Rewiring Resilience: Ketamine-Assisted Psychotherapy for Dual-Diagnosis Trauma and Addiction

WashU Brown School Speaker Series

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- Marcela Ot'alora & Bruce Poulter
- Cheryl Breault
- Craig Salerno
- Team members at Integrata
- Participants & Clients

DISCLOSURES

- Clinical Consultant for Resilient Therapeutics, Usona Institute, and Definium Therapeutics
- Employee and Owner at Integrata
- Trainer and Educator for Fluence Training and Polaris Insight Center
- Actively working on clinical research trials as therapist and supervisor for the University of Wisconsin-Madison & Program for Research, Outreach, Therapeutics, and Education in the Addictions and UW Department of Psychiatry.

Objectives

- Analyze the existing research and neurobiological mechanisms that support the use of Ketamine-Assisted Psychotherapy (KAP) for patients with the dual diagnosis of Trauma and Substance Use Disorder (SUD).

- Identify and articulate practical, applied clinical strategies for implementing KAP in a dual-diagnosis setting

- Describe how ketamine's effects can serve as a "resource" to clients

How to Open Your Heart ~Jeff Foster

Do not *try* to open your Heart. That would be a subtle movement of aggression toward your immediate embodied experience. Never tell a closed Heart it must be more open; it will shut more tightly to protect itself, feeling your resistance and disapproval. A Heart unfurls only when conditions are right; your demand for openness invites closure. This is the supreme intelligence of the Heart.

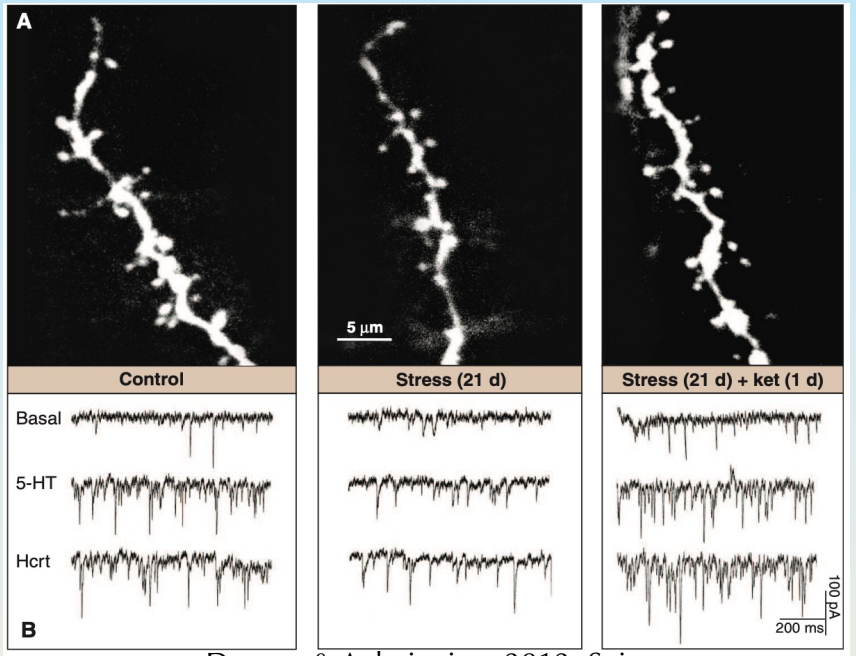
Instead, bow to the Heart in its current state. If it's closed, let it be closed; sanctify the closure. Make it safe; safe even to feel unsafe.

Trust that when the Heart is ready, and not a moment before, it will open, like a flower in the warmth of the sun. There is no rush for the Heart.

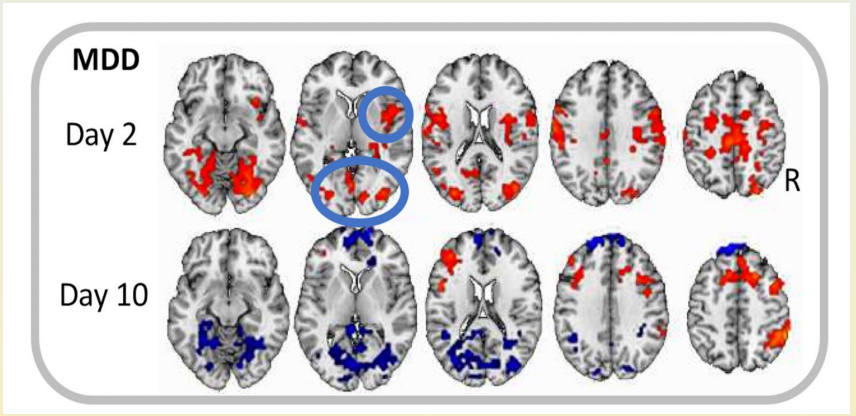
Trust the opening and the closing too, the expansion and the contraction; this is the Heart's way of breathing; *safe, unsafe, safe, unsafe;* the beautiful fragility of being human, and all held in the most perfect love.

Ketamine: Cellular, Circuit & Network Mechanisms

- Ketamine at a synaptic level results downstream effects that occasion the release of brain derived neurotropic factor
  - BDNF has been shown in studies to directly occasion the regrowth of available dendritic connections and enhancing available networks of connection & association
- Default Mode Network: series of brain structures involved in self referential processing (possibly rumination)
  - Elevated above normal in clinically depressed individuals
  - Post ketamine is downregulated for up to 10 days (Evans et al., 2018)



Duman & Aghajanian, 2012, Science.



