

How Neuromodulation Coaching Affects Occupational Performance of
Persons with Wrist Pain
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“Everything is either an opportunity
to grow, or an obstacle to keep you
from growing. You get to choose”

—Wayne Dyer

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Objectives

- Define **Neuromodulation Coaching** within the context of upper extremity rehabilitation.
- Explain **The Triangles Model** and characteristics of **each archetype**.
- Review results of a **Triangle Model Assessment (TMA-o)** and identify how it applies to treatment of a patient with wrist pain.
- Create and implement treatment approaches **based on a patient's archetype** to improve occupational performance.

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What is Neuromodulation Coaching?

(Weinberg, 2014)

- **Neuromodulation Coaching (NMC)** is a unique form of coaching developed in 1992 by Dr. Ian Weinberg, a neurosurgeon from South Africa, as a way to operationalize principles of **Psychoneuroimmunology (PNI)** in patient care.
- The aim of NMC is to reverse and/or restore a **healthier neuro-chemistry** and promote **positive emotional and cognitive** changes to support the immune system and promote optimal wellness and performance.

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What is Neuromodulation Coaching?

<https://www.neuronostic.com/?page=about>

About



Ian Weinberg is a consultant neurosurgeon currently in practice. His passion is the enhancement of wellness and performance by shifting mind states from a place of destructive emotions to one of integration and gratification.

In 1992 he pioneered the application of psychoneuro-immunology (PNI - the scientific study of the influences of mind states on immune function) into the clinical environment. Subsequently Ian developed a model based on the integration of the neurosciences with PNI. The model was developed in an attempt to identify and incorporate the full range of behavioral attributes based on the determinants of the nurture dynamic. Following a study of degrees of deprivation of neonatal and infant needs, three Archetypes were defined. The model, which is referred to as the Triangles Model, was completed in 2006 with the incorporation of the relevant chemical configurations associated with each Archetype. Each Archetype therefore consists of a determining nurture deprivation heritage, inherent processing traits, values, needs and drives as well as a chemical configuration.

In 2008 Ian Weinberg compiled an online Diagnostic which was programmed to comprehensively profile users in terms of their levels of personal gratification, self-esteem, self-worth, self-efficacy, purposefulness as well as potential in terms of leadership and entrepreneurship. The data supporting the Diagnostic was derived from several thousand case studies. In effect, the Diagnostic provides an accurate snap-shot of all prevailing drives, fears and

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What is Neuromodulation Coaching?

(Freeman, 2000a; Lazzarini, 2004; Weinberg, 2014)

- As a client-centered intervention, neuromodulation coaching is designed to **raise client awareness** of how **gratification levels** relate to **work, personal/interpersonal life, and recreation**
- Neuromodulation coaching is also designed to **raise awareness about a client's specific neurochemistry** and how it is affected by **what they do!**
- In order for neuromodulation coaching to support occupational performance, a person must engage in **client-selected and goal-directed action** that provides a **meaningful perception** of the experience

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What is Neuromodulation Coaching?

- Candidates must be in the **medical or para-medical professions** and complete the Neuromodulation Accreditation Course offered by Dr. Weinberg.
- This course is **accredited by the Health Professional Council of South Africa (HPCSA)**, and certified clinicians have successfully used this program within clinical and corporate environments.
- Neuromodulation coaching requires review of **comprehensive online modules**, completion of **ten case studies** (involving written interpretations of online diagnostic assessments), and passing an **online written examination** administered by Dr. Weinberg

https://www.neurosonic.com/?page=course_neuromodulation_accreditation

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What is Psychoneuroimmunology (PNI) (Ader, 1975, 1980)

- **PNI** is the study of **how the nervous system interacts** with the **brain, body, and immune system** to support human health
- **Chronic symptoms** can act as both **acute and perceived threats**, thereby inciting **fluctuations of cortisol, adrenalin, and pro-inflammatory cytokines (PICs)** throughout the body.
- **Chronic state of inflammation** can impact the **physical, cognitive, emotional, and psychosocial** functions a person needs to engage in meaningful occupations.

