

Safety and connection in the polyvagal theory

Implications for music therapy in mental health care



Bettina Flater • Master's thesis in music therapy
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Implications for music therapy in mental health care

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*In all of us lodges the same fuel to light the same fire.
And he who has never felt, momentarily, what
madness is, has but a mouthful of brains
(Herman Melville)*

*Blindness separates us from things, but
deafness separates us from people
(Helen Keller)*

*“They would do this bizarre thing,” he said. “They didn’t
take people out in the sunshine where you begin to feel
better. They didn’t include drumming or music to get
people’s blood going. They didn’t involve the whole
community. They didn’t externalize the depression as an
invasive spirit. Instead what they did was they took people,
one at a time, into dingy little rooms, and had them talk
for an hour about bad things that had happened to them!”
(Andrew Solomon, quoting a health worker describing
international aid in mental health care in Rwanda)*

FOREWORD

This thesis marks the end of a marvelous journey, interrupted (or rather, enriched) by the arrival of two angels. A big thank you to teachers, administration and my classmates at NMH for being so flexible and generous with a newborn mother twice over. Thanks for the improvisations and reflections and soul searching and learning in so many ways. To my supervisor Ane – I am eternally grateful for having had your expertise covering my back. Thank you for helping me to see the greys. Your extensive knowledge and your enthusiasm, as well as your prompt and excellent feedback, have been invaluable. Thanks to Rita for being an inspiration and an example, always on my shoulder. Thank you for believing in me.

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Thanks to the head of my section for inspiring the warmth and humanity that pervade our workplace; I am privileged to work under your leadership. Thanks to my colleagues for your interest for music therapy, as well as enriching me with your knowledge. My heartfelt gratitude and admiration goes to my brave clients; you are my heroes.

Mamma, Anne Karine, Tove, Amy – my girls, thank you for your love and support and for being who you are. To my beloved boys – Kevin, Liam, Aiden, you are my everything. Love you all to the moon and back.

ABSTRACT

The humanistic perspective in music therapy takes a holistic approach to health and prioritizes subjective experience. In the field of mental health care, these humanistic values are increasingly prevalent and seem at times in opposition to the bio-medical model. The etiology of mental illness remains little understood.

Stephen Porges' polyvagal theory provides a theory rooted in biology that has been widely acclaimed in the field of trauma, both by experts and survivors. The theory emphasizes the importance of safety and human connection for our well-being. It presents a number of claims that open up for interesting correlations with music therapy, including its view on music as a potent trigger for feelings of safety. This thesis explores these correlations through vignettes from a music therapy practice.

A recurring theme is the attempt to bridge biomedical explanations with the humanistic perspective. The biology of the polyvagal theory is juxtaposed to the subjective experiences of users in mental health care, and a mutual enrichment is sought.

SAMMENDRAG

Det humanistiske perspektivet i musikkterapi har en helhetlig tilnærming til helse og prioriterer subjektiv opplevelse. Innen psykisk helsevern vekker humanistiske idealer stadig mer gjenklang, og disse kan til tider virke motstridende til den biomedisinske modellen. Etiologien i psykiske lidelser er fortsatt lite forstått.

Stephen Porges polyvagale teori er forankret i biologi og er samtidig hyllet i traume-feltet, både av eksperter og de som har vært utsatt for traumer. Teorien understreker hvor viktig trygghet og sosial tilknytning er for menneskelig velvære. Den presenterer en rekke påstander som åpner for interessante sammenhenger med musikkterapi, inkludert musikkens biologiske potensiale for å fremme trygghet. Denne oppgaven utforsker disse sammenhengene gjennom vignetter fra en musikkterapipraksis.

Et tilbakevendende tema er forsøket på å bygge bro mellom biomedisinske forklaringer og det humanistiske perspektivet. Biologien i den polyvagale teorien settes opp mot de subjektive erfaringene til brukere i psykisk helsevern, og det søkes en gjensidig berikelse.

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PART I: INTRODUCTION

1. INTRODUCTION

Music therapy has firm roots in a qualitative, humanistic tradition. In recent years, quantitative studies have been emerging and providing scientific evidence for its benefits. Yet it is highly doubtful that the complexities and nuances in the subjective experience of music therapy can be sufficiently understood in a reductionist context (Ansdell, 2014). Quantitative studies cannot capture the essence of the human experience.

The study of medicine has long been founded on scientific method and inquiry, by nature reductionist. Through scientific investigation with rigorous demands for empirical evidence, the human race has made giant leaps within myriad fields. We have reached the moon. We have attained a level of comfort and security in our daily lives that our ancestors wouldn't have thought possible. Complex brain surgery is performed successfully every day around the world. We have also created enough weaponry to blow the earth to bits. All thanks to science.

Medicine is firmly planted in this scientific paradigm. In the field of mental health however, the bio-medical model has proved pitifully unfit. User perspectives have slowly but surely been emerging to show that clients in the mental health system have felt threatened, dehumanized and belittled in it (Bacha, Hanley & Winter, 2020). The dogged bias towards medical treatment can lead to “narrow, ineffective and potentially harmful outcomes” (UN Human Rights Council, 2017, p. 5), and is influenced by the powerful pharmaceutical industry (Schwarz & Woloshin, 2019). Ethically questionable practices like restraint have been common and are still in use (Bacha et al, 2020). Diagnostic manuals keep expanding with a plethora of different diagnoses, while the etiology of mental illness remains little understood (Brean, 2015; Van der Kolk, 2018). The biomedical model remains a main focus in deciding mental health policies, “distracting policy-makers from addressing the main risk and protective factors affecting mental health for everyone” (UN Human Rights Council, 2017, p. 5).

Yet science is – also by nature – a field that is in continuous evolution. Hypotheses get tested and modified. New knowledge arises and knocks entire theories out of existence. Systems biology provides a new paradigm that moves away from reductionist thinking and embraces the idea that the whole is greater than the sum of its parts. New research uncovers the extreme

complexity – bordering on chaos – of biological systems (Ernst, 2017). The complex interplay between biology, social factors and traumatic events is becoming evident not only in mental health but in medicine in general. Our body (biology) and our life experiences (biography) are recognized as being inextricably intertwined (Getz, Kirkengen & Ulvestad, 2011). In the field of mental health care, humanistic values have become increasingly important, with subjectivity, integration and user participation as important aims (Ekeland, 2011).

Stephen Porges' polyvagal theory provides interesting new insights into the biology of mental health and trauma. From its perspective, the comorbidity and heterogeneity that tend to confuse and complicate diagnosis become part of a whole and are thus more understandable (Beauchaine, Gatzke-Kopp & Mead, 2007). Trauma survivors find solace and vindication in the explanations presented in it. Here is a theory rooted in biology that explains and humanizes their experience rather than pathologizing it (Van der Kolk, 2018). Might this theory be a step forward into uniting science with the empathetic, humanistic world view that music therapy represents? And what are the implications of this theory for music therapy in the field of mental health? These are questions that this thesis seeks to explore, on the basis of observations in a music therapy setting.

1.1 PERSONAL MOTIVATION

Working in a field dominated by doctors and nurses, I find it useful to be able to advocate for music therapy using “their language.” I have noted several times that ears prick up and attention heightens as soon as I use biological terms, or mention the effects of music on the brain. I am also fascinated by the question of if and how one can combine the objectivity and reliability of science with the subjectivity and warmth which is the hallmark of the humanistic approach to music therapy. My original motivation was to explore this dichotomy and seek some kind of unity through the polyvagal theory. Yet as I read up on the theory, I discovered that its biological fundament is not watertight. I began to feel that this theory's value lies not so much in its biological basis as in its astute observations of human behavior and the solace it provides trauma victims.

As a result of this my focus shifted away from the biological and more toward the user perspective. The desire to be a voice for the people that are struggling in the mental health system is a strong motivator for me, inside and outside of the context of this thesis. The user perspective will therefore be central here. This is manifested in two ways. Firstly, my

observations of clients in a music therapy setting will be prominent in the thesis. Secondly, although the main theoretical bases of the thesis are music therapy theory and the polyvagal theory, I will also draw on user perspectives in literature.

Another personal motivation in this thesis is the desire to grow professionally. The opportunity to methodically align my experiences in the workplace with theory and research is golden. To in addition be able to explore a biological theory in a music therapy setting is fascinating and educational.

1.2 PURPOSE AND RESEARCH QUESTIONS

The purpose of this thesis is to investigate Stephen Porges' polyvagal theory in the context of music therapy in mental health.

My research questions are:

Can the polyvagal theory provide valuable insights into clinical practice of music therapy in the mental health field? If so, what are they?

These questions will be explored in the context of seven vignettes from my current work place, that will each be discussed in relation to the polyvagal theory and music therapy theory. The work place in question will be described in detail in section 3.1.2.

1.3. DELINEATION OF THE THESIS

The thesis consists of five main parts, each divided into sections. The first part (Introduction) consists of three sections, starting with this introduction (section 1). In the next section (2) I will define some important terms. The method and scientific theory behind this thesis will be outlined in section 3. Part II (Background) consists of section 4, which identifies what music therapy theory I draw on, and section 5 which is dedicated to a brief overview and critique of the polyvagal theory.

Part III (The Vignettes) is the heart of the thesis, and in it I will present aspects of safety and social connection as discussed in the polyvagal theory. Each of these aspects will, in turn, be discussed in the context of music therapy. Here I will discuss both music therapy theory and

music itself. This part will be illustrated by seven vignettes from my workplace. Where relevant, I will also intersperse other user observations from my work place and from pertinent literature.

In part IV (Discussion) I summarize these observations and relate them to the research question. I will also make a final critique of the polyvagal theory, and comment on the writing process. In part V (Conclusion) I present a final vignette and make concluding remarks.

2. DEFINING TERMS

In the following section, I will examine some of the terms that will be used in the thesis and delineate how they will be used in it.

2.1 MUSIC THERAPY

Kenneth Bruscia identifies over a hundred working definitions of music therapy (2014). This reflects the rich diversity within the field. His 2014 definition is an attempt to synthesize all of these, based on a methodical analysis of them. For this reason, I have chosen to use it here. It goes as follows:

Music therapy is a reflexive process wherein the therapist helps the client to optimize the client's health, using various facets of music experience and the relationships formed through them as the impetus for change. As defined here, music therapy is the professional practice component of the discipline, which informs and is informed by theory and research. (Bruscia, 2014, p. 46)

More will be said about this definition and my interpretation of it in section 4.

Ruud's definition, also highly relevant to this thesis, is simply: "Music Therapy is the use of music to give people new possibilities for action" (2010, p. 124). It emerged out of a desire to remove the focus on pathology and take clients out of sick role (Ruud, 1998). Giving clients new possibilities for action also includes removing material and psychological hurdles for their well-being that exist in society.

Vignettes from my place of work form a central part of the thesis. I refer to this work as music therapy, in order to make the language less cumbersome. I would like to clarify that I am fully aware that I am taking great freedom in doing so, since I am not yet a qualified music therapist. There are three factors in my justification of this choice. First, the position was acquired through my studies in music therapy, on the understanding that I was soon to finish my studies and become a qualified music therapist; as such, the position is a music therapy position. Secondly,

I passed my final master's exam in may 2019 and the only thing that separates me from my degree is finishing this master's thesis. And thirdly, I have had continual guidance from eminent music therapy professors at the Norwegian Academy of Music. More will be said about this work place in section 3.1.