Evans et al., 2018, Biol Psychiatry

Further Network Changes: Becoming “Unstuck”

(Scheidegger et al, 2012)

Dorsal Nexus (DN)—a "hub" that connects three major networks often dysregulated in trauma and depression:

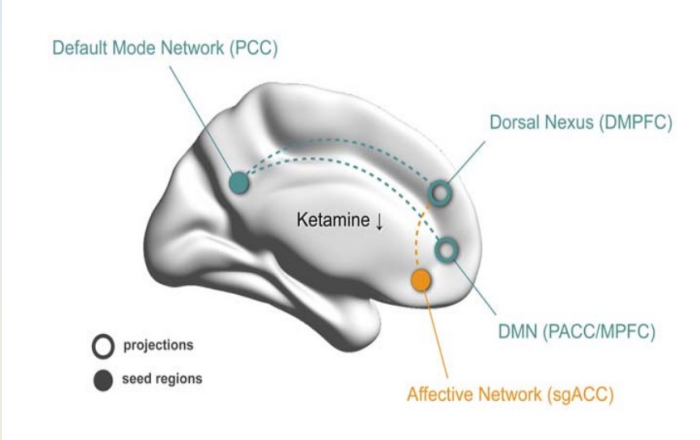
1.The Default Mode Network (DMN): Internal rumination/self-referential thought.

2.The Cognitive Control Network (CCN): Goal-directed behavior and attention.

3.The Affective Network (AN): Emotional regulation and mood.

The Discovery: In depressed and traumatized states, the Dorsal Nexus becomes "over-connected," effectively locking these networks together. This creates a state where a client’s emotions (AN) and their self-narrative (DMN) "hijack" their ability to think clearly or take action (CCN).

The Ketamine Effect: The study found that 24 hours after a single dose of ketamine, this over-connectivity significantly decreases allowing a window for these networks to function more independently



Scheidegger et al, 2012 PLoS ONE 7(9): e44799.

Ketamine's Molecular Pathways for Trauma Treatment

(Wellington et al, 2025)

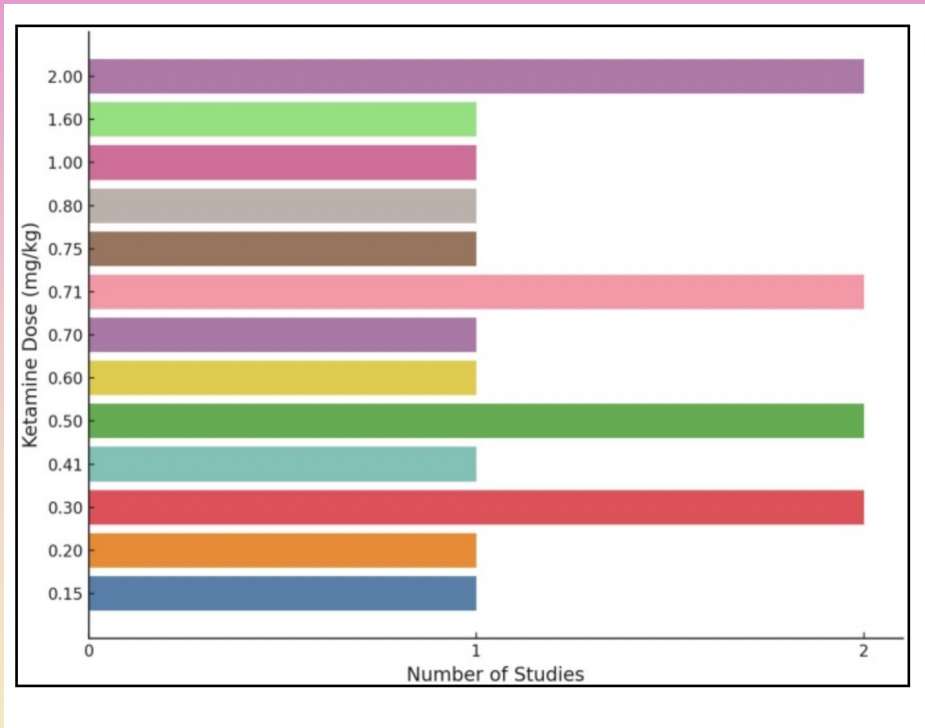
- Systemic review of 29 studies (pre-clinical and clinical trials) examining pharmacokinetic and pharmacodynamic effects of Ketmaine on PTSD differentiating between immediate and sustained molecular effects
- Immediate Effects <24 hours
  - Neurotransmitter Shift: inhibits Gaba release thus glutamate surge
  - Synaptic Activation: glutamate activates AMPA receptors and sodium & calcium infux
  - Rapid BDNF Release
- Sustained Effects. >24 hours
  - Synaptogenesis: Activation of mTOR pathways leading to new synapse growth and restoring of damaged synapses from chronic stress
  - Epigenetic remodeling: Decrease DNA methylation
  - Inflammatory Regulation: Inflammatory markers are often elevated in chronic stress/PTSD

Ketamine and Trauma Research

- Al Jumaili et al, 2022: Review of 5 Randomized Controlled Trials (Within Group Comparisons)
  - Showed rapid and clear benefits of ketamine infusion for PTSD sx resistant to conventional medications (80% response rate on intrusion sx vs 50-50% response rate of SSRIs);
  - Prolonged effects and lower relapse rates when combined with psychotherapy
  - Ketamine induced neuroplasticity plays a key role in fear extinction related to neuro-synaptic abnormalities associated with trauma
- Borgogna et al, 2024: Review of 6 Randomized Controlled Trials (Between Group Comparisons)
  - Show a small advantage over controls (expectancy effects?)
  - Larger studies showed smaller effect sizes; Post 2 weeks no significant differences.
  - Highly heterogenous sample and large variation in dosing number all IV studies;
  - Clinicians noted larger changes than client self report;
  - Heterogenous across therapy used in trials: TIMBER; Mindfulness, PE

Substance Use Disorders Trials (Jansen-Aguilar et al, 2025)