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Psychoneuroimmunology
(Berna et al., 2019; Daruna, 2012; Freeman, 1995, 2000c; Lazzarini, 2004; Raphael-Greenfield, 2014; Skarda, 1999; Weinberg, 2014)

- PNI focuses on the role of the **nervous system** and how **improving a client's state of mind** can promote a healthier mind and body
- Healthcare professionals do not often emphasize **how neurophysiology and immunity** contribute to **improving occupational performance and health**.
- Therapists who are **certified to offer clients a PNI-based intervention** may further enhance a client's occupational performance and health.

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What is The Triangles Model ^(TM©) (Weinberg, 2014) ?

- **TM©** is comprehensive framework which supports NMC and considers clients as unique individuals with **behavioral archetypes** and **neurochemical profiles**, which can be described and quantified within the **context of daily life environments**.
- This model was created by Dr. Weinberg as a result of an in-depth examination of the **neuro-physiological processes of the visual cortex**, which is **where wellness and performance** can be chemically enhanced
- Dr. Weinberg **operationalized TM©** by creating a comprehensive **online diagnostic assessment**, known as **Triangles Model Assessment (TMA-o)**.

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What is the Triangles Model Assessment (TMA-o)?

(Daniels, 2010; Van Wyk, 2011; Weinberg, 2014)

- The Triangles Model Assessment (TMA-o) is an **online assessment** which takes approximately **20-minutes to complete** and is administered to clients by health professionals certified in neuromodulation coaching as **the initial stage of the neuromodulation coaching** intervention.
- The purpose of the TMA-o is to **measure how a client's state of mind affects their overall health and well-being**
- At the completion of this assessment, **clinicians receive a comprehensive report** which they review with the client during the **first coaching session**.

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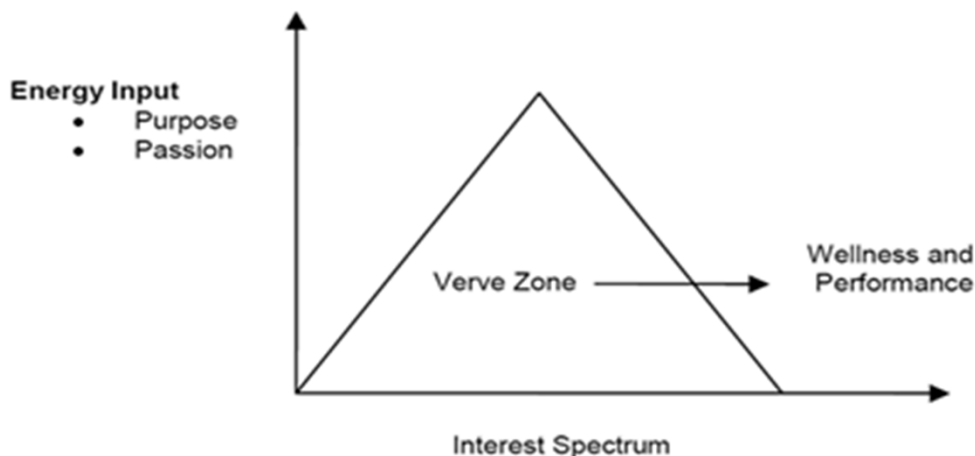
What is the Triangles Model Assessment?

(TMA-o) (Weinberg, 2014).

- This comprehensive report contains **four separate sections** including:
- **Verve Configuration** of work, personal/interpersonal, and recreational environments
 - **Verve Category** as a **neurochemical archetypes** of:
 - **Alpha, Alpha-Bravo, Bravo, Bravo-Charlie or Charlie**
 - **Cardiac Risk Index** based on the Framingham Index (www.framinghamheartstudy.org)
 - **Corporate Application Profile**, if needed for use by corporate clientele

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What is Verve Configuration?



Note. Explanation of the energy integration curve used during neuromodulation coaching. From *The Complete Triangles Model: Exploring the Foundations of Neuromodulation* (p. 35), by I. Weinberg, 2014, www.neuronostic.com. Copyright 2014 by Ian Weinberg Reprinted with permission.