2.2 CLIENT

I work in an environment where clients are referred to as patients. I absolutely respect the right of my colleagues to refer to them as such, and the right of a person in distress to take that role. However, I feel strongly that *my* role in my workplace is to foster everything about the person that is not about being a patient. Also, as evidenced by Bruscia's definition, the word client is in common usage in music therapy contexts. In addition, I feel that the dyad therapist-client implies an entirely different power structure than therapist-patient (Rogers, 2003). I have therefore chosen to use the word client.

Bruscia defines a client as:

“A client is any individual, group, community, or environment that needs or seeks help from a therapist, in the form of services provided within a professional relationship, for the purpose of addressing a health-related concern or goal, using music experiences and the relationships formed through them.” (Bruscia, 2014, p. 49)

The user perspective is central in this thesis, and as such the role of the client is central. More will be said about this in section 4, where I give a more in-depth treatment of music therapy.

2.3 PARTICIPANT

In her renowned article from 1969, Arnstein argues that “There is a critical difference between going through the empty ritual of participation and having the real power needed to affect the outcome of the process” (p. 216). She presents a ladder of levels of citizen participation where, interestingly, the second lowest rung is denoted “therapy.” Townsend says: “Participation engages people as activists in shaping their own lives. In contrast to the one-way dependence underlying caregiving, participation is enabled in two-way, interdependent processes that generate empowerment for us all” (cited in Rolvsjord, 2010, p. 43). Within music therapy, several authors write about the importance of participation (e.g. Solli, 2012; Stige, 2006). Stige & Aarø (2011) describe participation as an antidote to exclusion and marginalization, and observe that participation entails that the expertise of the client is as crucial as the expertise of the music therapist.

In the vignettes I describe listening groups, and of these I am inevitably the leader. I set the framework within which the groups work, and am a sort of conductor in them. I always try, however, to control as little as possible, and to tune in as much as I can to the participants. In the one-to-one sessions, I have greater freedom to allow the client to lead. In both cases, I identify participation in music therapy to involve more than to simply be present (including the right to decide not to get involved, or even leave – i.e. *not* participate – if that is what the client wishes). The participants are central to the unfolding of the sessions, and I strive to empower them in it.

2.4 GLOSSARY

There are a few biological terms that are important to understand in relation to the polyvagal theory. In this section, they will be defined briefly. The terms may seem disconnected and haphazard at the moment; their relevance will become clear in section 5, where I present the polyvagal theory.

2.4.1 Autonomic nervous system

The autonomic nervous system (ANS) controls involuntary actions, like breathing, heart rate, and reflexes. It has traditionally been divided into the opposing sympathetic and parasympathetic nervous systems, concerned respectively with action and stress (fight or flight) and restitution and digestion (rest and digest) (Watson, Kirkcaldie & Paxinos, 2010). This division however, is over-simplified and misleading. Neither of the systems is ever completely activated. The parasympathetic and sympathetic pathways will often but not always have opposing effects on the tissue innervated by them, and in many situations, they can be active simultaneously, thereby modifying each other's effects (Jänig, 2006). This complexity is important to note. But the most significant factor in the context of this thesis is that the ANS operates independently of our consciousness, and consequently we are rarely aware of its functioning (Parker, 2008).

2.4.2 Myelination

Myelin is a fatty membrane that covers most nerve fibres in the human brain and body. It can be compared to isolation in electric wires, in that it improves the speed and precision with which signals are transmitted (Parker, 2008; RVTTS Vest, 2014). Myelin is present in most vertebrates but not all, and is thought to have evolved already 425 million years ago (Salzer & Zalc, 2016).

2.4.3 Vagus nerve

Vagus is Latin for “wandering.” The vagus nerve is the longest and most branched nerve in the human body (Parker, 2008). It is the main component of the parasympathetic nervous system (Howland, 2014). It connects mainly to the larynx and pharynx, heart, lungs, stomach and intestines (Watson et al., 2010). The vagus is comprised of about 80% sensory and 20% motor nerve fibres. Some of its nerve fibres are myelinated, others not (Jänig, 2006).

2.4.4 Middle ear muscles

In the middle ear are two tiny muscles: the stapedius muscle and the tensor tympani muscle. They contract reflexively immediately after we perceive loud sounds, and also right *before* we vocalize. Their function is to protect our inner ear from loud sounds and to allow us to easily perceive soft sounds in our environment, even through our own speech. Interestingly, they limit low frequency sounds more than high frequency sounds often associated with human speech. As such, they are hard wired to optimize our ability to discern human speech. Patients with Bell’s palsy, in whom the stapedius muscle is paralyzed, experience hypersensitivity to loud sounds and distorted hearing (Borg & Counter, 1989; Schofield & Biebe, 2020).

3. METHOD AND SCIENTIFIC THEORY

In this section I will explain how I went about researching and structuring the thesis. I will also place it in relation to scientific theory.

3.1 THE VIGNETTES

In the fall of 2018, the last year of my master’s course, I was assigned clinical training at an institution for mental health. Rather than being under direct guidance of a music therapist at the institution, I practiced alone and had weekly guidance from a supervisor at the Norwegian Academy of Music.¹ This institution is an inpatient setting, where the average duration of hospitalization is four to seven weeks. There are ten places in each ward and diagnoses include psychotic, affective, trauma-related, personality and eating disorders. The institution had previously no experience with music therapy. At the end of the clinical training I proposed to the institution that I stay on as an employee in a small position and they accepted the offer. I have thus had the privilege of working in this position for two years so far, and have a wealth of observations to draw on.

¹ In Norwegian this is referred to as “egenpraksis.”

In this institution, music therapy consists of three listening groups and a one-to-one session per week. The listening groups are open, so there are different constellations of people in the groups each week, with anything from two to ten participants in the groups. We open the sessions with a “weather report”, where each participant has the opportunity to relate how they are feeling here and now. The option of “passing” is always open. Some clients prefer to observe and they are very welcome to do so. After the weather report, each participant gets a chance to choose at least one song that we all listen to, which is then commented on by all who wish to do so. At the end of the hour, the sessions conclude with another weather report. Here we can describe what “the weather” is like now compared to at the start of the session, or simply say something about how it has been to be in the group.

The one-to-one sessions are completely open. My only agenda is to let the client take the lead, and tune in as much as possible to them, musically and relationally. In the first session, I present some options for musical activities, and the client will choose what he or she wishes to spend the sessions doing. The one-to-one sessions have consisted of improvising, listening to music, conversation, learning and playing songs on instruments, sharing poetry, and songwriting. A lot of clients struggle at first with the fact that I put them in control. Understandably, they feel that I know more about music therapy and should set the agenda. Yet I have found that once they do step in to the role of protagonist, they show amazing creativity and resourcefulness in finding their own paths toward healing.

In the course of the two years in this job, I have become increasingly in awe of music and its capacity to transform. I have marveled at how valuable the empowerment and warmth innate in a humanistic approach to music therapy is in relating to clients. For this reason, general observations and vignettes based on occurrences at my work place have been included in the thesis.

3.2 ETHICS

Ethical considerations are an essential part of all research, and all music therapy work. Research, like music therapy practice, entails an uneven power balance between researcher and researched. Ethical considerations may at times come in conflict with ideal research design

(Murphy, 2016). CREO's² ethical guidelines for music therapists (CREO, 2017) clarify that a music therapist's primary loyalty is to the client. In regard to research, the guidelines specify that the client's right to confidentiality, autonomy and participation must be respected. The Belmont Report outlines three essential principles in research involving people: respect for persons, beneficence, and justice (The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979, cited in Dileo, 2005).

This thesis is a literature review, in which the user perspective is of vital importance and the clients at my workplace an important inspiration. Therefore, the findings have been illustrated by vignettes and general observations from my work place. I have, however, chosen not to apply to NSD (Norwegian Center for Research Data). This is on the basis of guidance from my supervisor, and a questionnaire I completed on the NSD website that concluded that I did not need to, on the premise that all data is anonymous (NSD, 2020).

Protecting the users' anonymity in the vignettes and observations thus becomes of utmost importance. The vignettes are based on real events, but the events are merged and altered to the extent that they no longer reflect one specific event or one specific user. When song choices are mentioned the songs are changed to a song that bears more or less the same message as the one originally chosen. Many of the vignettes I wanted to use proved to be impossible to mask enough, and had to be discarded. Protecting the anonymity of a vulnerable group of clients is an absolute priority (CREO, 2017).

3.3 LITERATURE SEARCH AND RESEARCH

The first step in researching this thesis was to acquire some knowledge about the polyvagal theory. This process will be outlined in section 3.3.1. As I read up on the theory, I began to make a document where I thematically organized concepts of interest from it. Parallel to this, I searched through my log books and made a document of occurrences that might pertain to these categories.

The second part of the process was relating the relevant categories of the polyvagal theory to music therapy theory, and to possible vignettes. I first brainstormed on paper, but found that the most effective method was using color coded post-its. Yellow, green and pink post-its

² Creo is the Norwegian Union for Arts and Culture, and the trade union for music therapists.

defined categories from the polyvagal theory, music therapy theory and vignettes, respectively. I mixed and matched on several occasions and eventually chose five vignettes that adequately illustrated aspects of the polyvagal theory that I could relate to music therapy theory. Safety and social connection were overarching themes, so two vignettes were later added to illustrate these as general categories. From then on, the vignettes became the heart of the thesis, and the starting points for my discussions.

The syllabus from the master's course in music therapy at the Academy of Music formed the backbone of the music therapy literature used. RILM Abstracts of Music Literature, Oria and Google scholar were also used. It also became important to read up on trauma, the mental health system and the user perspective. My starting point here was an officially accredited online course in trauma (RVTS Nord, 2020). From there I followed several leads to other relevant literature. Searches in Oria and Google scholar were also undertaken.

I also found it very useful to read through other master's theses in music therapy. I found a lot of inspiration there, especially in relation to structure, method and scope.

3.3.1. Researching the polyvagal theory

My first searches were made in google scholar and oria, to find background literature. I first read Porges' "Pocket Guide to the Polyvagal Theory" (2017) and then relevant chapters in "The Polyvagal Theory, Neurophysiological foundations of Emotions, Attachment, Communication and Self-Regulation" (2011), and "Clinical Applications of the Polyvagal Theory" (Porges & Dana, 2018).

Three searches were made in Medline.

The first included "Porges" as author and "Polyvagal theory" as keywords. Here I found 34 records. Seven of these were included, one of these being a corrigendum. The second search included "Polyvagal theory" and "music therapy" as keywords. Here I found no articles. A search in RILM, however, provided 5 hits. Two of these were written by Porges and were already on my literature list. One was a review of one of Porges' books in a music therapy magazine, which summarized the book without any insights from music therapy. The two other hits were related to the same article by Hanne Mette Ridder: "How can singing in music therapy influence social engagement for people with dementia? Insights from the polyvagal theory"

(2011). Another search in RILM for only “polyvagal theory” resulted in three additional hits. One was an article by Porges already included, and two had no direct relevance to this thesis.

It was of course important to see what other people were saying about the polyvagal theory, so a third Medline search with search words “Polyvagal Theory” and NOT “Porges” as author, was made. This search, made in may 2020, gave 64 hits. I skimmed all 64 abstracts, and created a table to clarify their position on the polyvagal theory and eventual points of interest. Seven were included.

3.4 QUALITATIVE AND QUANTITATIVE PARADIGMS³

My main inspiration at the outset of writing this thesis was to attempt to find meeting points between the qualitative and the quantitative: the subjective and the objective, the humanistic and the positivistic, constructivist and absolute views on truth. Specifically, I wished to do this by juxtaposing the biology in Porges’ theory to the humanism in music therapy theory. Bruscia argues that combining the two philosophical paradigms is in essence impossible. Although one might collect both quantitative and qualitative data in the same study, they are “mutually exclusive ways of thinking about the world” (1995, p. 73).

