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Establishing Foundations for the Development of a Music-Centered Music Therapy Assessment for Adults with Thought Disorders

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Abstract

Mental illness in the United States affects approximately 9.6 million adults, or 4.1% of the population (NIMH, 2014). Thought disorders are most often associated with Schizophrenia Spectrum Disorders, but can be present in other forms of mental illness, as well. Traditionally, the term *thought disorder* is defined as a disorder of cognitive organization in form and content, as indicated by disordered speech, delusions, disturbed sense of self, and abnormal psychomotor behavior (APA, 2013). The current methods of assessment primarily rely on the patients' verbal language, however the literature indicates that there are limits to confining understanding to the verbal domain.

Based upon the literature, the construct of thought can largely be understood in terms of the interplay among the constructs of temporality, affect, and relationship, thus suggesting an expansion of the definition of thought disorder from "a disorder of cognitive organization" to "a disorder of being." As such, it is proposed that this is better assessed through music rather than through the traditional modality of spoken language.

The purpose of this study is to establish foundations for a system of music therapy assessment, and concomitant treatment, for adults with thought disorders. In this thesis, related literature, theoretical foundations, case illustrations, and practical implications will be explored.

MONTCLAIR STATE UNIVERSITY

ESTABLISHING FOUNDATIONS FOR THE DEVELOPMENT OF A MUSIC-

CENTERED MUSIC THERAPY ASSESSMENT FOR ADULTS WITH THOUGHT

DISORDERS

by

KAITLIN ELIZABETH MILLER

A Master's Thesis Submitted to the Faculty of

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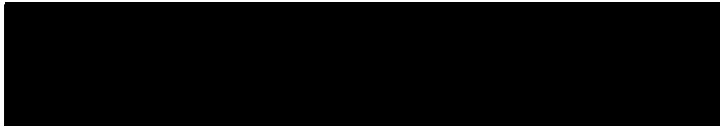In Partial Fulfillment of the Requirements
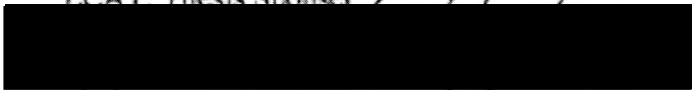
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ESTABLISHING FOUNDATIONS FOR THE DEVELOPMENT OF A MUSIC-CENTERED MUSIC THERAPY ASSESSMENT FOR ADULTS WITH THOUGHT DISORDERS

A THESIS

Submitted in partial fulfillment of the requirements

For the degree of Master's in Music Therapy

by

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Introduction

Mental illness in the United States affects approximately 9.6 million adults, or 4.1% of the population. Underlying thought disturbance is prevalent in Bipolar Disorder (2.6% of the population) and Schizophrenia (1.1% of the population) (NIMH, 2014). Individuals with thought disorders face many challenges in managing their symptoms and living a productive and satisfying life. While a tendency for internal preoccupation and isolation create obstacles for entering the community, social stigmas regarding mental illness make it even more challenging. Comorbidity rates with substance abuse are high as well as with anxiety disorders (APA, 2013).

The term *thought disorder* does not appear in the DSM-V (2013) as a diagnosis in itself but is a term that, in the literature, refers to disorded thinking, typically evidenced by disorganized speech. Disordered thinking is a key component to the profile of an individual with schizophrenia, as well as other psychotic disorders, such as mania and depression (Rule, 2005). Schizoaffective, brief psychotic, delusional, and bipolar disorders can also exhibit psychotic symptoms and an underlying thought disorder.

Disturbed content and form of thought are central components in psychosis (APA, 2013). Treatment for those with thought disorders largely involves the use of pharmacology for symptom reduction, which primarily works to decrease what are considered positive symptoms, such as hallucinations and disorganized speech. (Canas, F., Alptekin, K., Azorin, J. M., Dubois, V., Emsley, R., Garcia, A. G., …Roca, M., 2013). However the essential nature of the deficits and disorganization manifests across domains of functioning, such as motor, affect and relationship (APA, 2013).

While current forms of assessment and treatment are verbally-based, it is argued here that mental organization is expressed beyond spoken language and that thought disorders can be more accurately thought of as *being* disorders. Cognition is not just an information-processing phenomenon, but rather a way of making sense of the world, and a way of being, imbued by the way one "is" in time, in feeling, and in relationship.

Music is an immediate form of expression, which encompasses natural being-in-time relationships. Zuckerkandl (1956) argued that while meaning in language comes from words, which stand to represent an external construct, music's meaning is inherent. The musical tones' meaning comes from their quality and relationship, not an external referent. Therefore using music, as opposed to language, as an assessment modality may offer a more direct path to gain a picture of one's orderedness of thought and being.

Health and music are relational phenomena, which incorporate the individual as well as others and the environment (Bruscia, 2014). It can be argued that thought disorders are essentially disorders of relational health and being. Disorganization and dis-integration within oneself impairs ability to connect with the here-and-now and to be in harmony with other people and the environment (DeBaker, 2008).

When it comes to treating those with thought disorders, Hsiao, Hsieh, Tseng, Chien & Chang (2012) argue that quality of life should be the most significant goal for treatment. The research indicates that symptomology is merely a component of overall quality of life and health. When examining quality of life, it was determined that the biggest indicator was mutuality, defined as communication, emotional support, and positive engaging interactions with others. Mutuality had a greater effect than symptom severity and socio-demographic data on quality of life (Hsiao et. al., 2012). In order to

provide meaningful treatment for those with thought disorder, it is necessary to understand how orderedness impacts relational and affective functioning as well as temporality, one's relationship to time.

Music offers a multi-dimensional view of a person's overall being, including elements of temporality, affect, and relationship that are central deficits experience by someone with thought disorder and that impact quality of life and overall health. If thought disorders reflect this construct of a disorder of being, an assessment is needed to reflect this. The purpose of this study is to establish foundations for the later development of a music therapy assessment for adults with thought disorders.

Thought Disorders

Thought disorders are most often associated with schizophrenia spectrum disorders. The DSM-V (2013) indicates that disorganized thinking is a key feature of the schizophrenic spectrum and that a thought disorder is considered a symptom of an underlying psychotic disorder. In the clinical assessments, presence of disordered thinking is typically inferred from the individual's speech (APA, 2013; B. Alter, personal communication, March 13, 2014 & J. DeVita, personal communication, March 13, 2014).

Overall symptoms of psychotic disorders with underlying thought disturbance are typically categorized as positive and negative (NIMH, 2014). Positive symptoms refer to attributes that typical individuals do not experience, including disorganized speech. In addition, there is presence of hallucinations from different sensory inputs (auditory, visual, tactile, or olfactory), delusions, and disturbed sense of self (APA, 2013).

Negative symptoms that correlate to diagnoses with underlying thought disorders include deficits in typical functioning and tend to impact quality of life to a greater degree (NIMH, 2014). These symptoms include disturbed/flattened affect, poverty of speech, lack of interest in forming relationships to others, and impaired psychomotor behavior (Houghton, Scovel, Smeltekop, Thaught, Unkefer, & Wilson, 2005).

Temporality: How Thought Disorders Impact Temporal Functioning

Debaker describes the world of those with psychotic thought disorders as "timeless" and "dis-integrated" (p. 90). This "timelessness" can manifest in varying ways, through speech, body movement, and the contour of affect as it is expressed in time.

Greenspan (2001) indicates that an inability or impaired ability to connect emotion and intention to cognitive processes, such as motor planning, results in behaviors that are not goal-directed and therefore lack meaning. This can account for some symptoms of thought disorders, such as motor disturbances in the way of rocking or pacing and speech that lacks meaning or goal.

Abnormal Speech Patterns

Abnormal speech is the primary mode of assessing someone with a thought disorder. It was found that an underlying disorganization of the semantic system causes abnormal language processing in those with schizophrenia (Goldberg, 1998). The disintegration of the semantics of language and speech means that verbal expression can

become disorganized and ungrounded. For someone with severe thought disorder, the content of speech becomes secondary to the form, which exists in time.

Clanging refers to the stringing together of words and phrases based solely on the sound, for example, "I rang the bell, well, I smell, I fell." Since the semantic meaning is lost, this type of expression is based largely on rhyming, alliteration, and puns (Rule, 2005).

In some, speech is repetitive and rigid, playing out like a "broken record." For example, someone with *echolalia* will repeat a word or a phrase in response to something or someone else (Rule, 2005). In response to observing someone laughing, one might begin repeating the word, such as, "laughing, laughing, laughing, laughing." In this case, the person is stuck in time, unable to dislodge from that particular word or moment.

Flight of ideas is a term that describes speech that moves rapidly through time in a continuous flow, which usually involves skipping from one idea to another without pausing or phrases. This is often indicative of a manic state. Like the image of a "runaway train," this individual is unable to regulate his/her expression through time, building momentum but lacking direction.

Abnormal Motor Behavior

Impairments in one's relationship with time also manifests in how one negotiates physical movement through space (APA, 2013). Disorganized or abnormal motor movements are common in those with thought disorders and can vary in similar ways to speech. Movements often lack direction and purpose.

Diminished response to the environment manifests in a slow and unreactive movement, as observable in catatonic behavior. Someone with catatonia may present holding an unusual posture or displaying no movement of any kind.

On the other hand, someone may display rapid excessive motor activity without a clear cause. Both examples of behaviors display a lack of grounding and flexible relationship with time.

Emotions Unfolding in Time

Affect is a phenomenon that develops and unfolds over time. Emotions emerge and are expressed temporally and the synchrony that occurs with another person and the environment suggests an underlying biological mechanism for this organization (Feldman, 2007). When infants begin engaging in the social world, they begin to learn and are sensitive to temporal components of affective communication.

Feldman (2007) stated that behaviors such as "tone of voice, direction of gaze, facial expression, level of arousal, muscle tone, and body orientation" unfold over time, shaping any type of emotional exchange and providing an overall framework for the organization of the self.

Babies will have their first practice of integrating their affective flow of emotions and expression with another when beginning communication with a caregiver. When they attune and the flow and rhythm of their interactions merge, regulation, empathy, and self-soothing abilities begin to cultivate and form baby's emotional communication capacities.