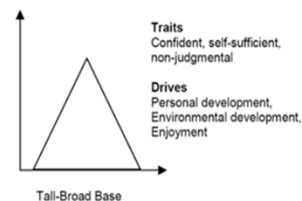
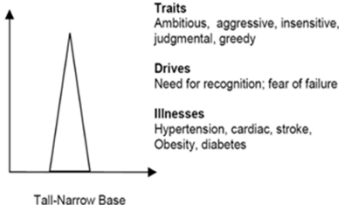
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Verve Configurations by Archetypes

Charlie

Bravo

Alpha



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The Archetype of Charlie (Weinberg, 2014)

- A Charlie has most likely suffered **significant nurture deprivation** as a child with **low levels of gratification**. This person typically falls into a “**hopeless-helpless**” **mind state** fueled by **high levels of cortisol and adrenalin**.
- This immunosuppressive response of the mind and body can contribute to developing conditions such **obesity, infections, autoimmune disease, and tumors**.
- People in this archetype tend to **react with fear, anger, panic, or rage** when faced with challenging life situations.
- Because they commonly possess a **special talent or skill set**, a coaching program focused on are recommended to promote positive neurochemistry. **engaging these talents in meaningful activities**

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Occupational Profiles: Clinical Example


Participant C – “Charlie”

- **56** yo female with wrist/hand pain
- **Full-time caregiver** for 24 yo son with ASD (non-verbal with aggressive behavior)
- Diagnosed with RA **two years** ago
- Main goal is to **learn more about how to best care for her son**.
- **COPM goals**: improving **time management** skills, increasing engagement in **self-care activities**, such as traveling, socializing, and sleeping; improving **self-affirmation activities**, such as completing or not completing to-do lists without self-judgement; engaging in **stress management activities**, such as meditation; and completing financial management tasks.
- “Aha” moment was being able **to take care of herself** after initial admission to having poor time and stress management skills

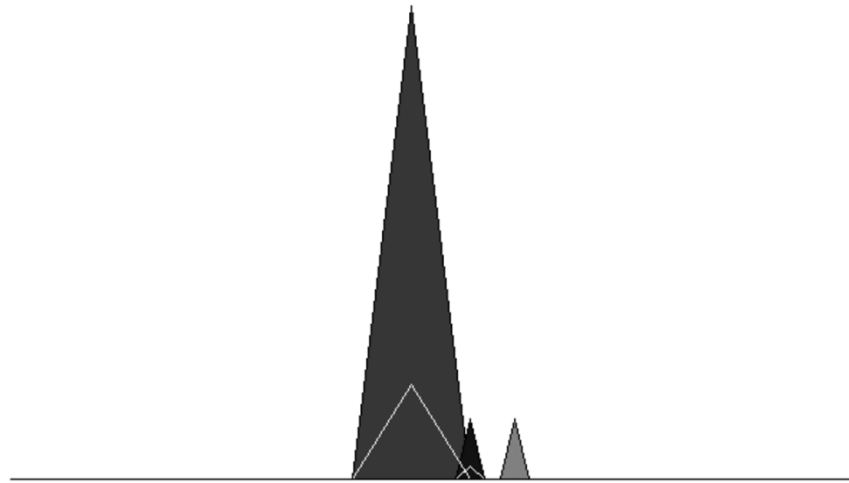
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Example of Verve Configuration: Charlie

1. Verve Configuration

1cm scale


Work/application=16cm
Personal/inter-personal=2cm
Recreation=2cm



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The Archetype of Bravo (Weinberg, 2014)

- A Bravo lives with an **adequate level of gratification**, however, if they had **less than adequate nurture dynamics**, they may demonstrate an **excessive drive to meet their own needs**.
- This person has **difficulty with delegation of tasks** and is **driven to succeed** due to an **intense fear of failure**.
- They experience **chronically elevated levels of cortisol and adrenalin**, which can contribute to developing conditions including **hypertension, cardiovascular disease, and diabetes**.
- This person would benefit from a coaching program to **improve delegation skills and engagement in meaningful activities** which integrate work, personal/interpersonal, and recreational environments and help them **enjoy the present moment**.