Modern science, however, is taking a turn towards recognizing the great complexity of physiological systems – and in particular the human mind – that brings the two opposing paradigms closer together (Getz et al, 2011). The impossibility of truly objective research, i.e. the inevitability of subjective interpretation, is also being increasingly recognized (Cohen, 2016).

Wheeler argues that research might employ techniques from one paradigm while not “subscribing to its world view” (2005, p. 15). I would describe this thesis as firmly planted in qualitative values. Yet it seeks reconciliation between the qualitative experience of people in the mental health system with the quantitative data that are the basis for the polyvagal theory – it seeks to illuminate on some level the extremely subjective experience of mental illness through biological factors. As such, this thesis places itself in a dialectic stance between qualitative and quantitative world views, which regards “the inevitable tensions invoked by

³ Also referred to as interpretivist and objectivist. I have chosen to use the older terminology because most of the literature I refer to in this section uses those terms.

juxtaposing different paradigms as potentially generating more complete, more insightful, even transformed evaluative understandings” (Greene & Caracelli, cited in Wheeler, 2005, p. 14).

3.5 PHENOMENOLOGY AND HERMENEUTICS

Phenomenology is concerned with empirical data. Yet, in contrast to quantitative research, phenomenology values subjective truth, and nonquantifiable experiences (Ruud, 2005). The concept of epoché, or bracketing, is an attempt to reach the essence of a subjective experience. It involves identifying one’s own assumptions and preconceptions and making a conscious effort to put them aside (Ruud, 2005). Considering that it is important for me to emphasize the user perspective, it was important to correctly reflect the experience of my clients beyond layers of my own preconceptions and other distracting elements. Thus, I continually strove to “bracket” each vignette, in order to capture the essence of the clients’ experience.

Hermeneutics is concerned with interpreting and understanding (Loewy & Polander, 2016). In a text, for example, each part can be better understood in relation to the whole, and the whole in relation to the parts, in a “continuous cycle of anticipation and revision” (Kerdeman, 2014, p. 376), the so-called hermeneutic spiral. Many thinkers have contributed different perspectives on hermeneutics, with Gadamer widely considered to be the most influential of the last century (Krogh, 2014). Gadamer’s concept of “horizons of meaning” refers to the sum of all our prejudices and preconceptions (Krogh, 2014). Through dialogue, we can approach the horizon of meaning of others, and achieve a fusion of horizons. True dialogue is open in nature; the more authentic it is, the less predictable it is, and the more impossible it is for either part to control it (Viveros, 2019). There is a lack of expectation, an openness to see what happens, as well as a mutual respect for the horizon of meanings of the other. Questions are the epitome of this openness: “all suspension of judgements and hence, a fortiori, of prejudices, has the logical structure of a *question*” (Gadamer, 2003, p. 299).

For Gadamer, the difference between scientific inquiry and the humanities lie not in their method but in their objective; in the truths they seek (Viveros, 2019). In his view, hermeneutics itself is *not* a method, but a “general philosophical theory about what understanding is, and what happens in us and with us when we understand” (Krogh, 2014, p. 43, my translation). Thus, the main divide is not between natural and human sciences but between method and hermeneutics.

Gadamer did, however, subscribe to a qualitative world view. He feared the implementation of positivistic reductionism to the artistic experience. He explains how scholarly pursuit can “neither replace nor surpass the experience of art” (2003, p. xxii). He states further that “together with the experience of philosophy, the experience of art is the most insistent admonition to scientific consciousness to acknowledge its own limits” (p. xxiii). To reduce an artistic experience to data is doing it a grave injustice.

In the context of this thesis, I find Gadamer’s view of dialogue especially interesting. I find it important to incorporate the elements of mutual respect and lack of expectations into the dialogue between the qualitative and quantitative. I would also argue that the human experience, like the artistic experience, is irreducible, and that analysis destroys the magic of it. This is the reason that this paper, while seeking a certain fusion of qualitative and quantitative horizons, remains firmly planted in qualitative values. Human and musical/artistic experiences are allotted a sanctified place where they are to be untouched by analysis and reductionism.

PART II – BACKGROUND

4. MUSIC THERAPY

In this part, I will outline where I place myself in the theoretical landscape of music therapy.

4.1 A HUMANISTIC APPROACH TO MUSIC THERAPY

On a theoretical level, my main source of inspiration is the humanistic approach to music therapy that is prevalent in Norway. Considering that this thesis is placed in the field of mental health, it is natural that I draw mainly on the literature from that field. Rolvsjord's (2010) focus on empowerment, resources, and the client as protagonist resonate strongly with the therapist I would like to be. I find inspiration in Stige's (2012) ecological perspective in Community Music Therapy. Solli (2012), solidly anchored in Rolvsjord's resource centered music therapy, provides an interesting link to recovery theory. Trondalen's (2016) relational perspective is highly relevant, and her writing moving and warm. For me, these authors' works are like branches of a tree, where Ruud's (e.g. 2008) writing forms the tree trunk. While each of them offers considerable personal contributions to the field, most of the concepts they discuss – empowerment, focus on resources, and the importance of working with the community to name just a few – can on some level be traced back to Ruud's texts.

Bruscia's (2014) thorough and methodical work in defining music therapy and creating a handbook for the discipline is invaluable. His work has also been an important guide in the writing of this thesis. In the next section, I will examine his definition more closely, and clarify how I interpret a few points in it.

4.2 INTERPRETING BRUSCIA'S DEFINITION

One could discuss and examine almost every word in Bruscia's definition of music therapy – as he himself dedicates sixteen chapters to doing (2014). There are many nuances in every part of it. Here, I would like to clarify three points in it.

4.2.1 "Helps"

Rolvsjord (2010) has an interesting observation regarding Bruscia's definition of Music Therapy from 1998, where he refers to "interventions." She points out that this word implies action from the side of the therapist rather than the client, and puts the client in the passive role

of damaged goods that needs fixing by a professional. I would argue that the same – to a lesser degree – applies to the word “helps.” My feeling with clients is most often that I accompany them and cheer them on in their own process. If anything, I help them to help themselves. I sit back and let them – and the music – do their magic. The few attempts I have made at living up to some felt expectation of being more pro-active and dominant in the situation, have never been fruitful.

4.2.2 “*The client*”

Rolvjord (2010) is emphatic about the importance of letting clients be the protagonist in their own therapy. She points out how the literature tends to emphasize the role of the therapist in the healing process but largely ignore – or even pathologize – the initiatives of the client. Yet research shows that the client’s contribution in therapy is essential. Hubble and Miller say: “therapy does not make clients work, but rather clients make therapy work” (cited in Rolvsjord, 2010, p. 186). This point of view entails that the therapist must trust the client to know their own needs and resources, and also be flexible enough to adapt to the needs of the moment.

4.2.3 “*Professional practice, which informs and is informed by theory and research*”

Bruscia writes that a discipline consists of theory, research, and practice. He places music therapy as “first and foremost a discipline of practice” (2014, p. 50). This is reflected in this thesis in that clinical observations are its backbone. For me, writing this thesis parallel to practicing has been an immensely rewarding learning process. Theory, research and practice have been mutually nurturing; each has made the others more meaningful and interesting.

I will now present a brief overview of some aspects of the polyvagal theory.

5. THE POLYVAGAL THEORY

Stephen Porges is a distinguished professor of behavioral neuroscience, holding positions at four universities in the USA. He has published over 300 peer reviewed papers and been president of the Society for Psychophysiological Research (www.stephenporges.com, 2020). He first presented the polyvagal theory in 1994 (Porges, 2011), and it has since been both acclaimed and disputed. In the following sections I will outline the main features of the polyvagal theory, and discuss its reception in the fields of neuroscience and trauma.

5.1 DEFINITION AND MAIN TENETS

The polyvagal theory is defined as: “an evolutionary neurophysiological model of the autonomic response to safety and threat” (Kolacz & Porges, 2018, p. 2). As the name implies, a main tenet of the theory is that the vagus nerve plays multiple roles in our defense responses. Porges defines two separate systems in the vagal motor nerve. One is ancient, consists of unmyelinated fibres and regulates the sub-diaphragmatic organs. He calls this the “vegetative vagus.” The other, the “smart vagus”, is more recent, consists of myelinated fibres and regulates the super-diaphragmatic organs. This system is closely connected to expressive muscles in the face, our middle ear muscles, prosody and vocalizations, and the brain circuits for social interaction (Porges, 1998).

According to Porges (1995), each of these two systems is related to a separate nucleus in the brain stem. The vagal motor nerves that emanate from the dorsal motor nucleus pertain to the “vegetative vagus” and those that originate in the nucleus ambiguus pertain to the “smart vagus.” Each is also associated with a different defense strategy, described in more detail in section 5.1.2.

5.1.1 The importance of feeling safe

According to the polyvagal theory, feeling safe brings out the best in us. We are social, relaxed and primed for rest, healing, creativity, and learning (Sullivan et al, 2018; Bowlby, 1982). Safety is also a springboard towards bold decisions and risk-taking. If we have a secure base, we have the confidence to seek out what is novel and uncertain (Porges, 2017).

Porges stresses emphatically the importance of social interaction for feeling safe (Porges, 2009a). An infant is completely helpless without a care-giver. But even an adult is ill-equipped to survive alone. As humans, we are biologically wired to interact with and depend on one another (Bowlby, 1982; Beckes, IJzerman & Tops, 2015). It is also crucial that when in a state of fear, people are not capable of socially engaging. A clinician who is working with a client who is not open for social interaction needs to help the client reach an autonomic state of safety before seeking social contact (Porges, 2008).

The polyvagal theory identifies safety as something other than the absence of danger: “feeling safe is dependent on unique cues in the environment and in our relationships that have an active inhibition on defense circuits and promote health and feelings of love and trust” (Porges, 2017,

p. 43). Also, Porges defines safety as a visceral *feeling* rather than material safety through structures like fences or monitoring, or cognitive evaluations of risk. A guard with a machine gun might make us physically safer, but will put us in defensive states on a visceral level. He questions whether our societal institutions sufficiently meet our need for feeling safe (2017).

5.1.2 Three lines of defense

The polyvagal theory outlines three lines of defense in human behavior. Each of these corresponds to a specific physiological state, and originates from a specific evolutionary stage (Porges, 2009a).

When our bodies perceive the environment as safe, the “smart vagus” dominates our autonomic nervous system. According to Porges, these myelinated fibres in the vagus nerve are connected to muscles associated with facial expressions, vocalizations and listening, forming a network that he calls the social engagement system. The social engagement system evolved in mammals, and is well developed in primates (Porges, 2011). This safe physiological state allows for creativity, learning, restitution and growth. Our senses are primed for social interaction. If we should perceive a threat while in this state, our reaction would be to try to reason with our aggressor, through social resources like prosody, facial expression and conversation (RVTS Vest, 2014).

If the danger persists, our sympathetic nervous system kicks in, and readies the body for confrontation or escape. Our heart rate increases, our adrenal glands are activated, and our digestive and restorative processes are put on hold (Kozłowska, Walker, McLean & Carrive, 2015). This is a defense system we share with other vertebrates, including reptiles (Porges, 2011). When we are in this physiological state we are likely to perceive advances from others as threatening.

We are not always in a position to be able to flee from danger or to fight it. If our body perceives us to be completely defenseless and sees no other alternative, the oldest of our defenses will take hold of us. The “vegetative” vagal system will shut us down. Cardiac output and muscle tone decrease. Behaviorally, this response is associated with feigning death and dissociation (Sullivan et al, 2018).