While the *Affect Diathesis Hypothesis* (Greenspan, 2001) mainly focuses on the Autism Spectrum, Greenspan (2001) also indicates children and adults with emotional and behavioral disturbances as being applicable to this construct. Any condition in which a continuous flow of affective communication is impeded on is relevant to this hypothesis. The literature shows that those with thought disorders have deficits in self-regulation, empathy, and display of affect, thus hindering on their ability to connect with others and the environment.

Affect: How Thought Disorders Impact Affective Functioning

Emotional interactions have a strong impact on the development of human capacities, such as self-regulation, impulse control, social development, creating meaning and constructing a sense of reality (Greenspan, 2001).

Emotional disturbances are key to the profile of someone with schizophrenia (Walsh-Messinger, 2014). Oftentimes, those with schizophrenia will present with flat, blunted, constricted or inappropriate affect, suggesting a disconnect between the experience of emotion and the display of that emotion (APA, 2013). In a study by Gur, Kohler, Ragland, Siegel, Lesko, Bilker, & Gur (2006), it was found that those presenting with flat affect, displayed a higher level of impairment when tested with emotional processing tasks. These results were also associated with overall exacerbated course of illness.

Affective Dimensions of Thought

In thought, affect plays an important role in making meaning within oneself, among others, and in the environment. Affect allows focusing and refining of cognitive processes, such as attention and memory (Galaverna, Morra & Bueno, 2012; Greenspan, 2001; & Walsh-Messinger, Ramirez, Wong, Antonious, Aujero, McMahon, Opler, & Malaspina, 2014). Additionally, affective processing informs the way individuals understand their own emotions and therefore other's emotions, creating empathy and mutuality, which greatly affects quality of life and engagement in the world.

Making Sense of the Environment

Attention is a process greatly impacted by affective functioning, and attention deficit is a common correlate with thought disorder (Nagy, 2010). Attention is a central mechanism for processing information to maintain alertness and orientation (Galaverna et. al., 2012). Sustaining attention relies on the individual's ability to weed out irrelevant stimuli and maintain focus.

Galaverna et. al. (2012) found that patients with schizophrenia performed significantly lower on attention tasks compared to healthy participants. These deficits impact many aspects of functioning, such as sensory perception, memory, and language (Galaverna et. al., 2012). This study found that symptoms of disorganization greatly impact the ability to guide thought and actions toward a goal.

Evolutionarily, emotion has evolved to make inferences about the environment and help direct attention and focus (Blacking, 1973). Walsh-Messinger (2014) argued that emotions help to assign value to stimuli in the environment. If something is detected that triggers fear and danger, attention is focused on this stimulus and it is coded in

memory for the purposes of survival. When emotional identification is impaired, these processes do not function and attention is scattered and important stimuli are not stored in memory.

Making Sense of Others

In the same way that affect drives attention to the physical environment, emotional processing also plays an important role in understanding the emotions of other individuals. Brissos, Molodynski, Dias, & Figueira (2011) indicate that affect recognition in those with schizophrenia is impaired and greatly impacts social functioning. Without the capacity to connect emotions within oneself, the ability to connect and understand emotion in another person will be impaired, negatively impacting the ability to have empathy and connect meaningfully with others. This becomes a cycle. Without taking interest in others, there lacks opportunity for reciprocal affective exchange, which assists in the development of self-regulation and insight into ones own emotional state (Greenspan, 2001).

Relationality: How Thought Disorders Impact Relational Health

The DSM-V (2013) indicates that those with thought disorders show a lack of interest in social interactions possibly as a result of decreased emotional expression, diminished motivation to initiate involvement in purposeful activities, and limited opportunities.

Relationships and Emotion

Relational and affective health are deeply linked and explored in the previous section. Deficits in affective functioning cause an inability to connect with others, while emotional health cannot develop without reciprocal affective communication (Greenspan, 2001).

For infants, survival and development hinge on primary relationships with the caregivers. These relationships are needed to communicate basic needs, such as hunger or physical discomfort. As indicated in the previous section, the back-and-forth communication between infant and caregiver assist in the baby's ability to self-regulate, build empathy, self-esteem and self-awareness (Greenspan, 2001).

Without these grounding and structuring emotional experiences, the baby's affect coordination and organization of self will be impaired. In the case of thought disorder, the inherent disorganization impacts self-regulation and the ability to connect with others, greatly limiting the amount of grounding and regulating emotional exchanges with others (Greenspan, 2001). This causes deficits in empathy and affect recognition, which are both essential elements of relating to others.

Affect recognition deficits showed to have significant consequences for those living in the community and often result in higher rates of hospitalization (Brissos, et. al., 2011).

Relationality and Quality of Life

When considering the goals of treatment for those with thought disorder, the literature mostly points to pharmacological approaches that focus on symptom reduction. While individual symptoms can be managed through medication, what does this mean for

the patient? Symptom reduction can provide relief, but side effects can be almost as devastating as the symptoms themselves and patients often discontinue medication. Hsiao et. al. (2012) indicated that quality of life should be the goal of treatment for those with thought disorders and that symptom reduction is only a fraction of what impacts it.

This research showed that mutuality and relationships were the biggest indicator of quality of life and allowed for the least recurrences of hospitalization (Hsiao et. al., 2012 & Brissos et. al., 2011). It can be argued that thinking and being are firmly rooted in relationships to others and the environment.

Current Assessment Methods for Thought Disorders

As stated in the DSM-V (2013), diagnosis can occur without a formal neuropsychological test. Typically, informal measures by trained clinicians are used to diagnose psychotic disorders taking into account the "best available information," usually using anecdotal information and observing speech and behavior patterns (B. Alter, personal communication, March 13, 2014 & J. DeVita, personal communication, March 13, 2014). Sometimes formal assessments are conducted that address symptom domains, such as hallucinations, delusions, disorganized speech, psychomotor behavior, and negative symptoms (APA, 2013).

However it is stated in the DSM-V (2013) that there are potential difficulties with the domain of disordered thinking. For example, the individual conducting the assessment may come from a different linguistic background than the patient and therefore have difficulty identifying what is disorderedness and what is the cultural linguistic norm.

The DSM-V (2013) outlines two assessments recommended for those with thought disorders. The Cross-Cutting Symptom Measure is a self-rating scale for the patient to score oneself on 23 symptoms of psychosis. The other measure is the Clinician-Rated Dimensions of Psychosis Symptom Severity, which is to be filled out by a clinician utilizing clinical judgment based on all available information.

Psychologists, B. Alter and J. DeVita (2014), indicated the Standardized Mini-Mental State Examination (SMMSE) and the clinical interview as primary assessments used with their patients. The SMMSE is a series of questions and task completion administered by the clinician to assess cognitive impairment, while the clinical interview is non-standardized and involves a dialogue with between client and clinician.

Being Disorder

Current methods for assessing thought orderedness, as found in the literature, rely on the patients' verbal language; however, the literature indicates that there are limits to confining thought orderedness to the verbal domain. As indicated in the literature, the construct of thought is one that is temporal, affective, and relational in nature.

Essentially, cognitive disorganization primarily impacts the way in which one "is" in time, in emotion, and in relationship. Therefore, one may conclude that thought disorder may be best understood as a disorder of being and, as such, be better assessed through a medium that is more inherently and comprehensively temporal, affective, and relational by nature than through words alone.

Music as a Temporal, Affective, and Relational Phenomenon

Music is a multi-dimensional medium, which offers a view of a person's overall being, including elements of temporality, affect and relationship. Zuckerkandl (1956) argued that while meaning in language comes from words, which stand to represent an external construct, music's meaning is inherent. In music, meaning emerges from the quality and relationship of the tones, not an external referent. Therefore using music as an assessment modality may offer a more direct path to gain a picture of one's orderedness of thought and therefore, of one's overall being.

Music and Temporal Organization

It is argued here that music's essential nature is that it exists in time, in the way that all expressions of being do. In music, the temporal organization of beats and tones create rhythm and harmony, which are further organized into larger forms. Abrams (2011) suggests that this exceeds the concrete medium of sound, and that music can be understood as the aesthetic dimensions of any human expressions of being unfolding in time.

The experience of engaging in music can be akin to entering a flowing stream of events. In this experience of temporal flow, the musical space, one can begin to experience being-in-time.

Music is a species-specific trait, like language, and the capacity for temporal organization is innate. Blacking (1973) writes that the cognitive and physiological processes necessary for the production of music evolved with humans biologically and culturally as a means of communication and making sense of one's environment. Blacking (1973) suggests that there is a universal ability in humans to recognize patterns

in sound and for structured listening; he calls this "sonic order."

Creating and Resolving Tension

Temporal organization in music also allows for the emergence of emotions. Both music and emotion are based on temporally organized patterns of expectation within the structures of each, as shown in tension and resolution. Emotion exists as a result of biological responses to the tension and resolution in the environment (Blacking, 1973). Arousal is triggered in response to something unexpected in the environment and a cognitive process results to interpret the meaning of the interruption. Depending on the cognitive interpretation, a different emotional response is triggered (Thaut, 2005).

Once engaged in the sonic order, music can mediate different types of responses, including motor, emotional, attention, and memory (Thaut, 2005). One may respond to the activity and distribution of energy; the organization, structure, and surprise; or personal associations triggered by the stimuli.

Music and Emotion as Human Nature

It is widely accepted that music has a powerful ability to convey emotions and that music, as well as emotion, is a human phenomenon (Weisgerber, A., Bayot, M., Constant, E., & Vermeulen, N., 2013). Emotions are conveyed largely through non-verbal cues, such as patterns of facial, bodily, and vocal expressions (Feldman, 2007). Weisberber (2013) describes the close link between the vocal dimension of communication and music. Both possess elements such as rhythm, pitch, melody, tempo, and volume (musical prosody). Changes in these elements trigger changes in emotion.

Weisberber (2013) illustrates this point with the example of congenial amusia, which is a lack of pitch perception. In a study by Thompson, Marin, and Steward (2012), it was found that amusic individuals were markedly less apt at discerning subtle emotional disparities.