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Occupational Profiles: Clinical Example

Participant A – “Bravo”

- **60** yo male with wrist/hand pain
- **Retired two years** from environmental coordinator for power plant (now works part-time)
- Dx with RA **10 years** ago
- Main goal-**reduce pain level**
- Most focused on **physical health** (no interest in emotional/spiritual health issues)
- **COPM goals:** improve **golfing/exercising/gardening/home improvement/breathing techniques**
- Most important “aha” moment – **learning about heart rate variability (HRV)** to monitor nervous system health

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Example of Verve Configuration: Bravo

1. Verve Configuration

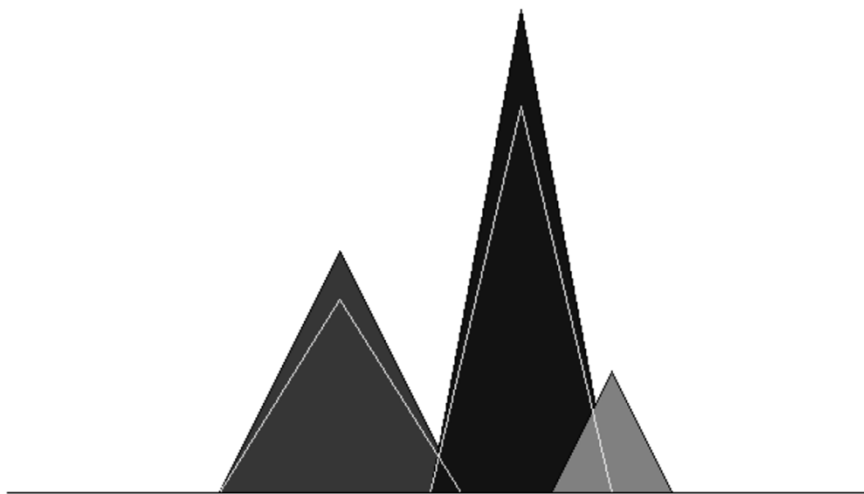
1cm scale



Work/application=4cm

Personal/inter-personal=8cm

Recreation=2cm



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The Archetype of Alpha (Weinberg, 2014)

- A person with this archetype **views the world as an integration** of work, personal/interpersonal, and recreational environments.
- They experience **high levels of gratification and have a positive, broad-based view of the world** in which most of their needs are met.
- Although dopamine and serotonin are at optimal levels, **low noradrenalin may contribute to decreased motivation** in this person.
- Coaching this person would include **engagement in meaningful activities to keep them motivated** and to avoid a state of complacency

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Participant B – “Alpha-Bravo”

Occupational Profiles:
Clinical Example

- **58** yo female with hand/wrist pain
- **Retired within current year** from special education administration (now works part-time)
- Dx with RA **10 years** ago
- Main goal-learn about **how nervous system supports mental and physical health**
- **COPM goals:** improve **walking outdoors**, improve **climbing and descending stairs** in home; improve ability to squat to **lift household items**; opening jars and small containers; improve endurance for **doing yardwork**.
- “Aha” moment was increased awareness of **how integration** of and engagement in work, self-care and leisure occupations **influence overall health**.