An important and interesting factor here is that these different states allow for different spectrums of behavior, and also bias our perception (Porges, 2011). If we are in a defensive state we are not open to social interactions and are likely to react aggressively if approached. Our senses are also honed to perceive our environment as threatening. Our ears, for example are more tuned in to the low-frequency sounds we would associate with a predator than the mid-frequency sounds associated with human speech (Porges & Lewis, 2010).

The body will *automatically* switch between these states. Under safe conditions the more recently evolved social engagement system will keep the fight/flight and shutdown defense mechanisms in check. As danger intensifies, it will give way to these more primitive autonomic states (Porges, 2007). Porges (2009a) claims that we can shift with relative ease from the safe state to fight/flight. When the older “freeze” defense kicks in, it can be harder for us to come back to the social engagement safe state. He claims that “many people are in therapy because they can’t get out of the state of immobilization” (2017, p. 106).

Our autonomic nervous system, on a completely subconscious level, will appraise our surroundings and place our body – and mind – in one of these states. This is not a conscious decision, but an autonomic reaction. Porges (2009a) has coined the term “neuroception” for this process of evaluation.

5.1.3 Neuroception

Neuroception entails that our nervous system acts like a sentry (Porges, 2009a; Minichino & Cadenhead, 2017). Through neuroception, our body continually evaluates how safe the environment is, and adjusts our physiological state accordingly. Interestingly, although we are not aware of the process itself, we are often aware of our bodily reactions, like increased heart-rate or sweating (Porges, 2017).

Porges juxtaposes this term to perception, which requires a conscious recognition. At times our visceral reaction can even be at odds with our thinking. Porges (2017) relates a personal experience that illustrates this very clearly. He was booked for an MRI, and looking forward to it. But as he was being inserted into the machine, he panicked and needed to be taken out. He points out that there was a discrepancy between his cognition (he wanted the MRI, he *knew* it was not dangerous) and his bodily reaction (panic). It was not until he was given medication that he managed to complete the procedure. His biology had completely over-run his cognition.

A fundamental aspect of neuroception is that it is a *subjective* evaluation, even though it is subconscious. This means that two different individuals can react completely differently to – and be moved to different physiological states by – the same environmental cues (Porges, 2017; Minichino and Cadenhead, 2017).

5.2 MUSIC IN LIGHT OF THE POLYVAGAL THEORY

Porges is an avid supporter of music and music therapy, and describes how music can help us find back to our safe autonomic state (e.g. 2008, 2011, 2017). He points out that music can be helpful in situations where a person is in a defensive state which does not allow for social interaction. Music can trigger feelings of safety and restore the person to a non-defensive autonomic state. Once, the person is calm, one can proceed to seek eye-to-eye contact and social contact (2008). There are several different ways through which music can help us find back to our safe state, and in this section I will outline some of them.

5.2.1 Prosody

It is a natural human reaction to intensify the natural prosody in the voice when speaking to infants, so-called *motherese* (Saint-Georges et al, 2013). We are biologically wired to be calmed by this. Porges & Rosetti (2018) propose that lullabies are a further intensification of this modulation. Hence music (and especially female vocal music) will appeal to the biology deep within us that is wired to be calmed by a care-giver's prosodic vocalizations. In fact, Porges classifies acoustic stimulation as “one of the most potent triggers of neuroception” (2017, p. 71). He also observes that voices of trauma survivors often lack prosody. Our basic musicality is intertwined with our biological need for safety.

5.2.2 Acoustics and the middle ear

The polyvagal theory suggests that low-pitched sounds are associated with predators and tend to promote defensive states (Porges, 2008). Sounds that are in the range of the human voice, however, will move us into the social engagement zone. Porges compares the ear drum to a kettledrum. When the middle ear muscles are active, they tighten the ear drum and favorize the passage of soft, higher-pitched sounds to the brain. When, in contrast, the middle ear muscles relax, the lower-pitched sounds will get through and higher frequencies are lost. Porges points out that when we are in defensive states we are more likely to hear low frequency sounds; i.e. our middle ear muscles function best when we are in safe states (Porges & Lewis, 2010).

5.2.3 Singing and breath

When we inhale, heart rate increases and the influence of the vagus is attenuated. When we exhale, the opposite happens (Shaffer, McCraty & Zerr, 2014). Singing by nature elongates our exhalations, thus increasing the firing in the vagal system (Porges, 2008). In addition to this, when we sing we are often listening to other musicians, thus exercising our middle ear muscles. Furthermore, we are using the muscles of the mouth, face, larynx and pharynx, all associated with the social engagement system, and in all probability interacting socially with other musicians (Porges, 2017). Singing, then, activates simultaneously the “smart vagus”, the middle ear muscles, and our social engagement system. As such it is an optimal exercise to hone our biology in to physiological states of safety.

5.2.4 Music therapy on the polyvagal theory

As discussed in section 3.3.1, a literature search revealed only one publication in the music therapy literature that mentioned the polyvagal theory, namely Hanne Mette Ridder’s “How can Singing in Music Therapy influence Social Engagement for People with Dementia” (2011). In this article, Ridder outlines three ways of using song in this context: 1) to create a safe setting for therapy, 2) to regulate the client’s level of arousal, and 3) to create possibilities for engagement and psychodynamic work. She discusses Porges’ concepts of autonomic state, the social engagement system, neuroception, breathing and acoustic cueing in the context of music therapy.

Oda Bjørke Dypvik’s (2018) master’s thesis presents the polyvagal theory, and relates it to her clinical case study of music therapy sessions with a trauma survivor who battled with psychosis and addiction.

5.2.5 The polyvagal theory’s view on music therapy

Porges himself writes in support of music therapy (e.g. Porges 2008; Porges & Rosetti, 2018). He identifies the therapeutic relationship and music itself as two separate components of music therapy (2008), hereby paralleling a distinction often made in music therapy (e.g. Bruscia 1998; Gold, 2009). He defines the polyvagal theory as an organizing principle that explains how music can stimulate the neural pathways that “promote restorative affective states and prosocial behavior” (2008, p. 2).

The acoustic qualities of music reflect acoustic cues in the environment and as such trigger the same neural pathways that evaluate danger. Porges qualifies low frequencies as threatening, high frequencies provocative of “urgent concern or empathy as a response to the perceived pain or injury of a targeted other” (2008, p. 2), and sounds in the frequency band of the human voice as expressive of emotion. Most music is in this frequency band and as such will calm us. Vocal music will, in addition, put us in safe autonomic states through prosody, which has been used ubiquitously throughout history by care-givers to soothe infants (Porges & Rosetti, 2018). Porges (2008) describes how music not only affects our emotions but also the physiology that parallel these emotions. Music therapists can use auditive cues and vocalizations to restore their clients to a safe state. Thus music therapy, which recruits both acoustic stimuli and the social engagement system, has a two-fold “way in” to clients.

5.3 A CRITIQUE OF THE POLYVAGAL THEORY

As mentioned in section 3.3.1, a Medline search of “polyvagal theory” as search terms and excluding “Porges” as author resulted in 64 hits. Of these articles 61 embraced the theory, and many of these presented studies in support of it. One article was neutral to it but presented a study where the results were “at apparent odds with the polyvagal theory” (Egizio et al, 2008). Two articles (with one common co-author) were directly critical of the theory and raised important arguments against its validity (Grossman & Taylor, 2007; Sanches et al, 2019). These articles and other viewpoints will be discussed below.

5.3.1 Evolution, myelination and two vagal nuclei

Porges (2009a) claims that the myelinated vagus is unique to mammals, as is the possession of two different nuclei in the brain stem from which vagal motor nerves emanate. Grossman and Taylor (2007), however, present evidence to the contrary. They claim that a dual location for vagal motor neurons is common in virtually all vertebrates. In addition, myelinated vagal nerves have been found in rattlesnakes, a species of cartilaginous fish, birds and lungfish, suggesting that this is a widespread feature in vertebrates (Sanches et al, 2019). Thus, this feature of the polyvagal theory is disputed.

5.3.2 Evolution and the defense responses

As early as 1915 Walter Cannon named the fight-flight response (Kozłowska et al, 2015). In 1920, Rivers proposed five danger instincts, among them immobility and collapse. Roelofs (2017) describes the now widely accepted defense cascade, a model which is similar to Porges’.

The defense cascade, however, involves a freeze response which occurs at the beginning of the threat experience, involves increased startle reflexes, and is short-lived. It can be considered a fight/flight response “put on hold” (Kozłowska et al, 2015), and does not have an equivalent in the polyvagal theory.

The response that corresponds to Porges’ freeze/immobilization response is tonic immobility. In line with Porges’ evolutionary thinking, the tonic immobility response is known to be phylogenetically ancient (Kozłowska et al, 2015). The primitive parts of the brain that control it can only take over when newer parts (like the amygdala) are de-activated. Also, as in the polyvagal theory, it is considered a last resort. Otherwise, its neurological underpinnings are little understood (Roelofs, 2017).

In the fight or flight response the sympathetic nervous system dominates. The freeze response involves both, while the tonic immobility response is controlled by the parasympathetic nervous system (Kozłowska et al, 2015; Roelofs, 2017). This is also in concordance with the polyvagal theory.

Both of these articles (Kozłowska et al, 2015; Roelofs, 2017) cite Porges. It would seem then, not only that Porges’ interpretation of the defense responses is valid (albeit slightly different from the defense cascade model), but that his work has contributed to understanding these responses, especially the ones that involve the vagus.

Interesting to note here, is that the literature at large agrees with him that the tonic immobility response is phylogenetically ancient. This supports Porges’ concept of an evolutionary progression in the defense responses. So, although there are doubts as to the mechanism he proposes (the mammalian myelinated vagal circuit and two vagal nuclei), his concept that we turn to progressively older defense responses is in line with the view held by the scientific community at large.

5.3.3 The social engagement system

Many studies reveal an association between vagal activity and prosocial behavior (e.g. De Longis, Alessandri & Ottaviani, 2020; Shaffer et al, 2014; Somers, Curci & Lueken 2020). Graziano and Derefinko (2013) performed a meta-analysis of 44 studies to explore the role of vagal activity in children’s adaptive functioning. Their findings support Porges’ theory. They

do, however, point out the scarcity of empirical data in support of aspects of the polyvagal theory.

There are some parallels between Porges' social engagement system and Taylor's "tend and befriend" stress response (Shaffer et al, 2014). Taylor presents the "tend and befriend" tendency as a female alternative to fight/flight. She points out that for a pregnant or lactating woman, nurturing behavior and social protection might be a better alternative to threat than fight/flight (Taylor et al, 2000). She names oxytocin as a major component of the neuroendocrine basis for this stress response. According to Porges (1998), oxytocin is also central in the functioning of the social engagement system. In addition, oxytocin is associated with vagal functioning (Taylor et al, 2000). The main difference between the two theories is that Taylor presents "tend and befriend" as a female alternative.

Porges' three defense levels also fit into the popular window of tolerance concept. Porges' state of sympathetic activation would correspond to "hyper-arousal," and his immobilization state to "hypo-arousal." The social engagement system would correspond to being in the "optimal arousal zone" (Ogden, 2018).

5.3.4 Neuroception

The concept that "the body knows first" is not a new one. In the Iowa Gambling Task (Eagleman, 2011) participants were asked to sample cards from four decks, where the cards represented a monetary loss or gain. There were two "good" decks, consisting of mostly winning cards, and two "bad" decks where the opposite was true. After about 25 draws, most participants were conscious of which decks of cards were beneficial. After a mean number of only 13 draws, however, their bodies responded with a stress reaction when they hovered over unfavorable decks. Their bodies reacted long before their cognition.