On the other end of the spectrum, it was shown that musicians show a deeper capability to accurately identify emotional prosody, which Weisgberber (2013) defines as the emotion conveyed through elements such as pitch, volume, and rate in speech. These two findings illuminate the overlapping processes of music and emotion.

Neuroimaging has enhanced the understanding of the "brain on music." It is understood that the neural processing of music involved many interconnected networks related to stimuli from varying areas, such as motor outputs, memory, and emotions (McMullen & Saffran, 2004). Neuroimaging has shown that listening to music activates parts of the brain typically engaged when processing faces, voices, and emotional regulation (McMullen & Saffran, 2004).

Music and Emotional Communication

Music and language are both species-specific communicative mediums. Since spoken language is the primarily indicated modality used to assess and diagnose thought disorders, it is important to explore the similarities and differences and resulting implications in using either in assessment. Overall, there are overlapping cognitive processes at play in each but both use different ways of making meaning (Jackendoff, 2009).

The connection between music and language has been an object of investigation due to the apparent similarities between the two. Essentially, music and language are temporally organized domains whose expression unfolds in time within a rhythmic and melodic structure (McMullen & Saffran, 2004). In order to possess the capacities for music and language, humans have an extensive memory for storing representations relevant to each domain, the ability to combine these symbols by use of structure and rules, and subsequently the ability to have expectations based on these structures (Jackendoff, 2009; McMullen & Saffran, 2004).

While these overlaps are observed, the main difference lies in the way in which meaning is made and type of meaning. While symbolic representation is present in each, in language, the symbols (words) have an agreed upon reference. Language carries conceptual and referential meaning. Spoken language can be used to "offer information, make requests for action, ask questions, give instructions and orders, negotiate, undertake obligations, and assert authority... (Jackendoff, 2009, p.197)". Using words as symbols is the main way to communicate meaning. While spoken language does unfold in a temporal structure, it does not impact the meaning carried by the words used.

In music, the symbolic representation takes a back seat to organization and relationship. While higher-level production of music involves reading written music notation in the form of symbols and communicating using some standard rules, such as keys and tonality, the meaning is made on an organizational and relational realm (Zuckerkandl, 1956). Meaning that is just as significant can be carried from musical productions without using the standard rules of representation.

Unlike the individual components of language (words) musical sounds do not carry specific and universal meaning in and of themselves (Gfeller, 2005; Zuckerkandl, 1956). Their meaning is abstract and not translatable. Gfeller (2005) writes that meaning in music comes from expectations based on past listening experiences as well as presence of rhythm and form, such as repetition, variation, and habituation. These elements, and when expectations are met or not, provoke the generation of feelings. Therefore in music, meaning is generated from relationships rather than literal meaning of the symbol.

The two modalities can be observed together in the form of song lyrics. While words are used in their usual referential way, the musical content allows the words to be grounded in what is affectively significant. In song, words take on much more dimension that can express not only the content, but the feeling and form of thought. While spoken language allows direct reference to something with words, as in the word "crying," song allows the referent to take on the experience of the actual thing to which it refers. For example, imagine the difference in experience when observing someone speak the word "crying" as opposed to hearing Roy Orbinson sing the same word in his famous song from 1961. The variety of range, repetition and affect in the music provides a richer and truer expression of the word. It is no longer just referring to the action of crying, for example, but is the experience itself.

While there are overlaps in music and language, this difference is key to the reason why music is able to access someone's overall orderedness of being in a unique way. Using music as an assessment modality allows the direct access of someone's being, while language refers to it once-removed. A patient who has an interest in manipulating assessment results can learn the "right" things to say without having connection to the

meaning and sway the results. Since meaning is made through relationship, form, and affect as well as content, it would not be possible to fake the quality of musical engagement.

Music and Relationships as Human Nature

Abrams (2012) argues that the essential nature of being human is that of *being-in-relationship*. Abrams (2012) references existential philosopher Martin Heidegger in establishing a relational principle of human existence, stating that the nature of humanity is relational and that all individuals are functioning as an "embodiment of humanity itself" (pp. 149). Individuals express their agency and autonomy within a context that one co-constructs in relationship with others. Music mirrors this, as it is also an intrinsically relational phenomenon. Abrams (2012) states that music is not just a "medium through which relationship might occur – it is *itself* relationship" (pp. 161). Therefore, the essential nature of music not only embodies and expresses aesthetic and temporal dimensions of humanity, but also relational dimensions.

Trevarthen and Malloch (2000) point to humans' seminal relationship with their primary caregiver as evidence of the relational nature of music, communication, and overall being. Humans are innately able to recognize and attune with the rhythm and melody of voice and body movements used for expressive communication. Trevarthen and Malloch (2000) call this emotional communication "Communicative Musicality." Communicative Musicality is expressed through the use of musical elements, such as pitch, volume, gesture, timbre, and pulse, between caregiver and baby. The caregiver and baby engage in affect attunement, which is when they match one another's intensity,

volume, melodic shape, and rhythm of vocalizations and gestures (Trevarthen & Malloch, 2000).

The caregiver and baby are attuned with one another's emotional state and intuitively repeat or answer each other's vocalizations. This begins a back-and-forth musical engagement, a "co-ordinated relationship through time" (Trevarthen & Malloch, 2000, p.6). This interaction facilitates attachment between caregiver and infant and lays the foundation for the infant's capacity for emotional communication (Creighton, 2011).

Trevarthen and Malloch (2000) describe three elements of their concept of Communicative Musicality: pulse, quality, and narrative. "Pulse" describes rhythm, the progression of events through time in an organized and predictable way. "Quality" describes the melodic aspect of expression in the pitch and contour through time. Finally, "narrative" indicates the information communicated from one to another. This refers directly to the individual and joint experience of emotional communication and the relationship built through the rhythm and melody of the interaction.

As examined by Zuckerkandl (1956), meaning in music resides in relationships. Unlike a word, a musical tone lacks meaning without being in context. Music is a uniquely human phenomenon and one that is inherent in us as a species. As humans, our survival and development hinges on the relationship with our primary caregiver. The nonverbal communication between infant and caregiver is said to be indicative of humans' innate musicality and points to fact that humans are essentially relational beings and that music is an essentially relational phenomenon (Bruscia, 2014).

Music Therapy to Address Temporal, Affective, and Relational Health

In music therapy, making sense of one's environment occurs by organizing and categorizing stimuli (Blacking, 1973). Tapping into this inherent system of sonic order is an asset for music therapists working with patients with psychotic thought disorders. Music offers a broad view of the cognitive organization, tapping into form as well as content. In language, the content relies on the use of referential words while content in music hinges on the form, organization, and relationship as it is experienced in time.

While some patients might present with disorganized movements and speech patterns, they may be able to express order through music. Music's temporal order can help orient someone who is disorganized to find order and grounding. Music therapists have observed this phenomenon when working with this population. While some patients are highly disorganized in their speech and are diagnosed as such, they are able to tune in to the sonic order in a way that appears effortless and inherent (Feldman, 2007).

While this phenomenon is observed in some patients, others' disorganization is deeper and might be expressed throughout time, in the music making. A review of clinical music therapy literature with patients with psychosis reveals examples of symptoms of thought disorders manifested through music. De Backer (2008) and Pederson (1999) describe the playing of those with psychosis to be fragmented and often repetitive both rhythmically and melodically, mirroring the idiosyncratic disorganization found in speech. Commonly, the form of the music is stagnant while individual notes and rhythms do not appear to be related to one another.

Pederson (1999) also indicates several common aspects of the musical utterances of patients with schizophrenia and psychosis, such as playing a "wall" of sound with no

beginning or end. These expressions indicate a challenge in engaging in the here-and-now and experiencing time in the same way as others. While the typical understanding of time is one that is a "flow" or a "stream," those with thought disorder have an impaired relationship to time and are disintegrated from internal organization.

In addition to these aspects of the client's individual music, joint music making is often repetitive and lacks space for others' music and therefore there is little inter-personal connection (De Backer, 2008). De Baker (2008) uses the term *sensorial play* to describe this type of characteristic playing where the patient is unable to connect with and experience the sounds produced in music-making as coming from his/her own self.

Carpente (2013) describes a similar type of playing in his work with those with neurodevelopmental disorders, which he describes as indicative of a difficulty in experiencing relational, expressive, and communicative components of music making.

De Baker's (2008) research illuminates aspects of the therapeutic process specific to working with those with psychosis in music therapy. He contrasts the concept of *sensorial play* with the idea of *musical form*, which exists when there is pulse and phrasing, melody embedded in harmonic structure, musical utterances that are related to each other, uses of silence before and after playing, presence of interactivity with the playing of the therapist, and clear beginnings and endings (De Baker, 2008). These characteristics imply a level of organization required for autonomy and reciprocity, ability to verbalize inner experiences about the music, and engagement in the external world.

This interactivity with others and experience of pausing and phrases in the music

describes a relationship to time that is healthy and flexible, instead of rigid and uniformly steady.

De Baker (2008) describes *synchronicity* as a phenomenon that occurs during moments of interplay with the therapist when improvising together - making meaning through relationship. "The moments of synchronicity have been described as the shared experience of patient and therapist, where they feel free and autonomous in their play" (De Baker, 2008, p. 102). In the case examples described by De Baker (2008), it was during these moments when musical form emerged, suggesting a link between organization and interpersonal connection. This is arguably because it offers an opportunity for the patient to be grounded in the sonic order of the external world in a way that allows flexibility in time and the ebb and flow involved in interacting with another.

Bruscia (2014) writes that music is a phenomenon in which meaning and beauty are derived "from the intrinsic relationships created between the sounds themselves, from the extrinsic relationships created between the sound experience and other human experiences, and from the interpersonal and sociocultural relationships inherent in the process of making or experiencing" (p. 106).

This definition shows how richly rooted in relationships music is. Relationships – among sounds, other people, and the physical and cultural environment – are what gives meaning to music and, arguably, to being. As indicated in the literature, one's ability to relate, affectively communicate, and regulate is deeply imbedded in temporal organization and tapping into one's innate, internal sonic order.