- Review evaluates ketamine's potential for treating alcohol, cocaine, opioid, and cannabis use disorders
- Explores 14 studies but evidence is limited by small samples and study heterogeneity & lack of RCTs
- Ketamine reduces acute withdrawal symptoms, cravings, and supports abstinence especially when paired with therapy
- Misuse potential & neurotoxic risks require structured protocols and monitoring
- Further research is needed to better under dosing optimization and long-term safety and therapeutic mechanism



Janssen-Aguilar et al., *Journal of Substance Use and Addict. Treatment*, 2025

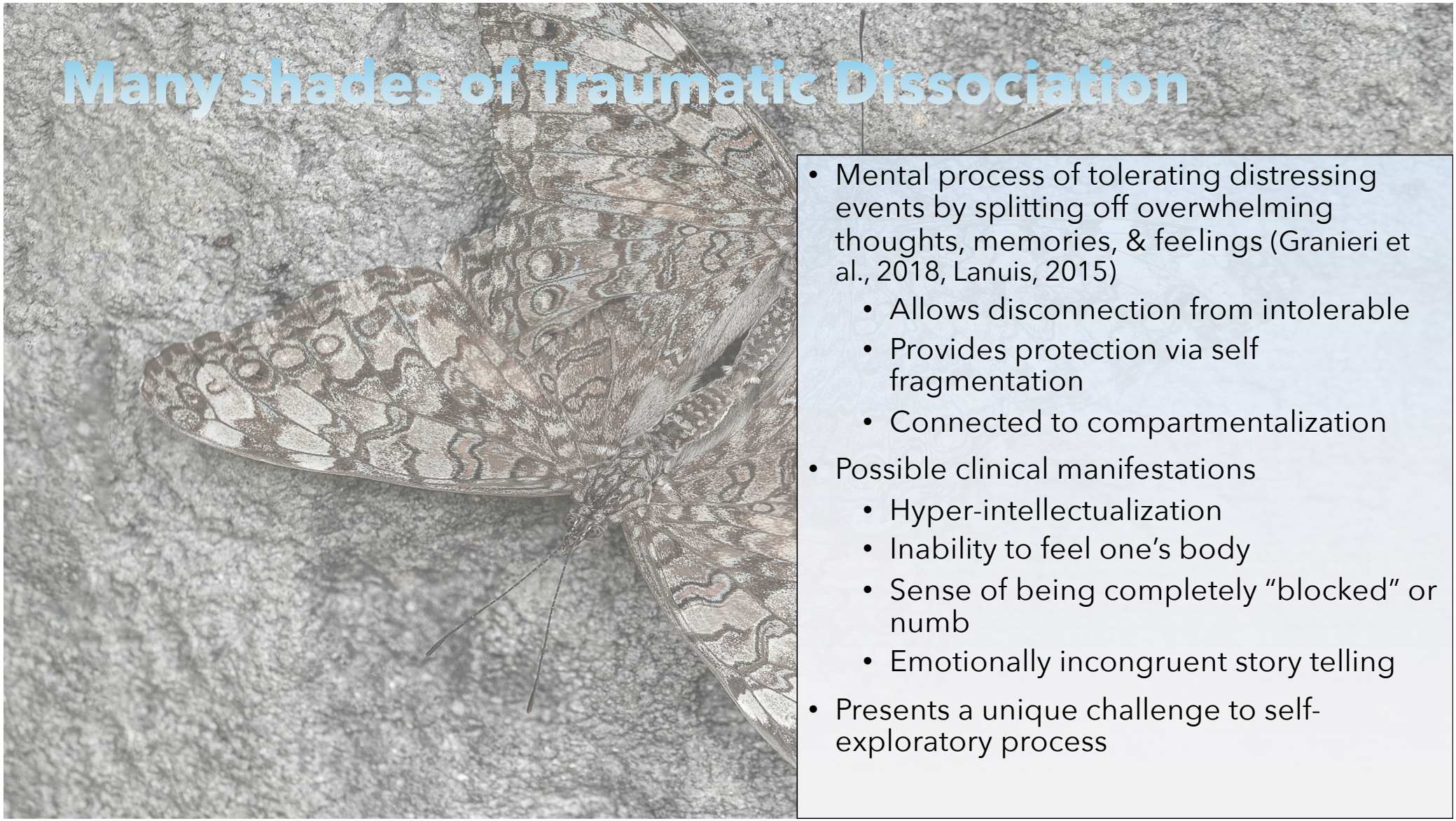
Trauma: Internalized Threat & Lack of Choice

- Fear of self & self exploration
- No sense of core
- Internalized sense of badness
- Default self-loathing
- Fear of slowing down
- Fear of feeling
- Conflict as way of orienting to self
- Lack of trust in self
- Fear of losing control
- Spiritual devastation or alienation
- Narrowed window of tolerance
- Loss of agency
- Alienation from body
- High levels of dissociation

Problematic Dissociation in Substance Use

- Using to feel less
- Using to disconnect from self
- Using to disconnect from others
- Using to escape another feeling
- Using to feel numb
- Using that disconnects & alters reality
- Use that increases suicidal ideation/attempts

Many shades of Traumatic Dissociation



- Mental process of tolerating distressing events by splitting off overwhelming thoughts, memories, & feelings (Granieri et al., 2018, Lanuis, 2015)
  - Allows disconnection from intolerable
  - Provides protection via self fragmentation
  - Connected to compartmentalization
- Possible clinical manifestations
  - Hyper-intellectualization
  - Inability to feel one's body
  - Sense of being completely "blocked" or numb
  - Emotionally incongruent story telling
- Presents a unique challenge to self-exploratory process

