano after a yoga session in Germany for a friend's class: another opportunity to explore the role of improvised music in supporting relaxation. Every environment brought up different aspects.

Recordings of MRM sessions can be found at my website:

www.MusicalResonanceMethod.com

Usual Setup and Example of a MRM Session

While other instruments may also provide enough vocabulary, I find it most compelling to use the piano for my MRM sessions.

The usual setup is, that the listener that I am playing for is sitting or laying down close to the piano either in front (*keyboard / digital piano*) or to the side (*upright or grand piano*) as the room allows. I should have the possibility to have eye contact and see the body's reaction for the duration of the session. If the session is held online, I should see the person that I am playing for by video, yet it also has an impact on a group where people do not make use of the video feature or where I cannot see every participant.

Realising Impact

When I met a woman who had inner restlessness, I realised how much of a difference my sessions could make. After she felt calmer and was able to sleep better, she encouraged me to help others by organising regular online group piano sessions for me. These gave me further insights into possibilities at these early forms of the sessions and gave me a great deal of motivation to continue this journey.

I wondered why it was possible for these sessions to help her and others so significantly. I asked myself: What are the processes behind creating such impact on another person? What could explain these consistent experiences? It was through exploring these questions that I gradually developed a deeper understanding, as presented in this paper.

Personal Background for Researching the Mechanics of the Impact

My interest in communication began when I encountered body language, the facial acting coding system (FACS) and other recommendations I got from two psychologists that I made music with in my 20s. These helped me improve my communication in both my professional and private life. One classic quote here is: “You cannot not communicate” (*Watzlawick*)

When taking a closer look, there is a great deal of communication involved in making music, on different layers: between musicians within the band and between musicians and an audience. I have always found it fascinating to see how communication between people is reflected in music. A favourite quote of mine is “Funk is also what you don't play” (included in the documentary “*My first name is Maceo*”). So I wanted to explore this connection more deeply.

Studying economics introduced me to the academic world. I graduated 2008 with a German “*Diplom Kaufmann (FH)*” degree, a qualification that predates the widespread introduction of bachelor's and master's degrees in Germany. I also considered studying psychology and took a closer look by reading a standard introductory textbook. My focus later shifted away from further academic studies towards healthcare, partly in response to my own experience of burnout as a manager.

I completed a one-year course in basic medical education (134 hours, completed in 2015), including psychological disorders, which has given me an additional perspective on the subject. Earlier, I had received three months of training as a military medic (2004), before serving as a drummer during my mandatory military service. I also had education as a hearing trainer, where I first encountered the idea that trauma can affect hearing (2018–2019).

Later, while working as a 1:1 music teacher for a Swedish municipality, I completed two days of mandatory training in psychological first aid (2023). In 2024, I also had the opportunity to attend the 50th anniversary of the Swedish music therapy association FMS ([Förbundet för musikterapi i Sverige](#)), which provided two days of insight into how music can support individuals in different situations.

Artificial intelligence became a practical research assistant during the development of this paper. It helped identify relevant literature and organise connections between different scientific disciplines. Every source was subsequently reviewed, verified and integrated into the framework presented here.

A friend and fellow author from Cyprus was kind enough to support me by critically reviewing and challenging the paper, significantly improving its structure, clarity and overall presentation. Thank you, Axel Fischer!

Understanding the Impact

The scientific perspectives presented throughout this paper are illustrated in the adjacent figure and can be summarised as followed:

Relationship is fundamental to human development; it is not merely the context in which development occurs but shapes the development.