Music Therapy Assessment of Thought Disorders

Assessment is considered an important part of clinical music therapy practice and is specified in the American Music Therapy Association's Standards of Clinical Practice (1998) to be the first step following referral. The Standards of Clinical Practice (1998) stipulate an assessment that is appropriate for the client's chronological age, culture, diagnosis, and level of functioning.

There are few examples of assessments specific to adult psychiatry in music therapy. Griest (2013) outlines a music-based assessment for adult psychiatry using a range of musical tasks ranging from passive to more active participation, involving 4-point scales for the clinicians to rate elements of affective and cognitive functioning. Griest's (2013) assessment involves the use of specifically defined musical tasks, such as listening, playing of rhythm tasks, improvisational singing, and Orff improvisation.

Pavlicevic's (2007) assessment, Music Interaction Rating Scale (MIR), is based on the inter-activity between client and therapist and grew out of her concept of Dynamic Form. Pavlicevic (2007) emphasizes the importance of extensive clinical listening and indexing the sessions, meaning the documentation of the improvisation with real-time measurements so that the interpretation can be referenced specifically to the co-improvisation. Indexing of the improvisations includes marking moments of significant change and dividing it into sections based on time units.

Some assessments found in the music therapy literature not specified for adult psychiatry can serve as models that span populations. Bruscia's (1987) Improvisational Assessment Profiles are a qualitative means of assessment designed to facilitate the

analysis of solo or group improvisations by helping to organize the relationships between musical and relevant extramusical elements. There are six profiles, each describing a different way to interpret the client's use of musical elements in solo and collaborative improvisation (Bruscia, 1987).

The Profiles include *Integration, Variability, Tension, Congruence, Salience, and Autonomy.* A five-point scale exists as a measure of each profile. The points on the scale are representations of each profile that are dispersed between two contrasting qualities, such as *rigid – random* and *hypotense – hypertense* (Bruscia, 1987). This model of interpretation is primarily applicable to use in the clinical setting to help inform treatment and gain insight into relevant areas of patient health and functioning.

Carpente's (2013) Individual Music-Centered Assessment Profile for Neurodevelopmental Disorders (IMPCAP-ND) is a relationship-based assessment tool where the information is gleaned from the client-therapist interaction and scored quantitatively to assist in formulating goals, treatment planning, and assessing client progress. Domains impacted by neurodevelopmental disorders generally include communication, affect, language, cognitive functioning, sensory processing, motor processing, and relatedness.

This scale functions as a means of making sense of the mental processes underlying musical behavior in relational music making, such as awareness, comprehension, memory, attention, and performance.

While the IMCAP-ND is specifically indicated for use with those with neurodevelopmental disorders, this model of assessment can be used across populations by adjusting the scales to reflect the relevant characteristics. Carpente's (2013) model

points to the essence of neurodevelopmental disorders to be relational disorders, as in relating to others and attuning to the environment and the mental processes which make that possible, such as awareness and comprehension.

According to Hsiao et al. (2012), a better understanding of the assessment of relationships to others and the world, particularly with clients with psychosis, represents a unique opportunity for the development of targeted interventions to promote communication, reciprocity, social integration, and subsequently quality of life. Considering its essential relational quality (Thaut, 2005; Nordoff and Robbins, 1977; Pavlicevic, 2007), music can be viewed as the embodiment of these expressions of thought disorders and should be considered as a uniquely apt medium to assess these characteristics.
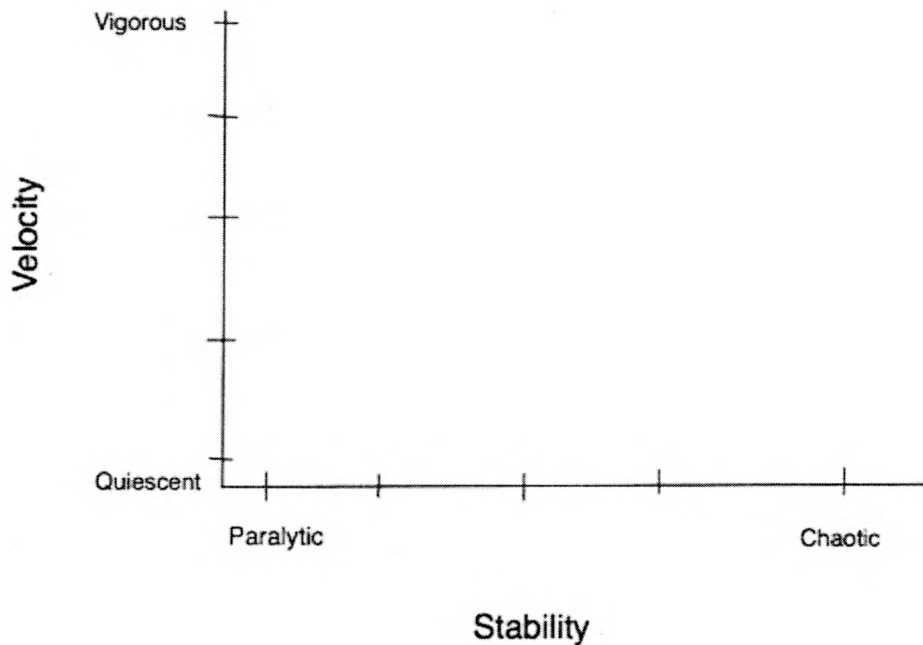
Profiles

Based upon the literature on music and music therapy supporting understanding thought orderedness as orderedness of being, that is effectively expressed through and addressed by music, profiles of dimensions of music that relate to dimensions of being will now be considered. This is the beginning of a foundation from which a formal assessment may emerge.

The following profiles are presented to indicate areas of thinking and being relevant to the health of those with thought disorders. Since there is no "norm" indicated in the profiles, this system is meant to facilitate gaining a richer and more dynamic picture of the individual's functioning and internal order. However, when points plotted on the profile are concentrated at an extreme end of the spectrum, it reflects internal order that is out of balance. If one's functioning is at an extreme in any particular domain, there

tends to be less ability to be flexible and adaptable, arguably presenting challenges to living a healthy life. It is argued here that health is exhibited when one is centered and integrated. Therefore, balance is indicated when the graph is anchored in the center.

Moments are plotted using points, vertical, or diagonal lines, which indicate the range on the axes, when applicable. The x and y axes represent relevant qualities of each construct (temporality, affect, and relationality), and each axis represents the concept on a continuum. Additionally, the terms used emerged as a product of discussion and consultation regarding the most effective way to depict the essence of the construct. Each graph is meant to show a "snapshot" of a moment. Presenting the graphs sequentially will show how one progresses as the treatment moves forward. See case examples for clarification.

Temporality

Temporality

The Temporality profile examines how one exists through time. Debaker described the world of those with psychotic thought disorders as "timeless" and "disintegrated" (p. 90). This profile is meant to examine this phenomenon and plot the change over time in the emergence (or not) of integration and regulation-in-time in the person, examining their relationship with time and the way in which they move through it.

Velocity refers to not only the speed, but the direction of one's expressions. "Quiescent" describes the extreme lack of movement and direction. Velocity can be observed in the musicality of one's expressions, such as body movements, music-making, and facial expressions.

"Vigorous" describes the rapid movement and direction of one's expressions. Someone whose expressions are vigorous might show rapid rate of speech, rapid and persistent musical output, and hurried physical movements. As described by Pederson (1999), patients who produce the "wall of sound"

The x-axis of the Temporality profile indicates the stability over time. Someone presenting as "Paralytic" is showing an extreme stability, causing one to become locked in or unmoving.

A point plotted at "Quiescent/Paralytic" could be described as a catatonic state, in that there is essentially no movement or direction in an overly stable, inert way. "Quiescent/Chaotic" can be described as someone who moves slowly and directionless through time in a way that is deeply disordered. This could be examined in an individual who is physically hypotense in their movements or exhibiting slow, directionless, and disordered speech or musical expressions.

"Vigorous/Paralytic" can be observed in someone who moves at a high speed with very pointed direction, for example in someone playing a drum in an intense and perseverative way, locked in to the movements and apparently unable to modulate from this pattern. "Vigorous/Chaotic" describes the same sense of speed through time, but with lack of stability. Someone's behaviors in this state might be observed as intense and erratic, possibly indicated by rapid movements and speech in a tangential way that is unable to be grounded. In music, this could exhibit in the way of rapid unsteady playing on one or several instruments.

Affect
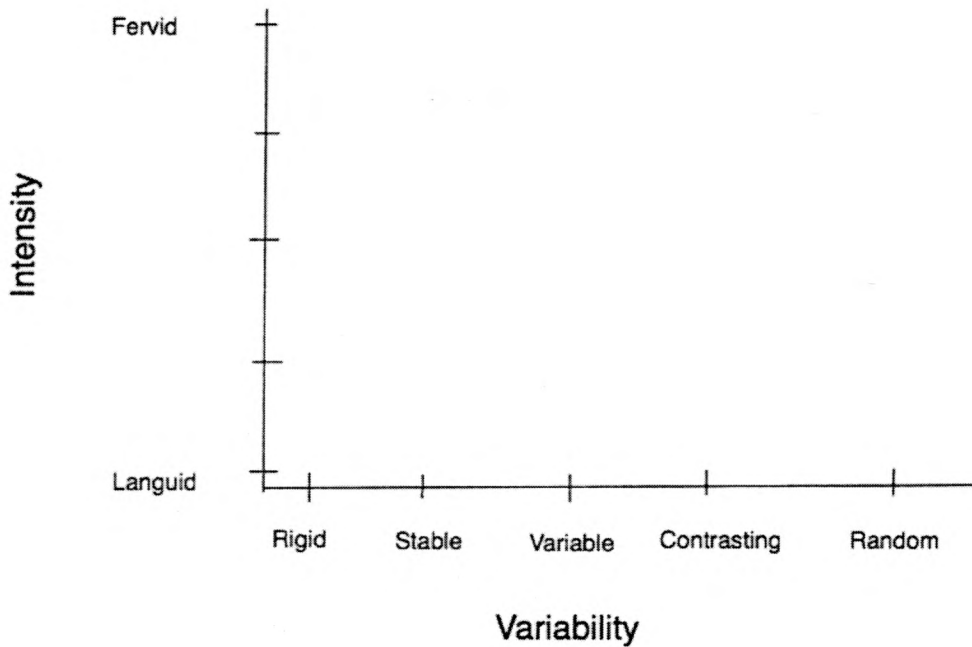
Affect

The Affect profile examines how affective states are expressed through behaviors such as music making, motor movements, or facial expressions. The y-axis of this profile ranges from "Laguid" to "Fervid." Languid can describe a lack of physical engagement, as in weak or extremely relaxed movements; languid can also appear as what is commonly thought of as flat affect, or seeming apathetic and showing no emotional expression. Vocal and musical expressions are monotonous and dull.