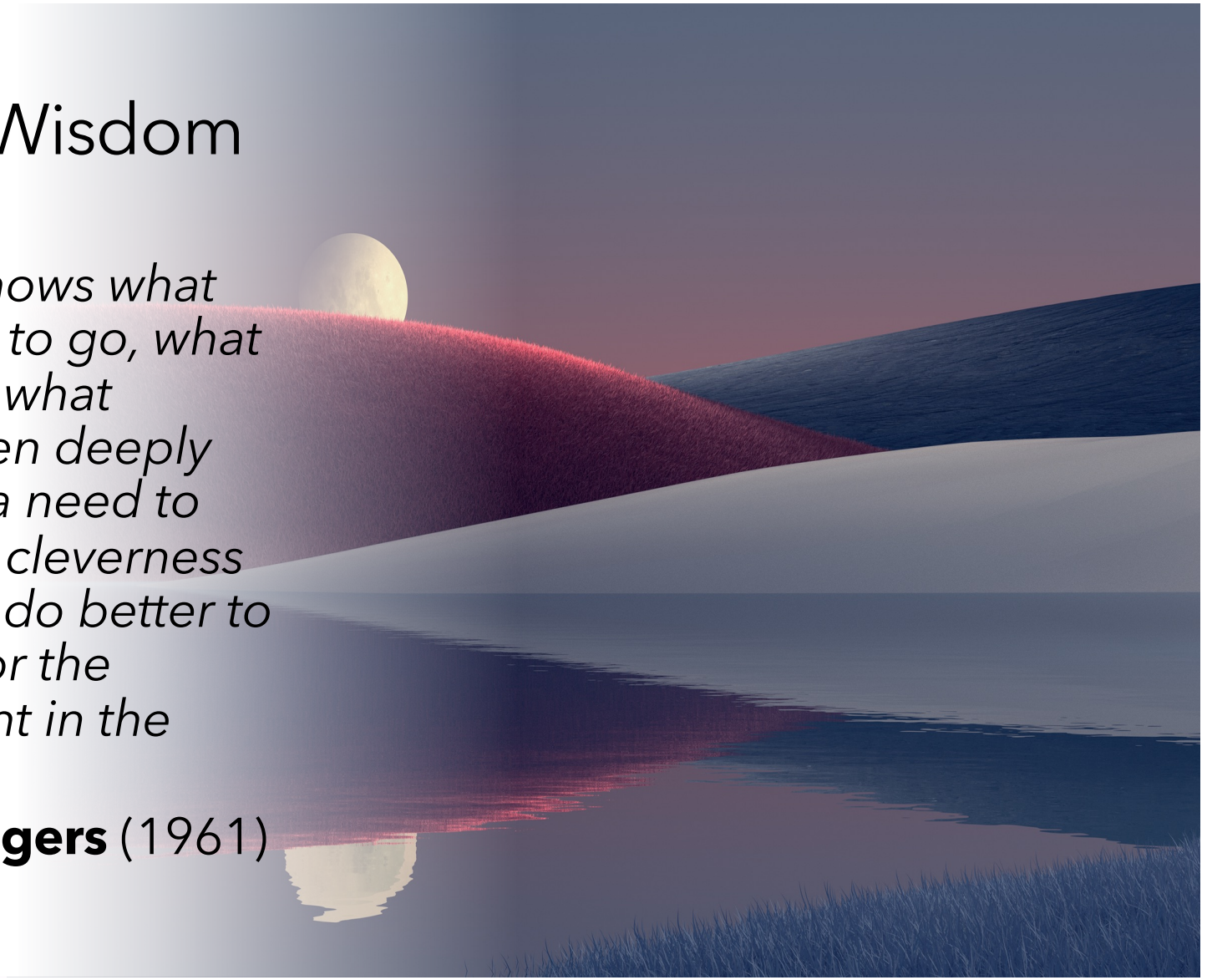
Paradigm shift

- Shift from pathology model & “functional gains”. to symptoms revealing unmet needs
- Re-defining **“treatment-resistance”**
- Highlighting the **innate capacity** for healing under *optimal conditions*
- Interventions as **expanding emotional access**
- Underscoring therapeutic value of NOSC
- Expands biomedical model to include more **inclusive community & ritual-based** practices of healing
- **(Re)introducing spirituality** into treatment
- Embracing cultural & epistemological **humility**

Client's Innate Wisdom

"It is the client who knows what hurts, what directions to go, what problems are crucial, what experiences have been deeply buried...unless I had a need to demonstrate my own cleverness and learning, I would do better to rely upon the client for the direction of movement in the process."

~ Carl Rogers (1961)