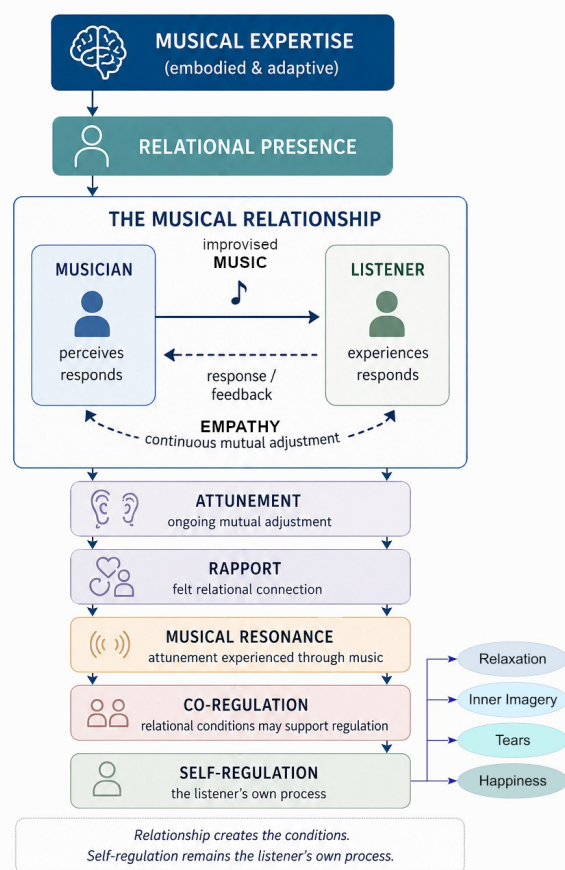
Music therapy has demonstrated that music can be a powerful medium for adaptive communication, regulation, and embodied human connection.

It is on the musician, to perceive the listener's mood and subtle reactions to express a suitable response through improvised music. To play from a flow state, the musician needs to embody musical and social adaptive skills.

Through continuous mutual adjustment between the musician and the listener, empathy may emerge as an integral part of the musical relationship.

MUSICAL RESONANCE METHOD (MRM)

Guiding a Relational Process:



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Music itself may become a relational language that can lead through processes such as attunement and rapport to a phenomenon described here specifically as musical resonance – the listener feels seen and understood as the relationship to the musician deepens.

When musical resonance is maintained over several minutes, co-regulation and self-regulation may naturally unfold. This may express within the listener through a wide range of reactions such as relaxation, inner imagery, tears, or happiness.

This understanding provides the conceptual foundation of the Musical Resonance Method.

Therefore, within MRM, improvised music can be understood as a responsive form of human interaction based on the following processes:

- The musician perceives the listener
- The music responds
- The relationship develops

These three fundamental processes happen simultaneously for the duration of a session and are connected with each other: As relational presence deepens, musical decisions increasingly emerge from the relationship itself rather than from predetermined musical intentions. When technical skill is embodied, presence becomes possible, allowing the musician's attention to remain available for the listener subtle reactions and playing music in a flow-state. This quality of the relationship enables an individual reflection in music.

Within such a responsive musical relationship, **musical resonance** is a deeper experience that may emerge when attunement and rapport is sustained for at least several minutes. MRM is not primarily a way of playing music. It is a way of being in a meaningful relationship through music:

- Rapport is created, when the listener feels perceived through the music
- This may support co-regulation (for example the calmness radiated by the musician is perceived by the listener – either direct (bodily presence) or indirect through the music)
- This may create a safe space which enables the listener's capacity for self-regulation.

Self-regulation is not regarded as something produced by the musician, it remains the listener's own inherent capacity. The musical relationship simply creates conditions in which this capacity may become active. This understanding reflects a resource-oriented view of the human being.

MRM assumes that every person possesses an intrinsic capacity for regulation, adaptation and growth. Relationship supports the capacities' emergence.

The resulting music of a MRM session can be considered a side effect. The music can be recorded to refresh the listener's memory of the session if suitable. A recording cannot establish a relationship - a MRM session is about experiencing each other in a musical moment; this can be well experienced even online.