On the other hand, "fervid" describes expressions that are powerfully engaged and passionate. This could present as highly energetic and intense music making, the intensity in which the individual engages in the physical environment, such as the musical media. For example, someone may present with a great deal of muscle tension while strongly gripping drum mallets, showing fervid intensity whether or not the instrument is actually played.

The Affect profile's x-axis is borrowed from Bruscia's (1987) Improvisation Assessment Profiles, examining the variability of these expressions. The organization of these affective expressions through time gives a picture of the individual's regulation, focusing on the form rather than the content of the affective expressions.

"Languid/Rigid" can describe someone whose expressions are flat, dull, and unchanging. This point can align with the catatonia as well. "Fervid/Rigid" describes expressions that are persistent, powerful and passionate, for example a piano improvisation that is highly passionate and whose tension does not resolve.

For the other points on the Variability axis, a range would be indicated for the intensity. "Stable" describes an expression that is more yielding and compromising, but in a limited range. "Variable" shows a wider range of intensities that exhibit more

balance. For example, creating resolution in response to tension. "Contrasting" describes expressions that are less connected and linear than "Variable." For example, not making connections between affective expressions – changing from one intensity to the next without a discernable link. "Random" describes highly unpredictable changes in affect, as in lability of mood states. In music, this could look like random changes in dynamic and levels of tension.

Relationality

Congruence
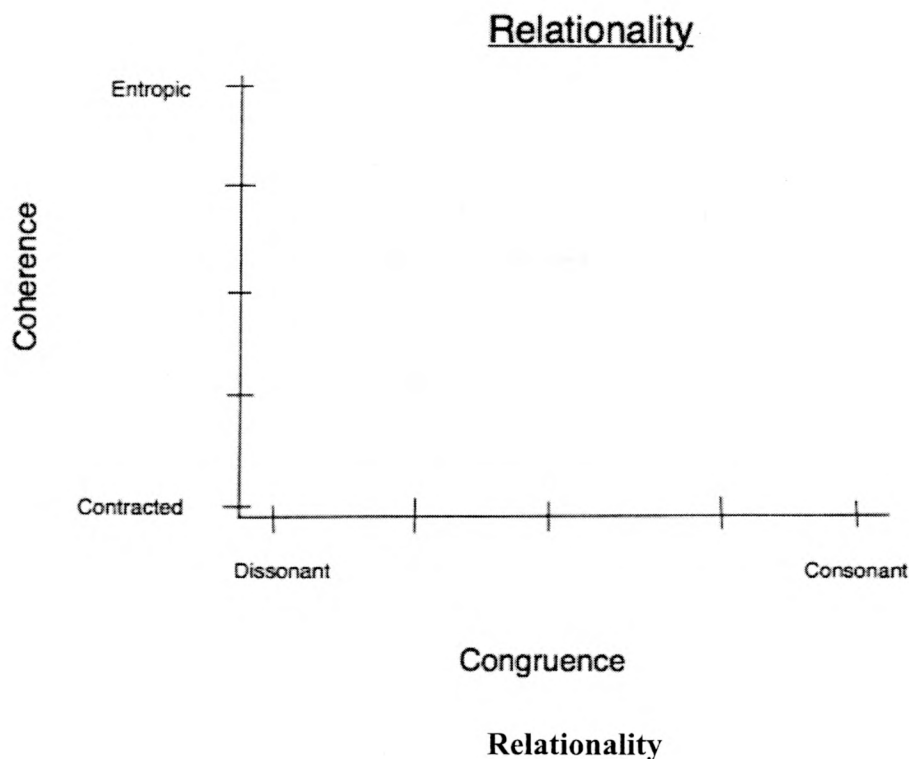
Relationality

The Relationality profile is meant to measure the extent to which the person's expressions are consistent with others and the environment. The content of information is considered and assessed for congruent relationships to determine the degree to which one's processes are aligned within oneself and with others. It is here that the content of speech is considered for the first time as a part of the whole picture of the person.

In this profile, it is helpful to consider the comparison to the concepts of reliability and validity. The "Coherence" axis indicates reliability of ones expressions, while the "Congruence" axis indicated the validity.

In this profile, the "Coherence" axis ranges from "Contracted" to "Entropic." Coherence depends on the way in which parts of a whole are connected. Therefore the points on the "Coherence" axis refer to the way in which one is interconnected within oneself. For example, "contracted" would indicate a type of extreme interconnectedness and focus, presenting itself in the way of a fixation. The middle of the axis indicates a balanced level of coherence and connection, one that includes focus as well as flexibility.

"Entropic" describes a lack of connection. While "Contracted" is small in scope and intensely focused, "Entropic" is highly disordered and lacks connection between ideas. This could be evidenced by the type of speech referred to as "word salad" or "schizophasia," as indicated by no discernable semantic meaning in the expression.

The "Congruence" axis allows the issue of compatibility with reality to be considered. The range of this axis is from "Dissonant" to "Consonant," indicating the extent to which the expressions are aligned with reality. While someone's expression may be lucid and reliable within itself, it may not be valid in terms of facts. The extent to which it is or is not valid indicated the point on the "Congruence" axis.

For example, "Contracted/Dissonant" can describe someone who has a delusion whose content is not rooted in reality, for example aliens living in one's brain, and that this person is hyper-focused and ruminating on this fact. "Entropic/Dissonant" describes extreme disorderedness within oneself as well as with others - someone who jumps from one idea to the next in an ungrounded and nonlinear way and is also not grounded in

reality with others. In music, this could look like someone playing a drum with no beat or discernable structure, jumping from one rhythmic figure, tempo, and dynamic to another with no awareness of or correspondence with others.

"Contracted/Consonant" describes the aforementioned fixated and ruminating quality, but one that is aligned with others. An example of this is if one's playing is hyper-focused, as in intensely beating one rhythmic figure on a drum over and over but in a way that aligns with other relationships. If this occurred in a group improvisation while others are "on the same page" and sharing this experience, it indicates a connectedness and ability to relate, though still in a hyper-focused way. "Entropic/Consonant" describes chaos and a lack of focus within oneself, but an ability to share this state and relate to others. In the example of a group improvisation, this might look like someone playing in a way that is disconnected and completely unstructured but in the context of a chaotic environment. This could show an ability to align to others and the surroundings.

Case Illustrations

The following case studies from the music therapy literature are presented to demonstrate the potential use of these profiles. The relevant descriptive information has been extracted in order apply to the profiles. Instances of salience are plotted on the profiles based on clinical judgment of significance. Each graph will show one moment in time based on a significant music therapy event.

Case Illustration #1: *Composition, Improvisation and Poetry in the Psychiatric Treatment of a Forensic Patient* **written by Phyllis Boone, RMT-BC (1991)**

The following case study describes music therapy with Michael, a forensic patient diagnosed with paranoid schizophrenia with grandiose, religious, and persecutory delusions and suicidal ideation. Michael was in treatment at the forensic unit of a psychiatric hospital in response to making terroristic threats. Michael had attempted suicide in the past and struggled with his sexuality.

In response to his crime, Michael was found unable to stand trial because his paranoia prevented him from working with his defense and his disordered thinking impaired his ability to understand the consequences of his behavior in relation to the trial.

Michael did not participate in groups or interact with others very much. He was highly intelligent and loved music, so he was referred to music therapy.

In the music therapy group, Michael's playing was observed to be on non-pitched percussion with perseverative rhythms. When given a xylophone, melodies were random and lacked development. The short phrases were repeated perseveratively and "his playing was loud, and he was seemingly unaware and unresponsive to others in both group and dyadic improvisations" (p. 437) When asked to play in a subdued way to demonstrate something to the group, Michael tried but was unable to so. In response to this, he became frustrated and dropped the mallets.

While Michael continued in group music therapy, he also began working individually with an intern with the focus of setting his original poetry to music. Michael's poetry often had themes of violence and terror. By setting the poems to music, it was the goal to unlock the emotional content. Both his poetry and his music were propulsive and obsessive in nature.

Michael began a project of entering an art contest. He wanted to submit recordings of his music and copies of his poems for consideration. Michael pursued this goal with a great deal of intensity and fixation. Lack of melody and tonality continued to be a recurring element of his music. Michael used his voice only to whisper or chant words. The result of Michael's project was positive in that he won second prize and used his poetry and music as a way to externalize his feelings. However the music itself was highly tense and did not achieve movement or resolution. At this time in treatment, Michael moved from forensic to civil sections of the hospital and discontinued individual music therapy with this intern.

After some months, Michael decided to formally request music therapy again after finding out there was a new intern with a great deal of recording technology. Boone (1991) wrote that Michael "became obsessive-compulsive" about this.

Significant issues of transference and countertransference arose with the current intern due to Michael's homosexuality and the intern's homophobia, triggering difficult associations Michael had about his family's rejection of him. Michael's poetry became intensely morbid and graphic. His piece, "Lord of Slaughter," was meant to express the rage he felt toward those who had wronged him, including his family, which was the first time these feelings were expressed.

At this time, the intern was going to be ending with Michael and he chose to continue with another intern. This intern was a jazz keyboardist. He gave Michael the assignment of writing lyrics to a completed instrumental composition done by the intern. This way, Michael was required to work with an existing melody within a tonality.