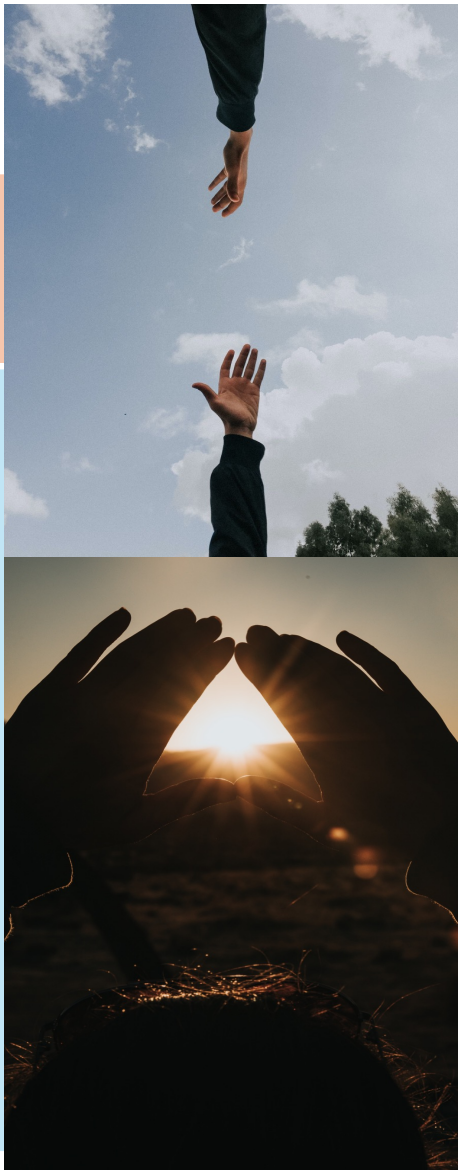


Clinical Methodology

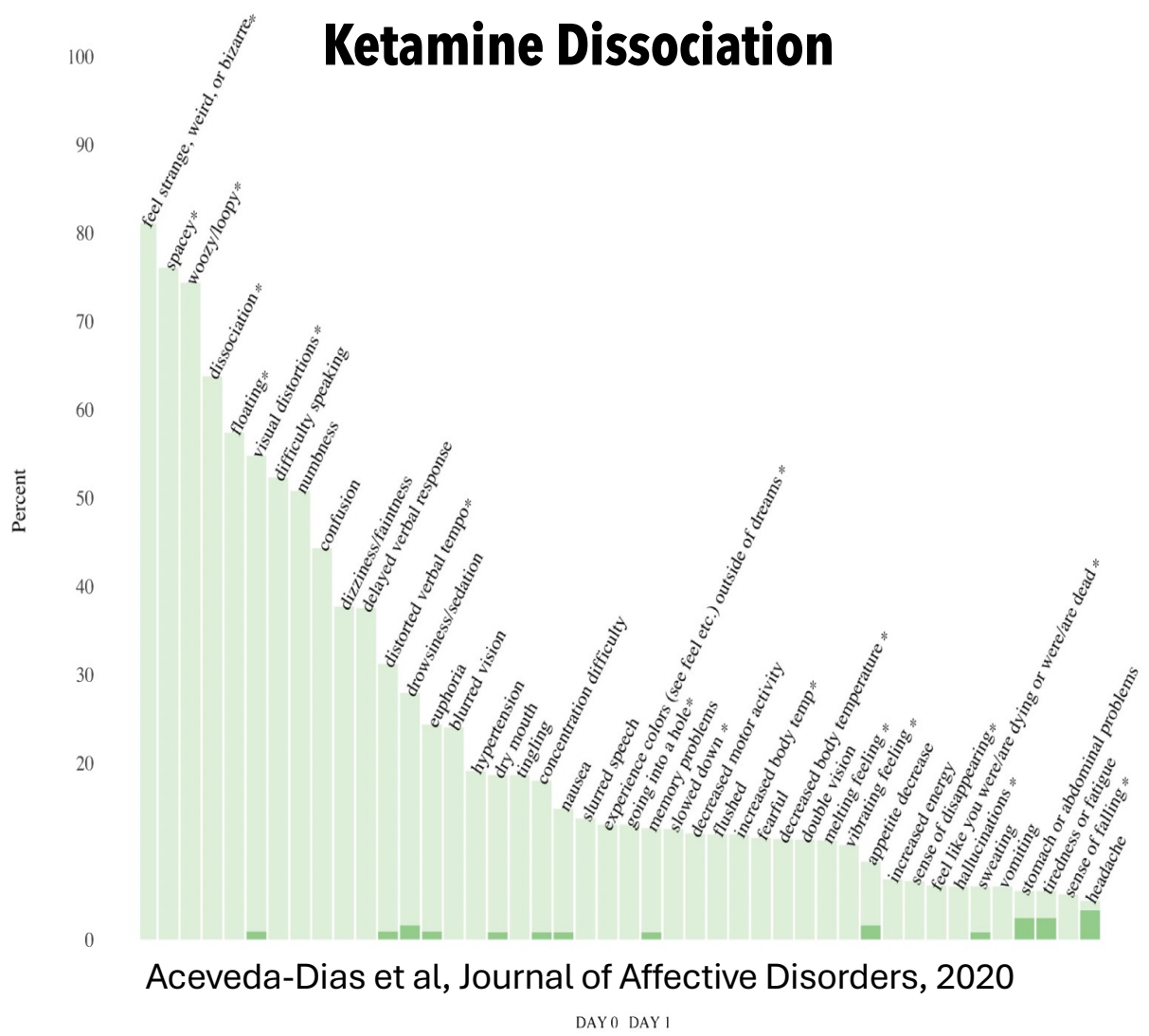
What exactly is Ketamine Assisted Psychotherapy through the Lens of Trauma Reprocessing?

Differentiating Dissociation (Salerno & Thomas, 2020)

Dissociation From Trauma	Therapeutic Dissociation in KAP
"Too much, too fast"	Voluntary and framed by therapeutic intention
Protective and Reflexive	Enhanced and engage choice & agency
Depersonalizing, isolating, alienating	Supported by relational safety (relational tethering) & corrective attunement
Disconnection from body and self as a resource	Creates (sufficient) distance from protective parts & allowing for witnessing & softening
Provides relief from intense emotional states through disconnection, escape, and numbing	Can involve amplification of somatic sensations
Amplified fragmentation of self	Increased access to emotions while softening & "unblending" self-judgment
	Opening transpersonal/spiritual pathways



Hallmarks of IV Ketamine Dissociation



Aceveda-Dias et al, Journal of Affective Disorders, 2020

Using a Dissociative for Dissociation

- Dissociation from Ordinary Mind
- Dissociation from Dissociation
- Dissociation from Body
- Dissociation from Ego and other Aspects of Self
- Dissociation from Physical World