We are conscious of only of a fraction of the millions of impressions that our senses receive each second (Brean & Skeie, 2019). Damasio writes: "All living organisms from the humble amoeba to the human are born with devices designed to solve *automatically*, no proper reasoning required, the basic problems of life" (2003, p. 30). Damasio defines one of these problems as "fending off agents of disease and physical injury." Kozłowska and colleagues write: "the activation of defense responses – the sudden change in motor and physiological state

– may be experienced as overwhelming, and beyond conscious control” (2015, p. 264). All this is in line with Porges’ concept of neuroception.

For a survivor of trauma, this knowledge can be validating and comforting. Porges tells of a letter he received from a rape survivor. In telling her daughter about the incident, she was confronted with the question: “why didn’t you fight or run away?” (Porges, 2017, p. 176). When she later discovered the polyvagal theory, she found solace in the understanding that her body had made the decision for her, and that it had done so to protect her in a dangerous situation. In Porges’ words: “Clients need to understand that surviving was the important thing – they survived horrible experiences – and now they need to treat themselves as if they were heroines and heroes” (2017, p. 151). Porges relates that he has received many letters from trauma survivors who have found consolation and new understanding upon discovering the polyvagal theory.

5.3.5 A framework for understanding trauma

Beauchaine and colleagues write: “In science, theories lend coherence to vast amounts of descriptive information. However, current diagnostic approaches in psychopathology are primarily atheoretical, emphasizing description over etiological mechanisms” (2007, p. 174). They hail the polyvagal theory for being a helpful framework in understanding the biology of emotion dysregulation.

Many argue that the field of mental health lacks such a framework. The etiology of mental illness is poorly understood (Pat Deegan in *Bedre Psykiatri*, 2012b). In depression, for example, two people can be diagnosed with depression and not share a single symptom (Singh & Gotlib, 2014). Co-morbidity and heterogeneity complicate diagnosis and treatment. The polyvagal theory has been warmly received in the field of mental health. In this context, it has been termed groundbreaking (Eide-Midtsand, 2017), and possibly the most important theory in trauma treatment (RVTS Vest, 2014). It has been applauded for opening for new approaches and techniques in trauma treatment (Schupp, 2015). A reason for this might be that it represents a plausible and cohesive biological explanation for many of the things trauma survivors experience.

5.3.6 Music

The scientific community agrees with Porges that auditory processing is vital for our safety. In fact, hearing is the primary sense for detection of danger (Luers & Hüttenbrink, 2016). Many factors contribute to hearing being considered superior to sight in the detection of danger, among them the fact that we can hear in a 360-degree radius, through obstacles, and while we sleep (Horowitz, cited in Schäfer, Huron, Shanahan & Sedlmeier, 2015). Through hearing we can also continually capture impulses from all our surroundings, in contrast to sight, where we necessarily focus on one area at a time (Brean & Skeie, 2019). Considering that auditive cues are vital in detecting danger, it would follow naturally that they probably also are important to transmit feelings of safety. And research shows that music, indeed, does trigger feelings of safety (Brean & Skeie 2019; Schäfer et al, 2015).

The importance of musical elements like prosody and rhythm in infant-caregiver communication are well established (Malloch & Trevarthen, 2018; Stern, 2002). Brean and Skeie (2019) discuss the possibility that prosodic vocalizations can give infants a continuous source of safety from a distance for lack of the continuous physical safety the womb provides. They cite studies in which measurements of cortisol in saliva in infants show that their stress levels drop more when a caregiver sings to them than when they speak to them. We are biologically wired to be calmed by song.

In a study by Schäfer and colleagues (2015), a capella vocal music was shown to trigger greater feelings of safety than silence or sounds from a savannah, but less feelings of safety than instrumental music. The vocal music was John Legend singing *All of me*. Porges claims that vocal music – especially female vocal music – is the optimal music to put us into safe states. Does this study, then, point against Porges' conclusions? Or might the results have been different if a woman had recorded the singing track? This study was small and the area is little researched, so no definitive conclusions can be drawn (Schäfer et al, 2015).

With regards to the function of the middle ear muscles, the scientific community aligns with Porges' claim that it is to enhance sounds in the range of the human voice (Schofield & Biebe 2020; Borg & Counter 1989). Yet I was unable to find anything that related this to defensive states – i.e. that the middle ear muscles are less active when we are in defensive states. Several articles on the middle ear muscles were reviewed (Schofield & Biebe 2020; Zwislocki 2002; Counter & Borg 1989; Salomon & Starr, 1963; Luers & Hüttenbrink, 2016) but there was no

indication in any of them that autonomic state affects the action of the middle ear muscles. A search in google scholar with search terms “middle ear muscles” and “defensive states” revealed only articles by Porges, or articles that quoted him. A similar search in Medline revealed no results, as did a search with “middle ear muscles” and “threat” as search terms. In Porges’ articles, I have not found references to other research in any of the paragraphs where he describes this phenomenon (Porges & Lewis, 2010; Porges, 2016).

It is recognized that singing affects the autonomic nervous system, and that prolonging exhalation increases vagal activity (Shaffer et al, 2014; Russo, Santarelli & O’Rourke, 2017; Gick, 2011). It is also well documented that a benefit of group singing is social bonding (Irons, Sheffield, Ballington & Stewart, 2019; Gick 2011;). When people listen together to rhythmic music, their heart and breathing rates will tend to synchronize (Brean & Skeie, 2019). It seems then, that we can connect the sense of hearing not only to autonomic states, but to the social engagement system.

5.4 SUMMARY OF THE POLYVAGAL THEORY

The polyvagal theory is an evolutionary model of our defense responses, that stresses the importance of feeling safe to our well-being. The polyvagal theory defines music as a powerful autonomic trigger that can help to trigger feelings of safety in people.

The empirical base of the polyvagal theory has been subject to doubt and debate. To a great degree, the theory seems to be based on plausible and interesting hypotheses that are not rigorously examined. However, the polyvagal theory presents a new perspective on the possible etiology of mental disease which is refreshing and interesting, especially considering the present-day lack of a useful model for this etiology. Many trauma survivors have found solace in its perspective on human defense mechanisms and social engagement.

In the following sections, I will continue to explore the polyvagal theory. I will consider it now in the context of observations made in music therapy sessions in a mental health setting.

PART III: THE VIGNETTES

Renowned trauma research author Bessel Van der Kolk wrote: “Being able to feel safe with other people is probably the single most important aspect of mental health” (2014, p. 79). In the polyvagal perspective, the social engagement system and feelings of safety are inextricably intertwined, on biological and human levels. They share the same neural pathways, related to the myelinated vagus (Porges, 2017). Porges speaks of a positive spiral, where feelings of safety will foster sociability, and successful social interactions will, in turn, foster feelings of safety.

I would therefore like to explore these two themes, on the basis of vignettes from my work place, in relation to the polyvagal theory and music therapy. Both of these themes are immense and it is not within the scope of this thesis to cover them in their totality. Rather my goal is to shed light on a few selected aspects of them that are particularly relevant in regards to music therapy and the polyvagal theory.

6. SAFETY

Vignette 1: I feel safe here

The group listening session became a tearful one. One of the participants chose a song that she associated with being coercively hospitalized. She shared with the group that, under that sojourn, she had seen a nurse carrying restraining straps. Simply seeing them had shaken her to the core. The young man next to her was open about how he also had been coercively hospitalized several times. Through his tears, he said: “It feels ok to cry here. I feel safe here, something that I rarely do in the mental health care system.”

In Maslow’s hierarchy of basic human needs, safety is second only to physiological needs like food, water and rest. When safety is not present, the quest for it can become all-consuming (Maslow, 1943). According to Bath (2015), a safe atmosphere is a prerequisite for successful therapy. Users in the mental health system have identified safe relationships with therapists as “the first step to being able to learn new ways of approaching, understanding and overcoming their distress” (Bacha et al, 2020, p. 378).

In the polyvagal theory, as we have seen, safety is pivotal. Like Maslow, Porges points out that when we are unsafe, our only concern is to seek and find a safe place (2017). Our social engagement system shuts down, leaving us unable to relate socially to other people. Creativity, learning and healing are also impossible. Porges mirrors Bath when he says: “The issue with treatment is that feeling safe is functionally the prerequisite state that enables successful treatment to occur” (2017, p. 82). When we feel safe – that is, when the autonomic process of neuroception qualifies our surroundings as safe – “magical things occur” (p. 141). For Porges, feeling safe is *in itself* treatment.

It is ironic then, that clinical settings can be perceived as threatening (Bacha et al, 2020). In fact, Porges claims that our institutions in general – be it schools, health institutions or institutions of faith – don’t prioritize making people feel safe (2017). The field of mental health in particular has a dubious history marked by flagrant abuse and human rights violations. Coercive hospitalization and the use of restraint are still too common today. The *UN Report of the Special Rapporteur* states: “Coercion in psychiatry perpetuates power imbalances in care relationships, causes mistrust, exacerbates stigma and discrimination and has made many turn away, fearful of seeking help within mainstream mental health services” (2017, p. 15). The same report raises questions as to the efficacy of coercion. Porges comments:

Looking back at the history of medicine and especially the treatment of the mentally ill, we can see the frequent use of restraint. The justification was to protect the patient, but the patient’s responses were more consistent with reacting to injury, danger or threat (Porges. 2017, p. 70).

As the vignette above illustrates, simply the overhanging threat of coercion is enough to mark many clients’ relationship to psychiatric institutions with fear and aversion (Bacha et al., 2020). In later years, mental health institutions have moved toward much more humane and respectful treatment (Ekeland, 2011). Yet the human rights violations and abuses that have marked psychiatry still echo in the hallways of our institutions. It is essential that all of us who work in the field take this into consideration.

I feel it important here to comment that I perceive my workplace as a safe harbor for its patients. My personal observations are of empathetic staff with a great desire to help and an institution that has been positive in the lives of many users. Many of our users, however, do bear scars from earlier meetings with the mental health system. Also, in therapy there is an inevitable imbalance of power (Skau, 1992). It is vital that we be sensitive to this.

I found little music therapy literature that extensively addresses feelings of safety. In a study by Bensimon (2019), music therapists identify safety as one of seven relational needs of trauma patients. Music can help meet this need of safety through its inherent structure and repetition (Bensimon, 2019; Johansson, 2017). The use of familiar music is common in music therapy, especially in work with populations with dementia, and can bring feelings of safety (Tomaino, 2013). Music therapists report that they take a non-judgemental, caring, and accepting attitude to promote safety (Bensimon, 2019).

In the following section I will explore possible angles as to why the gentleman in the vignette felt safe in the listening group, and not in the mental health system. From Porges' literature there are two relevant aspects I would like to highlight: autonomic states and evaluation. These will be discussed in relation to the polyvagal theory and music therapy, each on the basis of another vignette from my work place.

6.1 AUTONOMIC STATES

Vignette 2: The wedding ring

A middle-aged man attended the listening groups every week during his stay. He expressed that music was extremely important to him. Most of the time he would seem agitated, moving restlessly and constantly twiddling with his wedding ring. Yet when a certain type of music was put on, he would transform. At these times he would relax, with a calm demeanor and his hands still on his lap.