Within the given parameters, Michael was able to explore a different dimension of himself. In this context, he wrote a love song:

Rainbows and Harmonies

When I see you I see flowers
All the hours slip away
The price to pay seems meaningless
Oh, it feels so much like love

When I touch you I see showers
Flowing from my eyes like tears
The sky rains down upon us
All the days melt into one

When I see you I see starlight
Running through the night and day
The moon shines down upon us
As hand in hand we walk away

Rainbows and harmonies
So hard to see before
The clouds approaching beck us
As we go off to war

The love in my heart
Attacks from the start
Time and time again
Again...

On the recording, Michael sang the lyrics in a falsetto voice and with some difficulty finding pitch. He was adamant about making choices for the composition, though his musical choices continued to have a perseverative quality with frantic rhythms and tempi.

Michael attempted to continue in the vein of **Rainbows and Harmonies**, but had difficulty. His music continued to be agitated and compulsive in nature. However, his

ability to work with and perform with the existing composition shows a capacity for

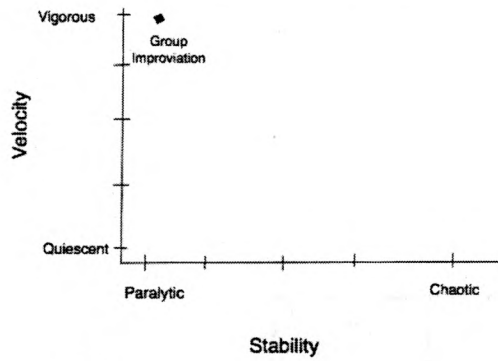deeper affective expression.
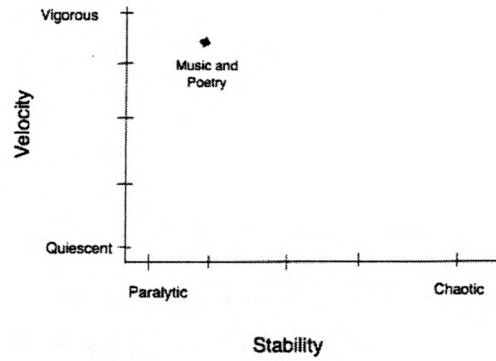
1. Temporality - "Michael"

Velocity (Vigorous — Quiescent)
Stability (Paralytic — Chaotic)

Group Improviation

Fig. 1.0

2. Temporality - "Michael"

Velocity (Vigorous — Quiescent)
Stability (Paralytic — Chaotic)

Music and Poetry

Fig. 1.1

3. Temporality - "Michael"

Velocity (Vigorous — Quiescent)
Stability (Paralytic — Chaotic)

Rainbows and Harmonies
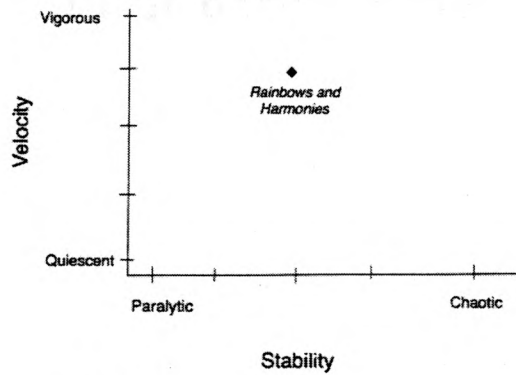
Fig. 1.2
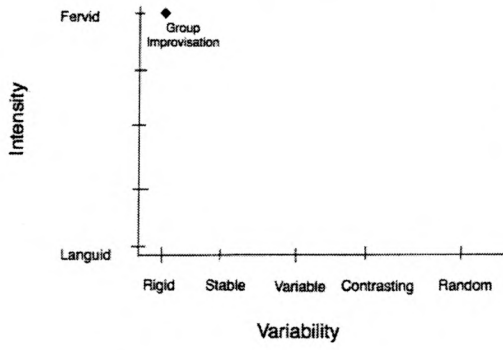
1. Affect - "Michael"

Fig. 2.0

2. Affect - "Michael"
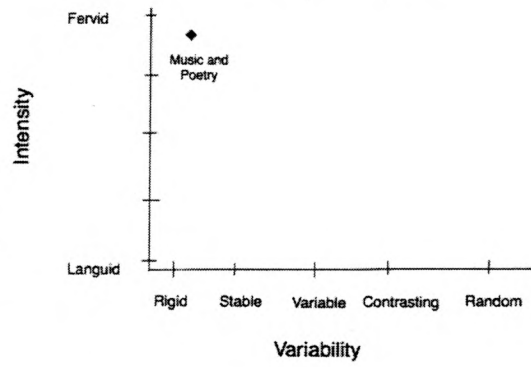
Fig. 2.1

3. Affect - "Michael"

Fig. 2.2

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1. Relationality - "Michael"

Coherence (Entropic ... Contracted)

Group Improvisation ♦

Congruence (Dissonant ... Consonant)

Fig. 3.0

2. Relationality - "Michael"

Coherence (Entropic ... Contracted)

Lord of Slaughter ♦

Congruence (Dissonant ... Consonant)
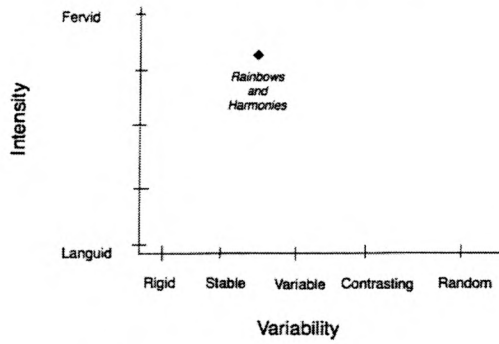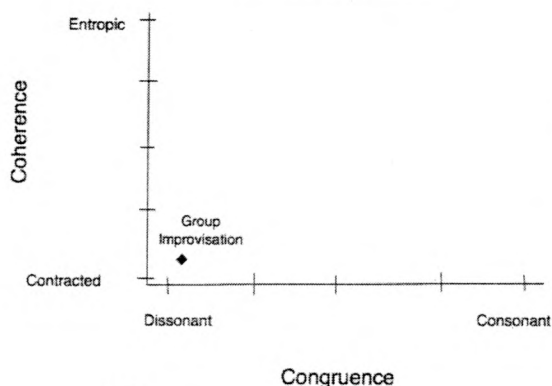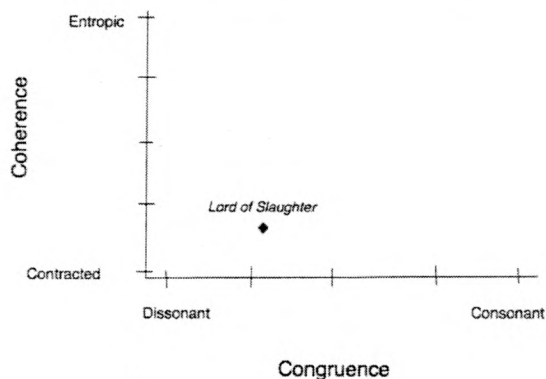
Fig. 3.1

3. Relationality - "Michael"

Coherence (Entropic ... Contracted)

Rainbows and Harmonies ♦

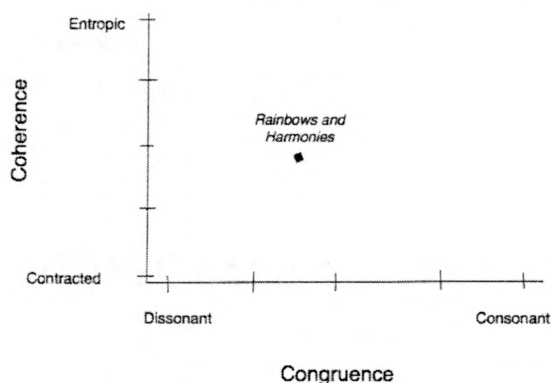Congruence (Dissonant ... Consonant)

Fig. 3.2

Michael's profiles indicate tendency toward at extreme ends of the scales with some movement toward the center as therapy progressed. Michael's temporality was vigorous and paralytic in early expressions (fig. 1.0) (fig 1.1). He tended to be rigid and contracted in his thinking (fig. 2.0) (fig. 2.1)(fig. 3.0) (fig. 3.1) in a way that was dissonant with others (fig. 3.0) (fig. 3.1), causing isolation and intensity of his delusions. The use of music pushed him to begin to integrate different parts of himself and disabled some of his over-intellectualizing defense mechanisms. This was shown most significantly in the final composition, which was plotted closest to the center of the profiles (fig. 1.2) (fig. 2.2) (fig. 3.2). For the first time, Michael showed a movement in the direction of balance.

Case Illustration #2: *Group Improvisation Therapy for a Resistant Woman with Bipolar Disorder – Manic* **written by Paul Nolan, M.C.A.T., RMT-BC (1991)**

This case study examines Carla, a 27-year-old woman diagnosed with bipolar disorder – manic. This case study describes her third hospitalization staying in a residential unit. Upon admission, it was written that Carla appeared to be functioning at average intelligence, had impairments in focusing attention, was disorganized in her thinking, and appeared that she was severely unstable and would become angry if provoked. Carla presented with loose associations and flight of ideas and vacillated between despair and euphoria. Carla consistently denied treatment and had varying negative effects from the medication.

Carla had participated in group music therapy in her previous admission and enjoyed it, however her music was disorganized and appeared to be separated from her feeling state. Carla also would become overbearing and directive with other group members.

In the most recent admission, Carla was put into a music therapy group that focused on improvisation. Goals for Carla in this phase included fostering a feeling that her communication was accepted and understood in a musical context and that she was in some way connected to the group.

Carla's verbal output was aggressive and described as manic. She was very directive and rude with other group members. Her playing on the xylophone exhibited some aspects of this, in that she would play loud and fast successions of notes with rapidly changing motifs and little connection between ideas. When discussing the

improvisation, Carla was unaware of anything else another group member did or how others interacted and appeared to have little self-awareness.

At the end of this first phase, there were instances in the music, however, where she did accept input from others. While her behavior outside of the music was still hostile and verbally controlling, there were times when she tolerated moments of mutual interaction in the improvisations.