Dose Impacts Experience

Dosage range directly informs subjective effects

Psycholytic: “trance” dosing, tool to deepen therapeutic process, mind & heart opening, revisiting biographical content, softening protective layers, sensory, contextual amplifiers

Psychedelic: Full out of body, ego loss/dissolution, spiritual liberation, loss of language, reduction of sensory awareness

Transformative experiences can happen across the dosing range

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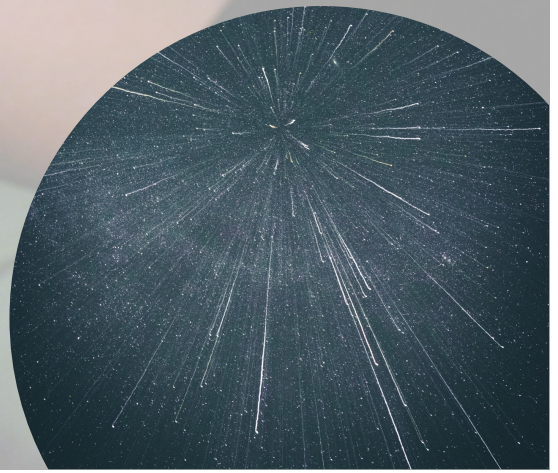


joshua-earle@unsplash.com

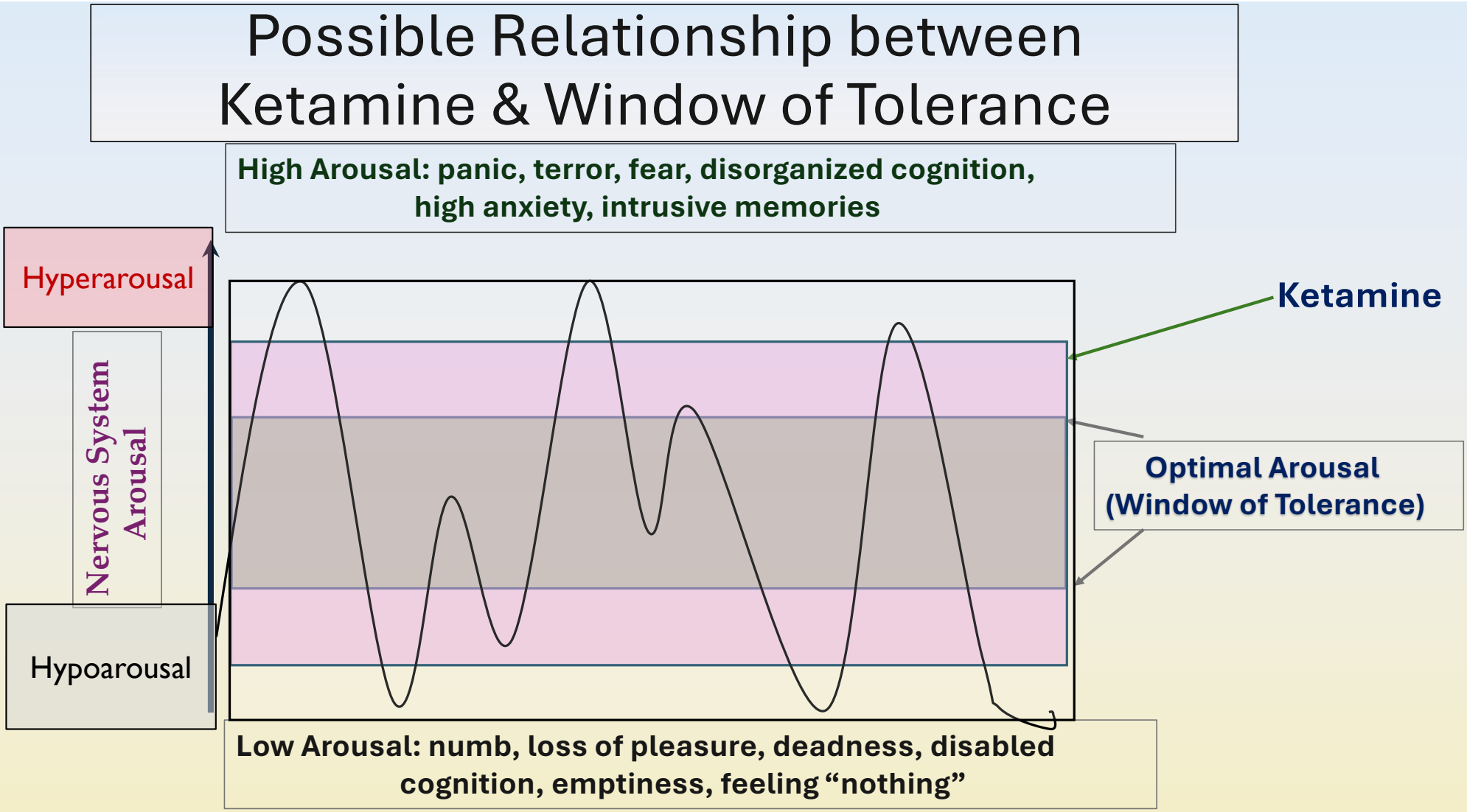
Ref: Dore et al., 2019

Psycholytic Relational Dosing Range

- Sensory heightening & contextual amplifier
- Can involve biographical, non-verbal "felt sense" content
- Mind & heart "opening" & softening "defenses"
- Verbalization & Memory often retained
- Therapists =inner direction, reassurance, validation, attunement, critical "witnessing"
- 3-5 hrs intake/preparation> therapists/providers
- Integration 24-48 hours
- Dosing range: 50-250 mg (lozenges and RDTs)
- Can be done with IV and IM dosing as well
- Session frequency >variable>catalytic