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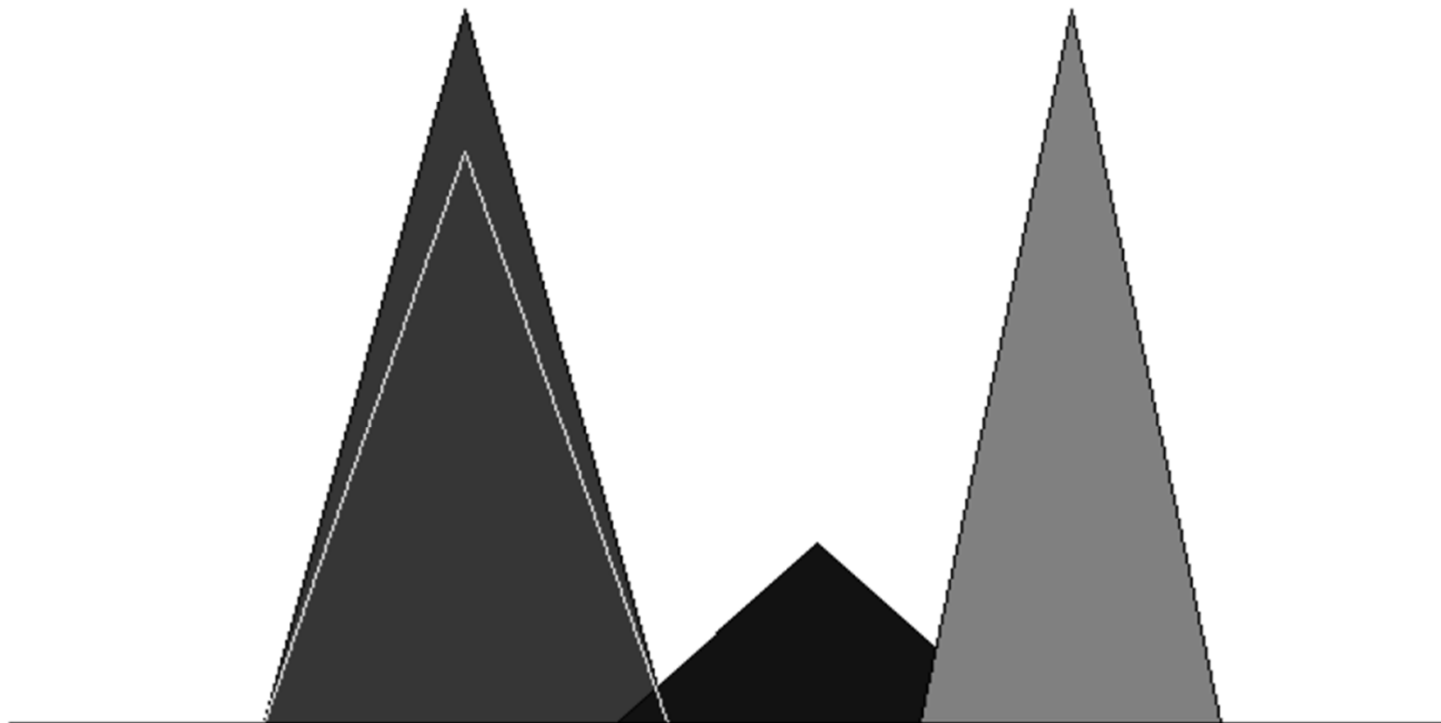
Example of Verve Configuration: Alpha