Carla continued to have conflict with staff at the hospital and was resistant to treatment and compliance of any kind. However she did become more able to accept feedback in the music therapy setting. The therapist noted that her playing was more organized when playing a simple instrument, but Carla continued to choose the xylophone. In this phase, she was able to accept the suggestion from the therapist that she try listening and slowing down as well as choosing the drum or maracas. This suggestion was accepted while similar suggestions about how she communicated verbally were consistently rejected.

All of the improvisations were recorded and the group listened back to it. Carla's mumbling was present in almost all of the recordings and finally, another group member pointed it out. Carla acknowledged that it was her voice and that sometimes she has too many ideas in her head and that it gets confusing. This was the first example of insight shown by Carla about her illness. Carla was still combative with staff, but agreed to stay at the hospital to improve her concentration.

In preparation for discharge, Carla was acting more pleasant. In music therapy, her playing was becoming more pulse-oriented with the emergence of some musical phrases. She was able to accompany the improvisations of other group members "without

erratic changes in tempo, or out-of-time subdivisions of rhythm" (p. 461). She began to follow some suggestions of listening to the other members and orient to the mood expressed by others. Carla began to better tolerate more synchrony in the music and moving in the same rhythmic direction with others.

In her last session with the group, Carla directed an improvisation. While the music was less ordered than in the previous session, her speech was clear and organized. Throughout her stay at the hospital, Carla's compliance with treatment was poor and she did not attend any groups regularly, except music therapy. When Carla was discharged from the hospital, behaviors such as "hypomania, pressured speech, hostility, magical thinking, preoccupation with detail, poor concentration, and possession of special powers" improved during treatment.
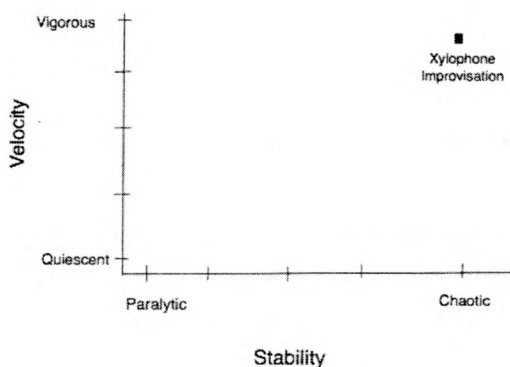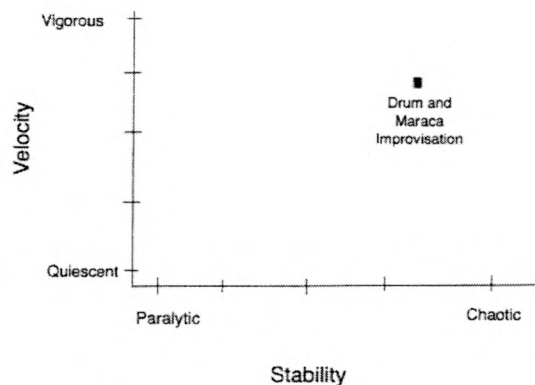
1.Temporality - "Carla"

2.Temporality - "Carla"
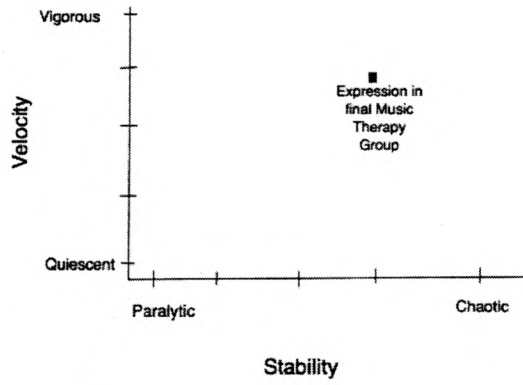
Fig. 4.0

Fig. 4.1

3. Temporality - "Carla"

Vigorous

Velocity

Quiescent

Paralytic | Chaotic

■
Expression in
final Music
Therapy
Group

Stability

Fig. 4.2

1. Affect - "Carla"

Fervid

Intensity

Languid

Rigid Stable Variable Contrasting Random

♦
Xylophone
Improvisation

Variability

Fig. 5.0

2. Affect - "Carla"

Fervid

Intensity

Languid

Rigid Stable Variable Contrasting Random

Drum and
Maraca
Improvisation

Variability

Fig. 5.1

3. Affect - "Carla"

Fervid

Intensity

Languid

Rigid Stable Variable Contrasting Random

Improvisations
Close to
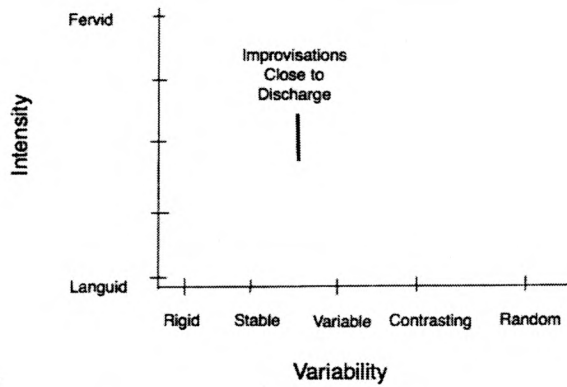Discharge

Variability
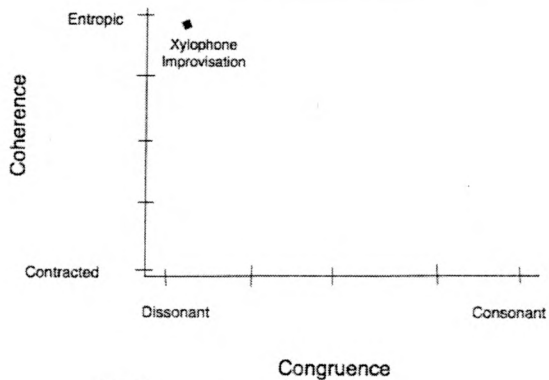
Fig. 5.2

1. Relationality - "Carla"

Fig. 6.0

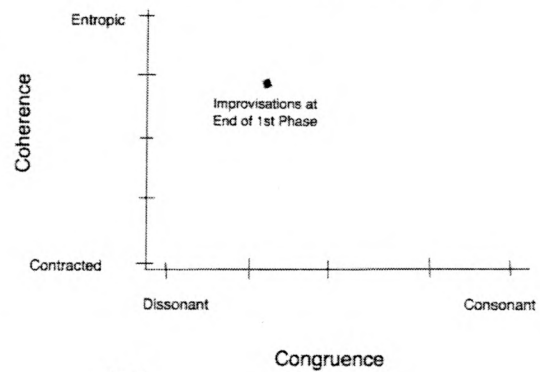## 2. Relationality - "Carla"

Fig. 6.1
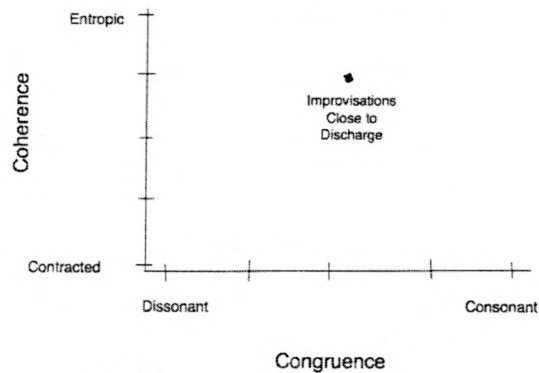
3. Relationality - "Carla"

Fig. 6.2

Carla's profiles indicate a trend toward centeredness as her treatment progressed. Carla's temporality initially tended to be focused at chaotic/vigorous (fig. 4.0) (fig. 4.1) before balancing out by the last music therapy group (fig. 4.2). Affective expressions were fervid/rigid (fig. 5.0) (fig. 5.1) before then moving more toward the center in variability and intensity (fig. 5.2). In relationality, Carla tended toward dissonant/entropic (fig. 6.0), which showed to impact her ability to relate and mirrored the disturbances she had with hospital staff. As time progressed, her improvisations appeared to be more balanced and relatable (fig. 6.1) (fig. 6.2). Carla showed a greater ability to move toward the center as music therapy treatment progressed.

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Case Illustration #3: *Integrated Music Therapy With a Schizophrenic Woman* **written by Gabriella Giordanella Perilli (1991)**

This case study describes Mary, a woman with schizophrenia who had participated in intense verbal psychotherapy, unsuccessfully, before receiving music therapy. Mary lacked self-help, social skills, and contact with reality. Mary presented with symptoms of thought disorder, such as delusions, fantasies, loosening of associations, poor reality testing, and difficulties in concentrating, thinking, and remembering. Mary was generally ambivalent and her affect ranged from dysphoria to agitated and hyperactive. She often exhibited anger toward others and was socially withdrawn.

Perilli (1991) described her work with Mary in four stages: contact, stabilization and rehabilitation, problem solving, and reconstruction.

In the first stage, Perilli (1991) describes Mary's demeanor as she walked in the room as "confused, agitated, and anxious." In a duet improvisation where the therapist played a steadying 4/4 beat, Mary played disorganized and incoherent beats for several minutes. The therapist then suggested that they try taking turns leading and following, at which time Mary's playing begins to show some organization and patterns forming.

Perilli (1991) also describes two solo improvisations by Mary. The first, entitled "The Death of my Piano Teacher" was organized and clear, connecting and developing ideas while staying in touch with the emotional content throughout. The second, entitled "The Happy Country Woman," was quite the opposite, marked by disorganization and

incoherence. There were no clear ideas presented and Perilli (1991) describes the music as perseverative with no moments of rest or relief.

In this stage, Mary showed that she had difficulty remaining focused and attentive, which caused her stress and poor self-esteem. When grounded and motivated, she had the ability to organize and form coherent ideas that are integrated within herself, as shown in the first improvisation, and with others, as shown in the development of the improvisation with the therapist.

In the second stage, Stabilization and Reconstruction, goals for Mary included improved ability to focus attention, lengthen in-task behavior and attention, and increase goal-directed behavior. Mary expressed that she has challenges in thinking and understanding what people are saying to her and that she gets confused easily. Perilli (1991) described her expression as tense and upset when expressing this.