Ref: Dore et al., 2019

Possible Relationship between Ketamine & Window of Tolerance



Adapted from Ogden P et al. *Psychiatr Clin North Am*. 2006;29(1):263-279, xi-xii

Preparation: Priming + Education + Exploration

- Excavating Expectancy
- Orienting to Unknown & Nonlinear
- Allowing over Efforting
- Choice & Safety over Outcome
- Stuck as a portal not barrier
- Intentions are not Eliminations
- Preparation sessions become practice for new ways of learning
- Affective & Somatic Pathways are gateways to something new (felt sense)

Ketamine to Deepen “Self” Access

- Inner-directed means moving focus "inside" - person centered orientation
- Connecting with thoughts, feelings, emotions, and sensations
- Trauma survival has required disconnection from but in this model answers, insights, and understanding come from within
- Facilitators trained to optimize support of participant/client experience, they are not the experts on you
- Having attuned and available help is essential for healing

Eligibility & Suitability

- Current relationship with substances? Prior Ketamine?
- Primary supports' perspective?
- Expectations & Locus of Control
- Level of therapeutic engagement
- Financial resources & social support available
- Tolerance for de-stabilization
- Unique participant culture, identity & needs
- What are they trying to eliminate?
- Willingness to hold a new way of orienting to self?
- Co-agreement on tx goals & relational safety

Stepwise Plan Integrating KAP into Residential

- Integrata starts: Outpatient practice informs what we learn and then apply to our clients (9 months) - Fall of 2020
- Open forum discussions and education January of 2020 – across all staffing levels
- Consulted for 6 months with mental health provider treating individuals with trauma and substance use disorders
- Experiential treatment component made available to trauma therapists in spring of 2021
- Prioritized treatment of mental health providers – as response to burnout and reinforce ongoing importance of “doing your own work”
- Determined guide-lines for internally eligibility & suitability for clients
- Treated our first client from The Manor in June of 2020

KAP as RESOURCE:
(RE)contextualizing symptoms = (RE)CODING Pleasure & Goodness

- Honor symptoms as adaptation~ unmet needs vs dysfunction
- Re-contextualizing & normalizing shadows
- Expanding the window of tolerance for pleasure, goodness, and worthiness
- Unblending "getting high" & escape from feeling good
- Pleasure is amplified within (LOC)
- Understanding self as capable, wise, whole, worthy of trust
- Feeling like "you" without shame and woundedness

Expanding the Window for Inter & Intra-relational Healing

- Explore traumatic material without overwhelm
- Easier explore of wants, needs, and interior
- Allow connection with often inaccessible parts (overshadowed by protective system)
- Allow novel internal experiential exploration while receiving reparative attunement & witnessing
- Identify & ask for help in “real time”
- The neuroplasticity-promoting properties may provide new pathways for connecting to self and other

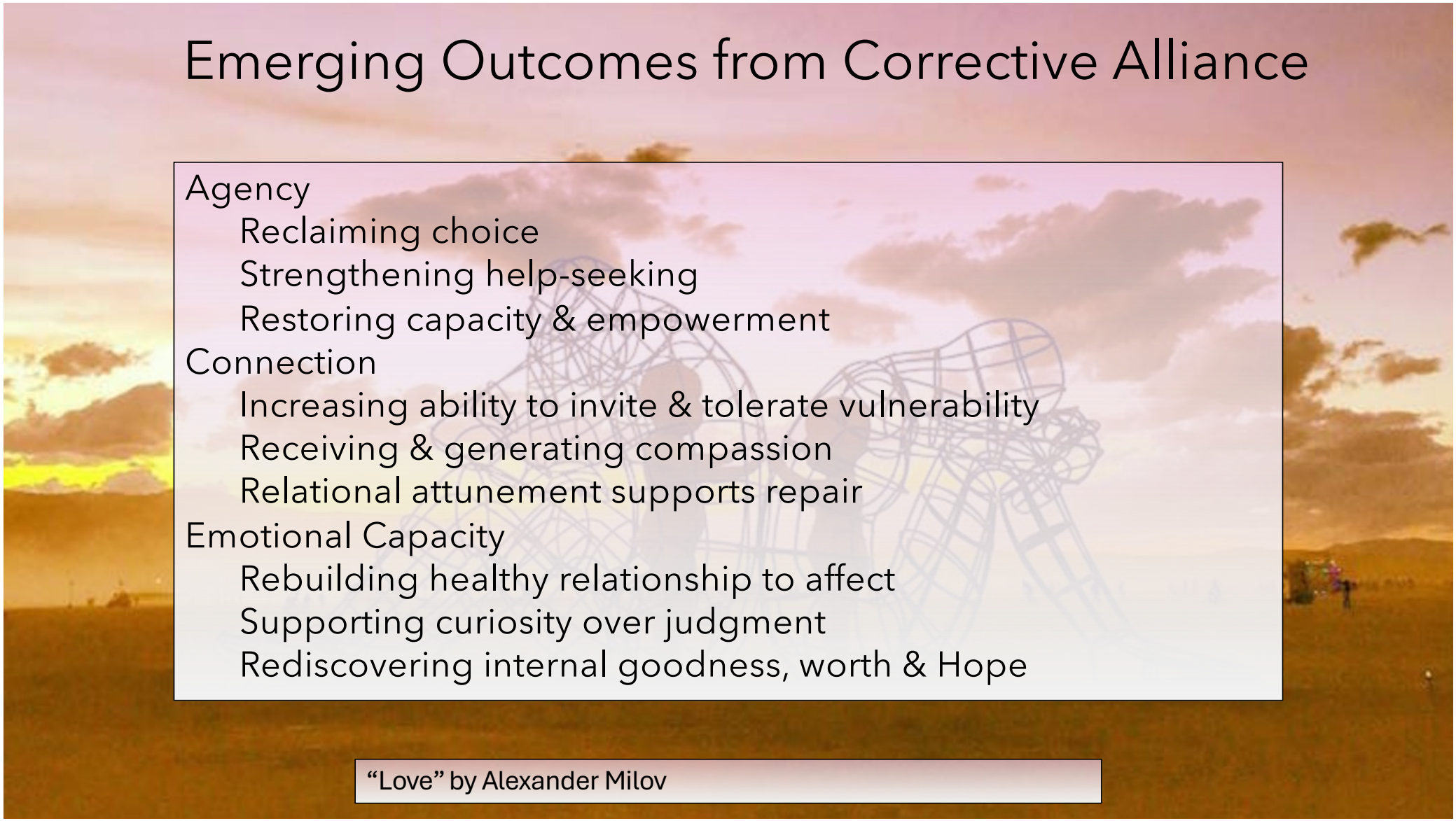
Gold & Quinones, 2022; Dore et al., 2019; image credit: Jonny Gios