1. Verve Configuration

1cm scale



Work/application=8cm
Personal/inter-personal=2cm
Recreation=8cm



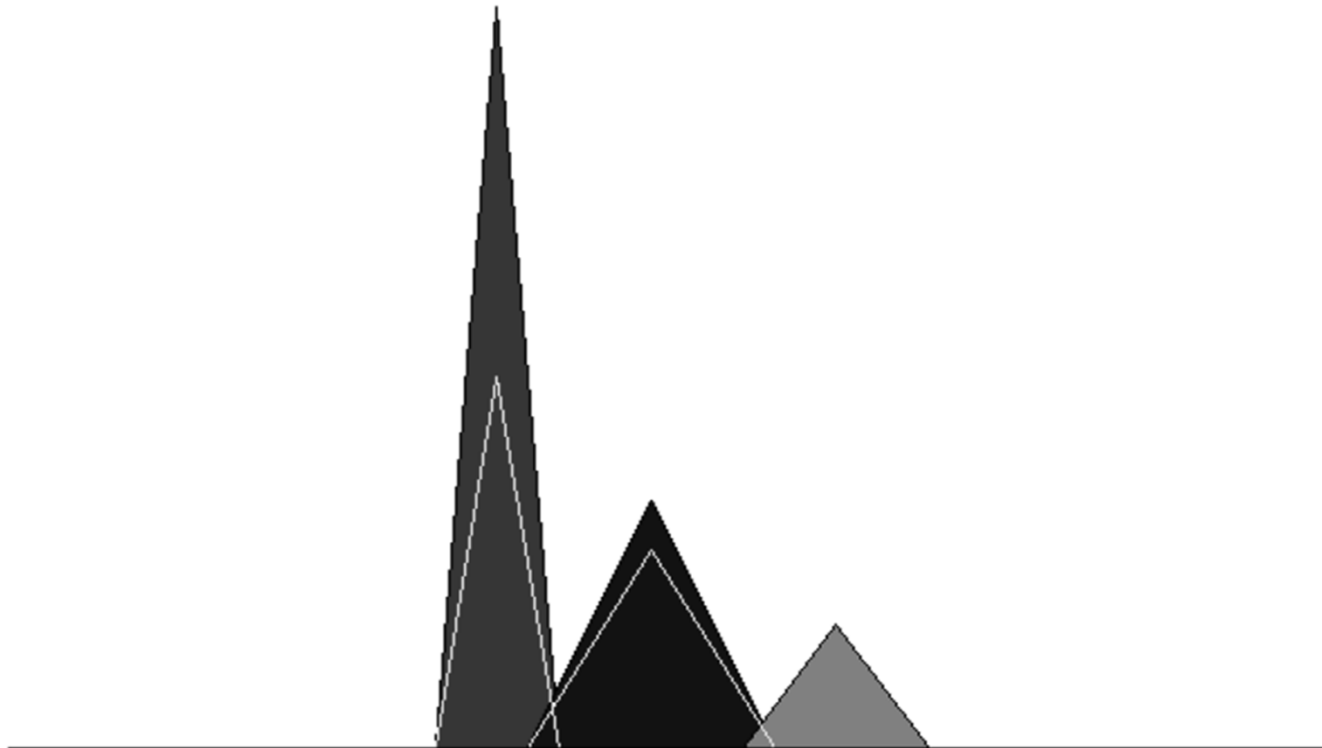
Example of Verve Configuration: Alpha-

1. Verve Configuration

1cm scale



Work/application=12cm
Personal/inter-personal=4cm
Recreation=2cm



Example of Verve Configuration: Bravo-Charlie

1. Verve Configuration

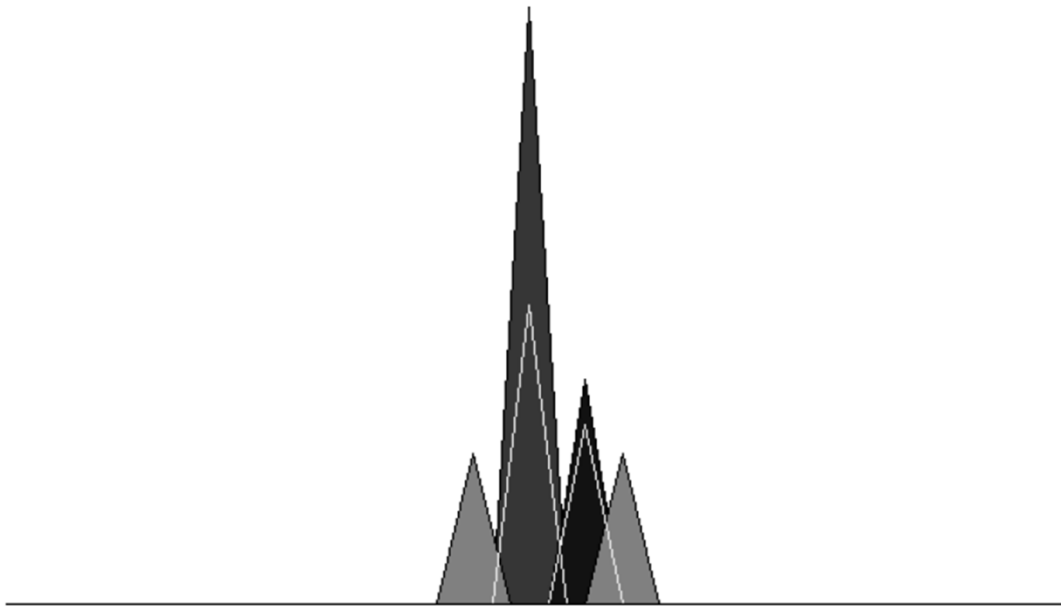
1cm scale



Work/application=16cm

Personal/inter-personal=6cm

Recreation=4cm



Archetype	Typical Mindset with Example	Encouraged Behavior
<p><u>Charlie:</u> Participant C</p>	<p>Report or demonstrate behaviors consistent with <u>a hopeless-helpless mind state.</u> This client experiences a lack of meaning and purpose in their lives as well as <u>low levels of gratification, self-esteem, and sense of belonging within their environments.</u></p> <p>C: “<u>I do not know how to care for myself,</u> everything I do is for my son who has ASD”</p> <p>C: “<u>I am a great mentor</u> for other parents when it comes to finding new treatment options for persons living with ASD”</p>	<p>Focus on occupations which <u>accentuate the client’s special skill or talent.</u></p> <p>OT: <u>Encourage networking activities</u> with other parents which can promote the positive neurochemistry that is needed to coach a Charlie into a healthier mind state</p>
<p><u>Bravo:</u> Participant A</p>	<p>Report or demonstrate behaviors consistent with a <u>fear of failure or loss of control and has an excessive need to complete tasks.</u></p> <p>A: “<u>I have to finish a project once I start,</u> even if I don’t feel well. <u>I push myself to do it.</u>”</p> <p>A: “<u>I like to track the physical measurements</u> of my health using the app on my watch.”</p> <p>A: “<u>I had no pain when I went to visit my new grandson</u>”</p>	<p><u>Encourage delegation of tasks and building trust in others</u> to help achieve goals and <u>focus on occupations which promote a sense of calm and relaxation in the present moment.</u></p> <p>OT: Focus on measuring health measurements <u>after engagement in relaxing occupations</u> such as spending time with new grandson.</p>
<p><u>Alpha-Bravo:</u> Participant B</p>	<p><u>Alphas can become complacent</u> with lack of opportunities which continue to encourage motivation/gratification.</p> <p>B: “<u>I want to learn more about how to calm the nervous system</u> and learn more about how the brain and body interact.”</p>	<p>Encourage novel activities which <u>provide continued experience of gratification</u></p> <p>OT: Focus on role of nervous system to guide client to <u>select activities which keep her motivated and gratified,</u> such as part-time working with children in need</p>

The Cardiac Risk Index

- The Cardiac Risk Index is the third section of the TMA-o where clients can input personal medical information including: **weight, waist circumference (girth), height, diabetic status, smoking status, cholesterol level, and blood pressure**