They begin with a storytelling activity where Mary chooses instruments to represent the elements of the story. A story emerges about a girl, Laura, who is taking care of her garden but is uncomfortable with how chaotic and disorganized it is there. Two princes arrive and she asks them to help her. The music for the princes is loud and confused while other elements of the story are more ordered.

Mary and the therapist work together to create a solution in the music and storytelling to help Laura to feel better when she is feeling overwhelmed. Mary chose to sing her a song, "Laura is able to take care of the flowers." With this verse repeating, they dance together.

Mary is able to express that she feels happy with the song. The therapist reflected that she was able to think very clearly in the construction of this story and helped support

Mary to make the connection between herself and Laura, realizing more of her own potential to be successful, just as Laura had been able to take care of the flowers despite feeling overwhelmed.

This section marked a milestone for Mary's self-confidence and ability to pay attention and think clearly. By the third stage, problem solving, Mary was more consistently present in the here-and-now and feeling better about herself. Mary was able to work on one story over several sessions, indicating an improvement in cognitive capacities. The sessions here were structured with greeting and ending songs.

In the Reconstruction stage, song writing and other interventions were used to integrate various aspects of her personality, clarifying her needs, and improving her coping skills. A song written by Mary with an original melody shows her organization as well as her deepened emotional awareness.

Springtime Tears

These are life's tears that I feel in myself
I feel in myself.
When I am happier than now, the smile will come
And glow again.
Joy gets down into my heart,
Life creates love.
The joy will come from pain;
Soon merriment will come again.
I'd like to do easy things,
Within the need for toil.
I can try hard so that I am happier
Joy gets down into my heart
And life creates love.
Joy will come from pain;
Soon merriment will come again.

The progression of Mary's sessions shows a move from confusion to order, both in her music and behaviors. Mary's coping and social skills improved and she was able to live a more productive and happier life on lower doses of medication.
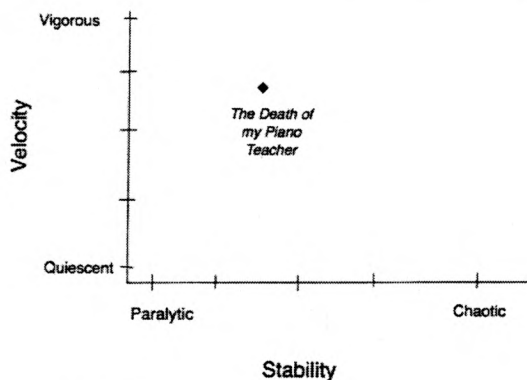
1. Temporality - "Mary"

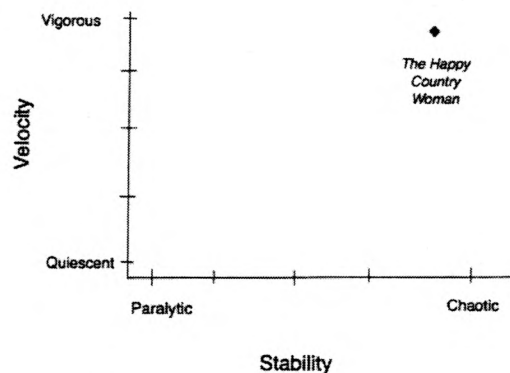Velocity (Vigorous to Quiescent) vs. Stability (Paralytic to Chaotic)

The Death of my Piano Teacher

Fig. 7.0

2. Temporality - "Mary"

Velocity (Vigorous to Quiescent) vs. Stability (Paralytic to Chaotic)

The Happy Country Woman

Fig. 7.1

3. Temporality - "Mary"

Velocity (Vigorous to Quiescent) vs. Stability (Paralytic to Chaotic)

Music and Storytelling

Fig. 7.2

1. Affect - "Mary"

The Death of
My Piano
Teacher

Intensity — Fervid ... Languid

Variability — Rigid, Stable, Variable, Contrasting, Random

Fig. 8.0

2. Affect - "Mary"

The Happy
Country Woman

Intensity — Fervid ... Languid

Variability — Rigid, Stable, Variable, Contrasting, Random

Fig. 8.1

3. Affect - "Mary"

Music and
Storytelling

Intensity — Fervid ... Languid

Variability — Rigid, Stable, Variable, Contrasting, Random

Fig. 8.2

4. Affect - "Mary"

Springtime
Tears

Intensity — Fervid ... Languid

Variability — Rigid, Stable, Variable, Contrasting, Random

Fig. 8.3

1. Relationality - "Mary"

Duet Improvisation

Coherence — Entropic ... Contracted

Congruence — Dissonant ... Consonant

Fig. 9.0

2. Relationality - "Mary"

Music and
Storytelling

Coherence — Entropic ... Contracted

Congruence — Dissonant ... Consonant

Fig. 9.1

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3. Relationality - "Mary"

Fig. 9.2

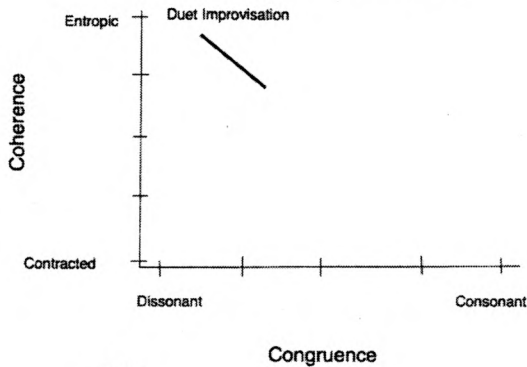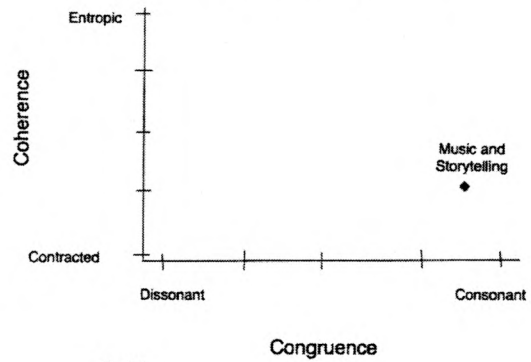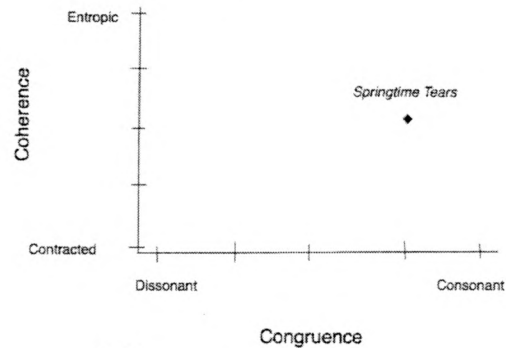Mary's profiles show a wider range in the balance of her expressions than in the previous studies. These trends are significant in that she demonstrates the capacity for balance and centeredness (fig. 7.0) (fig. 7.2) (fig. 8.0) (fig. 8.2) (fig 8.3), but can also fall at extremes (fig. 7.1) (fig. 8.1) (fig. 9.0) (fig. 9.1) (fig. 9.2). Perilli (1991) described in the study that Mary had very low self-esteem and was self-conscious about her illness and disordered thinking. These profiles highlight Mary's strengths in affective health, especially, demonstrating centeredness . Despite the points on the outer edges, Mary's music tended to be balanced toward the center. It is also notable that these profiles did not tend toward the center in quite such a linear, progressive manner as in the previous cases, reflecting the realistic way in which therapeutic progress in the area of thought orderedness is often observed.

Mary's case examines the capacity for order and balance in someone with a thought disorder and how music highlighted these strengths. As described in the case study, Mary's experiences of success in here-and-now expressive music making allowed her to acknowledge and practice her abilities and build on her strengths. At the end of her treatment, Mary was more aware of herself in relation to the world and integrate different aspects of herself.

Reflections

Within these profiles, a greater understanding of one's quality of being in the world can emerge, focusing on how one moves through time and relates to others and the environment. The profiles are not intended to form an assessment in themselves but rather to be a starting place from which this framework can develop.

At this stage, the profiles are only intended to illustrate constructs. The way in which information is indicated on the profiles may and should evolve. A specific method for eliciting musical expressions is omitted at this phase of development, as the constructs presented are theoretical. As development of a tool, and therefore a method, progresses, it will be important to consider the therapist's role and the specific nature of the music making. This assessment could take place in any combination of individual, joint music making, or a combination.

There are many directions to go, depending on the desired goal of the assessment. For example, an assessment can be used as a way to inform the individual clinician working with the patient in music therapy, highlighting strengths and needs in a way that can inform the course of therapy and assist in tracking progress. These assessments can be used consistently over time to as a way of tracking progress or at the beginning and end of treatment.

Additionally, the manner in which the expressions are plotted could take various forms. For example, all temporal points could be plotted on one graph with points connected to make a line or 2-dimensional shape. This could show the overall shape and range of one's expressions.

Another goal of assessment is one that can be generalized into the mental health field as a whole to assist in informing diagnoses. There is no standard assessment that specifically tracks one's temporal, affective, and relational organization as it is expressed in time. And as shown in the reviewed literature, music is the most dynamic and natural expression of this.

One example of such a tool is a standard protocol of assessment with quantitative measures that reflect the framework of temporality, affect, and relationship. Creating standard quantitative measures anchors the tool in quantifiable data that can allow for comparison to oneself over time.

Conclusion

This thesis is a framework for understanding thought as an inseparable combination of temporality, affect, and relationship – that mental organization is expressed across domains of functioning and has implications for a person's entire spectrum of being. In order for treatment of those with thought disorders to be meaningful to overall balance and health, an assessment that reflects this construct of health is needed.

More work is needed to determine the most effective use of this framework and in order to develop a model that can be field-tested. While it is the hope of this author that such a framework can be integrated into the mental health field, it is acknowledged that the current norms do not support such a theory. Since the verbally based models are so foundational to current theory, time will be needed for a broadening of understanding to occur.

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