Emerging Outcomes from Corrective Alliance

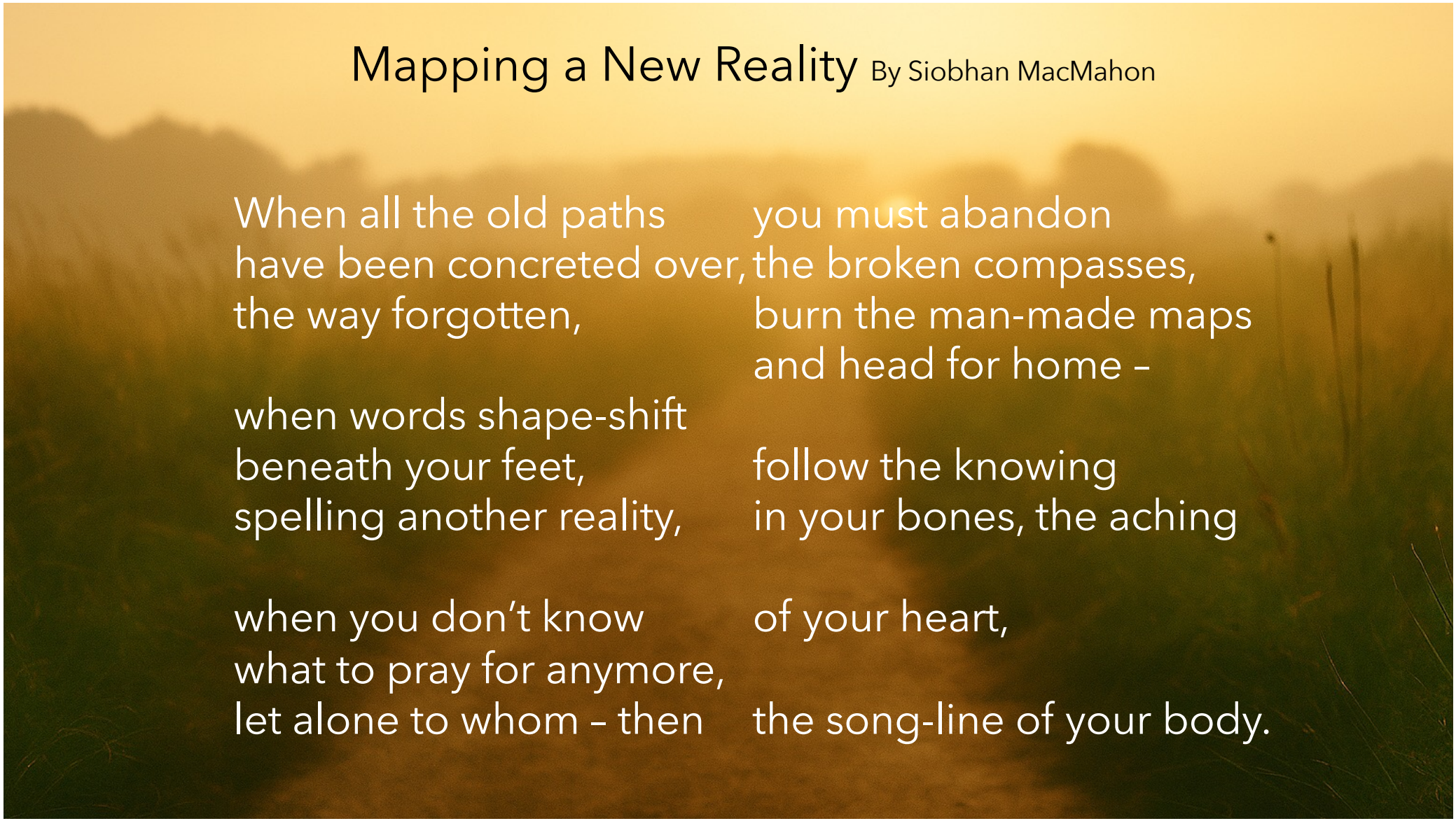
Agency
- Reclaiming choice
- Strengthening help-seeking
- Restoring capacity & empowerment

Connection
- Increasing ability to invite & tolerate vulnerability
- Receiving & generating compassion
- Relational attunement supports repair

Emotional Capacity
- Rebuilding healthy relationship to affect
- Supporting curiosity over judgment
- Rediscovering internal goodness, worth & Hope



"Love" by Alexander Milov



Mapping a New Reality By Siobhan MacMahon

When all the old paths
have been concreted over,
the way forgotten,

when words shape-shift
beneath your feet,
spelling another reality,

when you don't know
what to pray for anymore,
let alone to whom – then

you must abandon
the broken compasses,
burn the man-made maps
and head for home –

follow the knowing
in your bones, the aching

of your heart,

the song-line of your body.

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