This vignette illustrates how music can alter our bodily state (Brean & Skeie, 2019). Clients often share how they deliberately use music in their daily lives. They have related that they use music to help them sleep, to soothe runaway emotions or to activate themselves. They use it to help cheer them up, to help them process their own sadness, and to quiet malignant inner voices. This phenomenon is often described in music therapy literature (e.g. De Nora, 2000; Rolvsjord, 2010; Skånland, 2013). Ruud (2013) refers to this as using music as a cultural immunogen, or a “musical home pharmacy.” *We use music to alter our autonomic states.*

6.1.1 Autonomic states in the polyvagal theory

The polyvagal theory postulates that bodily states define whether we feel safe or not. We do not choose our autonomic states; we do not have conscious control over our neuroception. Our bodies are hard wired to make those decisions for us, instantaneously and without cognitive influence. It is therefore important to respect these autonomic states, as well as consider cues in the environment that can trigger them (Porges, 2017).

Porges repeatedly points out that the institutions of our society downplay the importance of these biological reactions. They are “cortico-centred”; rational thinking is exalted as the highest of human qualities. This is a cultural heritage from a religious world view that saw reason as noble and the body as sinful (2017). He describes how the focus in mental health settings will tend to be on “top-down” interventions, designed to control maladaptive responses or runaway emotions through thought processes (Porges 2017; Beckes et al, 2015). Similarly, physiological state has been viewed as a result of processes in the brain. Porges (2009b) argues for a bidirectionality between brain structures and the peripheral nervous system, where the two mutually influence each other.

Thus, the polyvagal theory presents a theoretical groundwork that clashes with the cortico-centred approach. Porges (2017) points out that defensive autonomic states simply will not allow for rational thinking. There are times when our bodily and emotional states will take over and over-run any attempt at level-headed cognition. The example of Porges’ personal experience with an MRI, related in section 5.1.1, illustrates this. Another example might be the survivor of war that is perfectly aware on a cognitive level that fireworks are harmless, yet still experiences a deep bodily mobilization on new years’ eve. In these cases, our rational thinking plays a secondary role to our visceral reactions.

Porges (2017) claims that behavioral techniques and cognitive science do not consider the significant impact of biology in behavior. He explains:

The polyvagal theory restructures clinical disorders as difficulties in neural regulation of specific circuits associated with turning off defensive strategies and enabling social engagement to spontaneously occur. This perspective departs from traditional learning models that assume that atypical behaviors are learned and can be modified through treatments informed by learning theory that focus on association, extinction and habituation. (Porges, 2017, p. 45)

Since shifts in autonomic state are not voluntary, it is imperative to speak to the person’s biology, and find cues that will restore them to a non-defensive state. This is a necessary first step. Once the person is feeling safe and their social engagement system is accessible to them,

cognitive approaches can be useful. Rational thinking is important, but not accessible to us when we are in a bodily state of emergency.

As we have seen in section 5.2, Porges writes extensively about acoustic stimulation as one of the most potent neuroceptive triggers. In that section, I delved into his view on the importance of prosody, breathing and the middle ear muscles. All these are highly relevant to this section, as they all are related to safety. I will now explore other literature on the concept of bodily states in the context of music and music therapy.

6.1.2. Music and autonomic states

Music has a definitive impact on our body. Since 1914, music listening has been used in surgical procedures to reduce pain (Brean & Skeie, 2019). It has been shown to reduce stress and anxiety in patients as well as in the general population (Chanda & Levitin, 2013). It is known to impact our cortisol levels, our heartrate, our breathing, our skin temperature and our electrodermal response – all related to stress (Juslin & Västfjäll, 2008; Yehuda, 2011). The uniquely human phenomenon of entrainment refers to our tendency to synchronize our corporal rhythms, be it pulse, respiration, or a tapping foot, to a musical beat (Brean & Skeie, 2019). Music is also closely associated with movement and dance, and as such music and the body are inextricably intertwined (Eckhoff, 1996). Maratos, Crawford and Procter (2011) discuss how music's potential to motivate physicality can be a contributing factor to the success of music therapy in depression. Music has an enormous capacity influence our bodily states.

In all this, it is very important to note that the effects of music are not necessarily always positive; music, to be of help, must be used in the right way. In the music groups I have experienced that music can bring out joy and calm, but also agitation. Music can increase cortisol levels and other markers of stress (Chanda & Levitin, 2013; Yehuda, 2011). Music can be used to incite to violence or to torture, and in the context of drug abuse (Ansdell, 2014). A study on English musicians from 2018 showed that 14% of them reported symptoms of bipolar disorder – 4 times as much as in the general population (Brean & Skeie, 2019). Music is simply a tool, and its effect will depend on how it is utilized. This is especially important to remember in a clinical setting. Music must be used with great care and sensitivity, and this is an argument for its implementation by qualified music therapists.

6.1.3 Music therapy and autonomic states

Eckhoff (1996) stresses the importance of bodily awareness in music therapy with adult clients of mental health. She relates Merleau-Ponty's concept of intercorporeality to group music therapy. Intercorporeality postulates that we can connect to other people through our bodily reactions. It "focuses on the relation between one's body and that of the other to illuminate intersubjectivity and social understanding in an alternative way" (Tanaka, 2015, p. 461). Eckhoff (1996) compares our body to a barometer; we can become aware of a client being tense and holding their breath, by the fact that we also are tense and holding our breath. We can then consciously take deep breaths and relax, using this reciprocity to help our client to relax.

Mirror neuron systems in our brains provide a concrete biological base for this (Brean & Skeie, 2019). These nerve cells "mirror" observed actions and will therefore react the same way when we ourselves perform an activity and when we observe others perform the same activity. Seeing someone else smile can thereby transmit a feeling of joy to the observer.

For many clients of mental health care, relating directly to the body can feel threatening. Music here can provide a safe intermediary, being simultaneously external to and part of us (Eckhoff, 1996). Lejonclou and Trondalen (2009) relate the moving story of two clients that suffered from eating disorders. In one therapy session, one of them realized "It's like I've started to move into my own body" (p. 85). She had earlier described a tendency to use her intellect to negatively control herself. Music therapy allowed her to open up to her own body, and thus find a balance. A theme in both therapy processes was the bridging between body and mind. Also, both clients acquired a more positive outlook on their body.

Eckhoff (1996) stresses the importance of therapists being in touch with their own body in order to be sensitive to the signals of their clients. Being sensitive to and meeting clients' emotional and physical states is a central theme in music therapy. There is a respect for and willingness to meet the autonomic state of the client. This will be further discussed in section 7.1. Now I will take a closer look at evaluation with respect to the polyvagal theory and music therapy in the mental health sector.

6.2 EVALUATION

Vignette 3: The musician

She was a sensitive and frail young woman, who almost disappeared behind the stand-up bass that she played. An excellent musician, she had suffered depression and anxiety attacks after a grueling and conflictive tour with her band. One of the main areas of conflict had been her style of playing. She described how technical passages that she mastered with ease when she was relaxed had become impossible in a setting where she felt judged and criticized. The therapist asked her in one of the one-on-one sessions if she wished to improvise together, to which she readily agreed. Improvisation had not been a part of her musical training. She excelled at it, however and – more importantly – enjoyed it immensely. When she left the session, she was beaming, and commented: “This was so much fun!”

This woman loved music and loved to play, yet her joy in it was tainted by feeling judged. Ironically, the pressure to perform had a negative effect on her ability to perform. This is not uncommon (Wan & Huon, 2005). In the music therapy sessions, the focus was on enjoyment rather than perfection. Through them, this client reconnected with her love for making music and the joy she took in it.

Evaluation is an intrinsic part of the health system, and diagnosis might be described as the ultimate embodiment of it. It is used by health personnel to document and communicate the client’s state. It is important for planning health services and distributing funds. It can help clients understand and inform themselves about their condition (Brean, 2015; RVTS Nord, 2020). Yet diagnoses have a strong focus on symptoms and offer little understanding of the client’s situation as a whole, or their personal experience. Client testimonials reveal feelings of being categorized and defined to a great degree by their diagnosis. Clients wish to be seen as people rather than a cluster of symptoms (Bacha et al, 2020; RVTS Nord, 2020).

6.2.1 Evaluation in the polyvagal theory

Porges (2017) repeatedly emphasizes that evaluation plays a prevalent role in our institutions, and puts us physiologically into defensive states. He explains:

The polyvagal theory challenges our societal values regarding how people are treated, forces us to question whether our society provides sufficient and appropriate opportunities to experience safe environments and trusting relationships. Once we recognize that the experiences within our societal institutions such as schools, hospitals and churches are characterized by chronic evaluations that trigger feelings of danger and threat, we can see that these institutions can be as disruptive to health as political unrest, fiscal crisis, or war. (Porges, 2017, p. 44)

He describes therapy as “extraordinarily evaluative” (2017, p. 86), and relates how we will inevitably be put into a state of hypervigilance “in environments in which people are poking things at you” (2017, p. 85). In the mental health field this could be understood metaphorically.

6.2.2 *Evaluation in music*

It is important to address the evaluative aspect in music itself. Music in our culture is very closely associated with performance. The musician is put on a stage, distanced from the audience and subject to its scrutiny and judgement (Ruud, 2001). Excellence, perfection, and virtuosity are key words. As Rolvsjord points out: “The elitist tendencies in society have led people to believe erroneously that music is only for the especially talented few” (2010, p. 34). In their research on music in kindergartens, Kulset and Halle have found that even kindergarten teachers are inhibited by “feelings of insufficiency and incapability when it comes to everyday music making” (2020, p. 305). Ek (2018) describes in her music therapy master’s thesis how receiving formal vocal training disconnected her from her intuitive, personal voice. When I approach prospective clients for one-on-one sessions, I often hear comments like: “Oh, I don’t have a good voice,” or “I don’t know how to play music.”

To these comments, I usually reply that musical perfection is relatively irrelevant in the context of music therapy. Bruscia (1998) points out that it is the nonjudgemental aspect of music that is important in music therapy. Christopher Small’s concept of musicking is cited widely in music therapy literature (e.g. Rolvsjord 2010; Ruud, 2013). He states: “To music is to take part, in any capacity, in a musical performance, whether by performing, by listening, by rehearsing or practicing, by providing material for performance (what is called composing), or by dancing” (1998, p. 9). Thereby he defines the *act* of making music – in whatever capacity – as the essential element, not the *product*. He continues to emphasize that: “the verb *to music* is not concerned with valuation. It is *descriptive* not *prescriptive*” (p. 9). Musicking, then, is not evaluative.

There are other relevant views on music that are prevalent in music therapy theory. Malloch and Trewarthen (2018) and Stern (2002) see music as a prototype for human communication. Nordhoff and Robbins (1997) speak of the music child, denoting music’s capacity to waken the human potential behind discapacity and illness. Sociologist Tia De Nora (2000) relates Gibson’s concept of affordances and appropriations to music – i.e. music offers (affords) a

spectrum of possibilities, and each individual makes use of (appropriates) those aspects of music that are relevant and useful in a given situation. It is this appropriation that “consolidates and specifies music’s force” (2000, p. 43). Stige (2002a) writes about the East African concept of “Ngoma,” a term used in Swahili and other Bantu languages. It can signify “drum” or “the social activity of dancing and singing together,” and is also linked to the tradition of healing through music. Music, in these perspectives, is communicative rather than performative, healing rather than evaluative, and practical and useful rather than only decorative. If we adopt these attitudes towards music, we safely navigate away from the evaluation that Porges qualifies as threatening.

6.2.3 *Music therapy and evaluation*

The Cambridge Dictionary’s definition of evaluation is as follows: “The process of *judging* or calculating the quality, importance, amount, or value of *something*” (Evaluation, 2020). A judgement by nature implies a difference in power between the judge and the judged. Also, note the word *something*, which adequately reflects that a certain level of objectification is an innate and inescapable element of evaluation.