- This information represents the original Framingham Index, which was part of the Framingham Heart Study of 1948. This longitudinal study was started by United States Public Health Service in 1948 and **researchers have been gathering data on numerous types of disease outcomes across multiple generations of participants** (Boston Medical Center, 2022; Vasan et al., 2002).
- The original aim of this study was to identify health factors contributing to cardiovascular disease (CVD). **This study also highlighted how other factors, including psychosocial issues, affected cardiovascular health** (Dembroski & Costa, 1987; Perini, et al., 1991).

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The Corporate Profile

- The Corporate Profile is the fourth and final section of the TMA-o in which clients **input data about their organizations or teams** if they are participating as part of a corporate coaching program.
- This information is **necessary to complete the TMA-o** as it is relevant when providing coaching programs for corporations. The coaching **promotes healthy relationships among employees of various archetypes.**

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The Five Core Elements of Neuroplasticity

According to TM©, the **five core elements** of neuroplasticity **are essential** to promoting a **healthy neurochemical profile** and include the following:

- Meaning and Purpose
- Self-esteem and Self-efficacy
- Personal gratification
- Achievement
- Value contribution to self and surrounding environments

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How Can We Help Encourage Clients?

Which assessments **do we already administer** that may help therapists to determine the mostly likely archetypes of clients and how promote neuroplasticity?

- Evaluation/Interview (Injury/Illness/Medical & Social History)
- DASH/QDASH
- Promote Therapeutic Rapport/Sense of Safety
 - ask questions about their goals and engage in active listening!

We have more time with clients than most other clinicians, so remember...

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In the Words of Paul Brand, MD...

...**"We** may be specialists treating a single limb with a scientific instrument, but we must be guided by the **whole individual – body, mind and spirit** – who has to decide the extent to which he or she is prepared to place the whole person at the service of one of the digits and restrict his or her whole freedom and activity to improve a single joint.

The art of a therapist is to remain **poised, flexible and responsive** to the input of science and technology on one hand and to the human values of a patient on the other.

This is a **challenge** that is **constantly different** and that keeps us **constantly alert**.

You are a hand therapist and spend your time adjusting rubber bands? Look higher!

You are in the business of rebuilding human lives."

—Paul W. Brand, MD, Rehabilitation of the Hand and Upper Extremity, Fifth Edition, Vol. 2

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Questions?



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