Chapter Summary

- Since 2023, René Amtenbrink has gained experience with improvised piano sessions in varying forms, repeatedly observing significant responses from individuals.
 - While observing human interaction in a broad variety and contexts, interest in psychology raised questions of underlying mechanics in piano sessions
 - Contemporary scientific disciplines increasingly converge around the understanding that human development is fundamentally relational.
 - MRM integrates these established perspectives within a coherent framework of improvised musical relationship.
 - Relationship through musical resonance creates the conditions in which self-regulation, integration and personal meaning may emerge.
-

Related Literature

- [Watzlawick, P., Beavin, J. H., & Jackson, D. D. \(1967\): *Pragmatics of Human Communication: A Study of Interactional Patterns, Pathologies, and Paradoxes*. W. W. Norton](#)
- [Levitin, D. J.. \(2007\): *This Is Your Brain on Music: The Science of a Human Obsession*](#)
- [Sacks, O. \(2007\): *Tales of Music and the Brain*](#)
- [Hallam, S., Cross, I., Thaut, M. \(2018\): *The Oxford Handbook of Music Psychology*](#)
- Topic: [Body language](#)
- Topic: [Facial Acting Coding System \(FACS\)](#)

11. An Invitation

If you are a psychotherapist, psychologist, physician, music therapist, or healthcare professional, I hope these pages may help clarify where MRM might complement the work you are already doing. If you would like to experience a session yourself or explore whether MRM could be suitable for one of your clients, please reach out.

If you are a researcher, I hope this framework raises interesting questions. Much remains to be explored, and I would welcome future research examining MRM scientifically. If you are interested in conducting research based on my MRM sessions, please feel free to contact me.

If you are a musician, maybe these pages can encourage you to look beyond performance and to consider music as a practice of relationship. If you would like to develop these skills or explore how this framework can be applied in practice: I would be happy to guide you.

And if you are simply curious to experience MRM yourself, you can find further information and booking details on my website.

MRM remains an evolving practice.

Get funky

René Amtenbrink

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The name 'Musical Resonance Method (MRM)' refers to the conceptual framework developed by René Amtenbrink.

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Related Core Literature Chapter 9 – The Story of Human Expertise

[Polanyi, M. \(1966\): *The Tacit Dimension*](#)

The foundational work introducing the concept of tacit (implicit) knowledge: “*I shall reconsider human knowledge by starting from the fact that we can know more than we can tell,*” writes Michael Polanyi, whose work paved the way for the likes of Thomas Kuhn and Karl Popper.

[Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. \(1993\): *The Role of Deliberate Practice in the Acquisition of Expert Performance. Psychological Review, 100\(3\), 363–406*](#)

The paper explaining how expertise develops through deliberate, structured practice.

Hatano, G., & Inagaki, K. (1986): *Two Courses of Expertise*. In H. Stevenson, H. Azuma & K. Hakuta (Eds.), *Child Development and Education in Japan*

The classic introduction of the distinction between routine expertise and adaptive expertise.

An accessible and contemporary paper building onto this concept is: [Pelgrim, E., Hissink, E. et al. \(2022\): *Professionals’ adaptive expertise and adaptive performance in educational and workplace settings: an overview of reviews*](#)

[Klein, G. \(1998\): *Sources of Power: How People Make Decisions*](#)

Based on studies of firefighters, physicians, military leaders and other experts, Klein demonstrates how expert decision-making relies on rapid pattern recognition and contextual adaptation rather than explicit analysis.

[Klein, G. \(2022\): *Snapshots of the Mind*](#)

A later synthesis of Klein's work on expert cognition, including pattern recognition, mental models, perceptual sensitivity, anomaly detection, anticipation and perspective-taking.

[Csikszentmihalyi, M. \(1990\). *Flow: The Psychology of Optimal Experience*](#)

Describes the psychological characteristics of deep engagement, fluency and effortless attention frequently associated with highly developed expertise, referred to as “flow”.

Berliner, P. F. (1994): *Thinking in Jazz: The Infinite Art of Improvisation*

One of the most influential studies of musical improvisation, illustrating how embodied musical expertise enables spontaneous, context-sensitive expression: “Berliner explores (also) the alternative ways - aural, visual, kinetic, verbal, emotional, theoretical, associative - in which these performers conceptualise their music and describes the delicate interplay of soloist and ensemble in collective improvisation.”

Newen, A., De Bruin, L., & Gallagher, S. (2018): *The Oxford Handbook of 4E Cognition*

4E cognition offers a broader contemporary framework for understanding cognition as embodied, embedded, enacted and extended, providing a useful complementary perspective on the relationship between expertise, perception, bodily action and social context.

End of paper.