I would thus argue that empowerment and a strong sense of identity are excellent resources to make us resilient to the “threat” of evaluation. Further, I would claim that not only does music therapy take a non-judgemental attitude to clients (Bensimon, 2019), but that empowerment and identity are two of its pillars. I will therefore expound on these aspects and how music therapy theory relates to them.

Clients in mental health have expressed the experience of being identified by their illness in the mental health system. Deegan (Bedre Psykiatri, 2012a) was diagnosed with schizophrenia at a young age and went on to get a PhD in psychology. She makes the analogy of her identity as a flower with multiple petals. When she was diagnosed, the many-faceted flower became a single blob called schizophrenia. In music therapy, the client’s musical identity is a natural focus (Solli, 2008). I often marvel at how clients in the listening sessions share sides of themselves – interests, relationships, skills and resources – that otherwise might never have come up. At those times, I am especially glad that there is usually at least one staff member present in the listening groups. In general, the listening groups are an opportunity for the clients to show other aspects of themselves and relate in different ways to each other and to the staff. Music in itself is a significant bearer and demarcater of identity (Ruud, 2001).

A bastion of music therapy, reiterated across many factions, is that it digs for resources and builds on these (e.g. Rolvsjord 2010; Solli 2015). Antonovsky's concept of salutogenesis, where the focus is on factors that promote health rather than those that promote disease, is often referred to in music therapy literature (e.g. Bruscia 2014; Ruud 2008), as well as in contemporary medical literature (e.g. Getz et al, 2011). Music therapy seeks the person behind the diagnosis, the health behind pathology. It seeks to emphasize and value those qualities which music can access: feelings of mastery and joy, resources and personal identity. This was beautifully illustrated by a client in a one-to-one session who joyfully exclaimed: "I didn't know I was this good at playing drums!"

As to empowerment, the Cornell Empowerment Group offers this definition:

Empowerment is an intentional, ongoing process centered in the local community, involving mutual respect, critical reflection, caring, and group participation, through which people lacking an equal share of valued resources gain greater access to and control over those resources (Cornell Empowerment Group, cited in Zimmerman, 2000, p.43).

One of the premises of empowerment is the notion that unequal distribution of and access to resources are the root of many social problems. As such it contextualizes problems rather than blaming victims (Zimmerman 2000). This is also a recurring theme in music therapy theory (e.g. Ruud 2013; Stige 2002b).

Empowerment departs from traditional concepts of power as something owned by an individual and associated with oppression ("power over"). Rather it advocates for a concept of power that is mutually beneficial, based on collaboration and respect ("power to") (Rolvsjord 2010). In relation to therapy, empowerment challenges the concept of the therapist as the expert helper. It observes that the existing model creates a dependence on the part of the client. An empowerment approach redefines the therapy process as a mutual and cooperative one rather than one of an expert "fixing" a client (Rolvsjord, 2004; Zimmerman 2000).

In the listening groups, we are all just human beings. In the here and now, we are simply people sharing music with each other. I would argue that in the music therapy groups the inherent imbalance of power between staff and patients is much less noticeable than in other daily situations. As a rule, the staff that are present are included in the group in exactly the same way the clients are. They tend to share the same kind of things – memories associated with a song, how a song might affect their mood, how they use music in their daily lives. At one point in

time the groups were very full, and to manage to get time for each client to choose a song I would “skip over” the staff that were present. A group member commented this, saying that it made her feel observed and uncomfortable. Since then, I have always done my best to include all participants – clients and staff members alike – on a completely equal basis.

6.3 SUMMARY OF SECTION 6

The gentleman in vignette 1 felt safe in the listening group. If we look at this through the loop of the polyvagal theory, we might note that he was in a place where he was receiving cues of safety through music. He was also in a place where he was not being judged, and where he and other participants were invited to share of their whole identity. Hopefully, the lack of focus on his mental illness might have made him feel that he was in the group despite rather than because of it. The power structures in the listening group were more geared toward equality than those that normally pervade medical settings. Might all or some of these factors have contributed to him expressing that he felt safe in the listening group?

In the next section, I will look at some features of the social engagement system.

7. CONNECTION AND THE SOCIAL ENGAGEMENT SYSTEM

Vignette 4: The group hug

There were four people in the listening group that day: the music therapist and three participants. All the people present knew each other from before, which might have contributed to and allowed for the beautiful unfolding of events in that session. Tanya wanted to listen to “So am I” by Ava Max. When the group had listened to it she said: “I identify with this song because I am a misfit.” The group showed a great amount of emotional support. Among the things that were voiced was the opinion that it is often the misfits that have something unique to contribute to society; and also, that they have the courage to be themselves even if the consequence is social exclusion. This moved Tanya to tears. Later in the session, Bradley shared the song “I can hold you” by David Friedman. In the middle of the song one participant stretched out their arms in the air towards the others, who followed suit. And the whole group stayed in this position until the song was over, “holding” each other.

Social connection is considered one of the most important protective factors against mental disorders (RVTS Nord, 2020; Van der Kolk, 2014). Beckes and colleagues write that its importance for our physical and mental wellbeing are “nigh indisputable given the current support” (2015, p. 2). Porges writes: “The polyvagal theory leads to an understanding that to connect and co-regulate with others is our biological imperative” (2017, p. 51). As a species, we are created to live in groups and connecting with each other is thus essential for us to survive and thrive.

Music is universal: it exists in some form in every known human culture (Brean & Skeie, 2019). It can bring us together, and is used to mark important rites of passage in life. In all societies, there is a cultural learning process that establishes a link between music and community (Eckhoff, 1996). According to Malloch and Trevarthen (2018), “communicative musicality” is a prototype for human connection and provides us with a unique tool to reach each other on the most basic level. Porges (2017) claims that we use this musicality to speak to each other’s biology.

The way music serves as a connector in the groups is awe-inspiring. In this vignette, “Tanya’s” song served as an elegant way to express something extremely personal without exposing her too much. This phenomenon has occurred countless times in the groups. There was for example another participant that used a song titled “No more talk” as a stepping board to express her frustration at having to repeat her painful story again and again to different care-givers as she was shuffled around in the mental health care system. Several participants have also commented that finding a song that expresses the way they are feeling helps them to feel less alone in that feeling. It universalizes and legitimizes their personal process. An interesting observation made by a group member was that she often saw a common thread in the song choices in the listening groups, as if the participants somehow tuned in to the same wavelength. “Musical gifts”, like the one in the vignette above have occurred on several occasions, intentionally and unintentionally. In one group, a participant coincidentally chose a song where the title was word for word another participant’s last words to a beloved family member. That day, as the music therapist left the room, the two were deeply engrossed in conversation, in awe over the serendipity of the moment. The examples are many and varied of ways in which group participants have established a social connection through music.

In the following section, I will discuss three features of social connection: sensitivity to cues, diversity, and play. Each will be discussed on the basis of a vignette, and in relation to the polyvagal theory and music therapy.

7.1 SENSITIVITY TO CUES

Vignette 5: Voices melting together

He was shy and often afraid. Music was vital to him and he loved to sing, yet he didn't dare sing in front of other people. He had composed a song that the music therapist learned, and they sang it together several times over the course of his stay at the institution. Eventually they sang it in the listening group. At times, this client's singing was barely audible, and the music therapist lowered the volume of her voice to match his. They would listen intensely to each other and find each other. Finding each other they would slowly grow more confident, and the volume of their singing would rise in unison. It seemed sometimes that their voices melted together.

In this vignette, music therapist and client “found each other” and connected to each other through singing together. By tuning in and matching the volume in the client's voice, the therapist allowed the client to be heard. Both listened intensely to one another, allowing for a real communion to occur.

It is widely recognized that the therapeutic alliance – the quality of the relationship between therapist and client – is of crucial import in therapy (e.g. Rogers, 1951; Bacha et al., 2020). As such, it is important that we are sensitive to signals from our clients, and do our best to attune to them.

7.1.1 Porges on sensitivity to cues

Porges (2017) describes how mental health professionals can use their autonomic systems, through awareness of their own bodily cues, to tune in to their clients. On a biological level our senses will automatically hone in on the signals emitted by the people we meet – their voice, their facial expressions, their gestures and their posture. This is intersubjectivity on a biological level, and Porges compares the experience to entering the code into a combination lock (2017, p. 49). This way, therapists can attune to the autonomic state of the client, and adjust how they approach them accordingly. Notice that this process corresponds strikingly to the

intercorporeality that Eckhoff relates to music therapy. Also, both Eckhoff and Porges point out the importance of the therapist listening to their own bodily cues to “decode” the feelings of their client.

Porges accentuates that this is a two-way process, and that music is a useful way to achieve this connection (2017). He highlights how music can penetrate through defensive states. If a client is socially unresponsive, music might allow for adjusting their autonomic state and ultimately achieving social connection.

7.1.2 Musical sensitivity to cues

Musical improvisation is a commonly used technique in music therapy, and a powerful tool in relation to attuning to clients. Ruud (1995) compares music therapy improvisation to avant garde jazz in the respect that it is musically totally free. However, in music therapy, the goal is human connection rather than musical performance: “Although music therapists do not renounce musical quality, what concerns us here is the spontaneous common product which stems from the interaction between a client and a therapist” (p. 94). Kenny explains:

Although the jazz or blues musician interprets musical improvisation as being a mutual agreement on some basic form and variations and interpretations of that form (e.g., 12-bar blues pattern, or a progression in G minor), musical improvisation for the music therapist usually follows a more spontaneous form. Development, interpretation, and variation of spontaneous music produced by the patient or client becomes the focus. Every note, every sound expresses something about that person. Although the music usually evolves into some form, the music in the beginning may be sustained in one or more tones, random and chaotic. These sounds are all accepted by the therapist as an expression of part of the human condition. They must be heard, accepted and shared. (Kenny, 2006, p. 50)

Wigram (2004, p. 40) recommends “creative simplicity as a starting point.” He defines clinical improvisation as: “The use of musical improvisation in an environment of trust and support established to meet the needs of the clients” (Wigram, 2014, p. 37).

There are a host of different improvisational techniques in music therapy, designed to give us various options through which to attend to the needs of the moment (Bruscia, 1987; Wigram, 2004). We can choose to match the client, playing things that fit with their expression and emotional state⁴. Grounding techniques provide the client with a stable, safe base on which to make music. We can dialogue (Wigram, 2004), using techniques like interjecting, making spaces, and modelling (Bruscia, 1987). According to both authors, it is important to be sensitive to the cues we receive from our client and flexible enough to adjust to them. Improvising music

⁴ Bruscia refers to this technique as “reflecting”

provides a myriad of possible avenues through which we can attend to the musical and emotional cues of our clients.

A musical context can be a platform for the creation of an intersubjective field. Trondalen describes this relationship as: “a moving-along process involving the regulation of emotion and affects at a non-verbal level, one in which microprocesses play a crucial role” (2016, p. 15). Afterwards, one might discuss the moment and reach new insights through dialogue, but verbal communication “does not replace for the experiences of meaning at a non-verbal level” (p. 15).

These shared “experiences of meaning” have many names in music therapy. Stern’s term “moments of meeting” is often used in this context (Solli, 2008; Trondalen 2004). Trondalen (2004) has coined the term “significant moments,” while Ruud (2001) speaks of “warm moments.” Nordhoff and Robbins (1977) use the term: “peak experiences.”

Although each of these terms might represent varying perspectives, they generally relate to the same phenomenon: moments of intersubjectivity, of communion; moments where our horizons merge, just for an instant. There is enormous therapeutic power in these moments; they lay the seed for change (Ruud, 1998; Stern, 2004).

7.1.3 Music therapy and sensitivity to cues

Ridder (2011) describes how a music therapist can reach a client that is mobilized or immobilized by first choosing music that matches their level of arousal. When contact is achieved, the therapist can gradually make small changes in tempo, dynamics or pitch and thus bring the client to a safe state. Social elements like eye contact, prosody, facial expression and gestures can also be used when appropriate. Nordhoff and Robbins also recommend that one, in Porges’ terms, respond to the autonomic state of the client with the appropriate music:

When you play, or play and sing, to express the intensity or quality of a child’s crying or screaming, he hears something akin to what he is feeling and his experience of himself in that state becomes related to his experience of the music. The music accepts and meets his state while it matches, accompanies and enhances his expression. He cannot help but relate emotionally and expressively to it; this changes his experience of his crying or screaming – it becomes less isolated and tends toward a primary experience of intercommunication. (Nordoff & Robbins, 1977, p. 99)

Music therapy theory expresses the importance of validating and meeting clients’ autonomic states; of being sensitive to their cues. This allows us to positively influence their experience of it. It also allows us to connect to them.

7.2 DIVERSITY

Vignette 6: What happens, happens

There were five people in the listening group that day. Two of the participants were very talkative. Through their song choices, they would go into rather delicate and difficult themes, like memories of abuse. The other two chose songs, but were otherwise quite reserved. They didn't share of their own thoughts or experiences but listened attentively and respectfully when the others did.

Later that day, one of the quieter participants had a one-on-one session. The music therapist took the opportunity to ask him if he had felt uncomfortable or overrun with the uneven balance of "talk time" in the listening group. "On the contrary," he replied. "Often in other groups there is a kind of pressure that everyone has to open themselves equally, and sometimes I really don't want to." He said that one of the things he most appreciated about both the group and individual sessions was the freedom. "In music therapy, what happens, happens. I can come here and we'll do whatever I feel like or need here and now."

The person in this vignette appreciated that music therapy allowed him the freedom to be himself. He could say as little or as much as he pleased in the group sessions. An important goal in all the sessions is that people feel free to be in whatever state they are in here and now. There have been tears and laughter. There have been anxiety attacks, and some clients have come back again and again to the group sessions despite repeatedly having had anxiety attacks there. Many clients prefer to be quiet observers, and they are welcome to. Clients in one-to-one sessions have shared poetry. This has proved a marvelous way in to their inner life and issues, as well as offering an opportunity to focus on their talent. Others have made minor changes to lyrics to reflect their own life situation, and used those songs in precarious moments. Clients have shown resourcefulness and originality in finding ways to healing that never would have occurred to me to suggest. The open nature of both the group sessions and the one-to-one sessions seems to have allowed people to find their own unique way to healing.

The 2017 UN *Report of the Special Rapporteur on the right of everyone to the enjoyment of the highest possible standard of physical and mental health* describes how "mental health diagnoses have been misused to pathologize identity and diversity, including tendencies to medicalize human misery" (p. 11). Deegan describes how traits that she appreciated about

herself were pathologized in the mental health system: her high level of energy was termed “agitation,” her love for solitude interpreted as her being “aloof, guarded and suspicious” (Bedre Psykiatri, 2012a, 9:54). Arnstein, already in 1969, criticized that therapy focuses on citizens’ pathology rather than “changing the racism and victimization that create their «pathologies»” (p. 218).

The feeling of being an outsider comes up quite often in the music groups. Many of the diagnoses in the diagnostic manuals in use are based on negative feelings, memories and thoughts; we see difficult experiences as signs that something must change (Holden, 2007). Trauma and mental health issues are still rarely talked about openly in our society. They are, however, so widespread that it is “likely that the large majority of children and adolescents will experience at least one class A traumatic event” (Greenwald, 2012, p. 75). The field of behavioral analysis maintains that much of what is considered psychopathology is in fact part and parcel of the human experience. Loneliness, suicidal thoughts, depression, aggression, anxiety, addiction, insecurity and violence are in fact very common (Holden, 2007). If we upsized our definition of normal to a more realistic one, might some of the people in the listening groups feel less like misfits?

7.2.1 Diversity in the polyvagal theory

Porges critiques that our society is created for those of a certain mold. His view is that diversity is not honored in our societal institutions. For example, he says this of the educational system:

Unfortunately, the traditional classroom model for education assumes that if some children can perform well in a classroom, every child should ... we reinforce this “moral” conceptualization with labels such as developmental “disability” or mental “retardation” or attention “deficit”. Society assumes that these children should be able to voluntarily turn these behaviors off, and that if they can’t, then they are defective. We basically convey to these children that the behaviors are bad even if they are involuntary. Alternatively, the educational process could celebrate some of the unique sensitivities that people have. (Porges, 2017, p. 218)

Porges (2017) also gives the example that teachers and parents often do not empathize sufficiently with how overwhelming sounds can be to children with autism – simply because they themselves do not perceive the sounds as overwhelming. In schools, autistic children are often put in the hands of special education professionals, even though the hypersensitivities and state regulation challenges autism entails cannot be met with special education techniques (2017). These children have different needs that society does not sufficiently acknowledge or meet, because our society is honed in on meeting the needs of those who fit in.

7.2.2 Diversity in music

Trondalen points out the ability of musical creativity to “demystify disorders, as the borders between «normal» and «abnormal» are not given within a musical experience” (2016, p. 88). In the musical experience, there is equity and tolerance.

Throughout my time in my workplace, I have been introduced to music of many kinds: pop and rock songs, opera, chillout, hiphop, classical indian music, raggaeton, flamenco, Bollywood music, Norwegian folk music and many more. Many people of international origin have shared music from their own culture, and have received positive feedback from the other participants. It has been a way to share of their cultural identity in a positive way.

7.2.3 Music therapy on diversity

Music therapy is itself an extremely diverse field (Bruscia, 2014). Through the diversity of its techniques and the myriad opportunities it affords, music therapy can flexibly adjust to suit the needs of each individual. As such it can meet diverse individual needs.

Kim and Whitehead-Pleaux (2015) point out the importance of considering our clients’ acculturation history and worldview. Clients from other cultures may have different views on improvisation and be familiar with different instruments than we are. Also, being from a country or culture does not necessarily mean that one subscribes to that style of music. Personal factors like age, gender identity, religion and family history are also important factors to consider. They stress the importance of qualities like openness, humility and genuine interest in the client.

Ruud (2008), Stige (2002b), and Ansdell (2002) all argue that one agenda of music therapy is to influence society to become more accommodating. Ruud says: “People become ill, sometimes not because of physical processes, but because they become disempowered by ignorance and lack of social understanding” (2004, p. 11). Stige identifies expressly in his definition of Community Music Therapy that “the community is not only a context for the work, but a context to be worked with” (2002b, p. 328). As such, music therapy advocates for a more diverse and inclusive society.

7.3 PLAY

Vignette 7: Hode, skulder, kne og tå

It was the very first day of the music therapy student's clinical training. She arrived with a guitar, some leaflets with well-known songs, a little speaker to listen to songs on, and some especially playful butterflies in her stomach. At the beginning of the first group session, a group member of international origin asked: "I'd like to learn a Norwegian children's song. How about "Hode, skulder, kne og tå"⁵?" One of the other participants was happy to comply. And soon, there they were, a group of adults, all singing this children's song with corresponding movements, over and over, to laughter and merriment. The student breathed a sigh of relief.

In my logbooks, there are several mentions of laughter and playfulness and each of these incidents has been a positive one, creating a warm atmosphere. In this vignette, the element of play allowed a group of seven strangers to relax and enjoy each other's company. The nervousness and tension dissipated instantly in the joy of the moment. The element of play opened up for us all to relax and connect.

Winnicott viewed therapy as play: "Psychotherapy has to do with two people playing together. The corollary of this is that where playing is not possible then the work done by the therapist is directed towards bringing the patient from a state of not being able to play to a state of being able to play" (1971, p. 38). In Porges' terminology one might say that one needs to bring the patient to a safe autonomic state, where the social engagement system is available to them, and they are able to play.

7.3.1 Play in the polyvagal theory

Porges has an interesting perspective on play. He defines play as a condition where we are mobilized (i.e. our sympathetic nervous system is activated) yet simultaneously our social engagement system is in control. The social engagement system serves as a brake and a rudder, allowing us to maintain positive social contact with our playmate. He illustrates this by describing his two dogs, who will often run around playing, each trying to bite the other's leg. They will continually look at each other, as if to reassure each other that this is fun and not aggression. The social engagement system "functionally contains and down-regulates the

⁵ This is a song where you touch your head, shoulders, knees and toes as you sing it

mobilization behavior to ensure that it is not amplified and transformed into aggressive fight/flight behavior” (2017, p. 81).

We might portray Porges’ interpretation of play as a meeting with danger in a safe place. His playing dogs are mobilized and the activity is a hair’s breadth from aggression, yet they maintain the safe space between them through their bond with each other. This game is also practice – because if one day they should get into a real fight with another dog they have already tested their strength and learned ways to cope with what might come their way. Their play will have given them agility and speed and a host of tricks with which to meet life itself.

7.3.2 Play in music

Music is an activity associated with enjoyment and pleasure. Pleasant responses to music activate our brain’s reward system, triggering the release of dopamine (Tomaino, 2015). Music also stimulates our Reticular Activating System, which might account for the fact that music can be stimulating and revitalizing (Brean & Skeie, 2019).

Solli (2008) relates the music therapeutic process of a client who was much more interested in dialoguing musically than verbally. After many unfruitful attempts to initiate a conversation in the course of the therapy sessions, the music therapist finally received crystal clear feedback from his client: “Shut up and play!” (p. 71). A study by Gold and colleagues (2013) demonstrated low dropout rates in music therapy as well as success with patients with low therapy motivation. In Solli’s case study (2008), music therapy was the only activity that this client attended regularly. Solli attributed this to his great interest for music as well as awareness and acknowledgement on the therapist’s part of his musical preferences.

7.3.3 Play in music therapy

Bruscia identifies recreational music therapy as one of six areas of music therapy practice. He describes that it “focuses on helping clients to find enjoyment and meaning in diversion, play, recreation, activity, or entertainment” (2014, p. 153). He defines several levels within each area of practice. In the recreational area these range from auxiliary recreational practices, that offer diversion and may improve quality of life but do not involve significant change; to primary recreational practices where the goals extend beyond recreation to doing in-depth therapeutic work. This union of recreation and therapy is highly applicable to Porges’ interpretation of play.

If we as therapists can create the same kind of bond and safe space with our clients as there was between Porges' dogs, we might be able to help them address deadly serious issues in a positive way. Ruud refers to this as "the paradox of play: it is supposed to be divorced from reality, yet it is also supposed to be ripe with real-life consequences" (1995, p. 94). Both Ruud (1995) and Stige (2011) use the metaphor of music therapy as a dressing room. Bjørkvold expresses it beautifully: "In the all-consuming self-forgetfulness of play lies the key to self-transcendence. Play becomes thus the experimental laboratory of learning. Here, coping with reality is continually anticipated, visibly and invisibly" (1994, p. 46, my translation). In this safe space one can try out different ways of being that can be highly applicable in the real world.

I would argue that one very important element in creating this safe space is, as Kenny wrote, truly accepting and embracing every note our client shares with us. There is no definitive blueprint for right or wrong. Maris Logis, a client of music therapy, enthusiastically wrote: "The freedom of the music therapy process was exhilarating. I could not get over the fact that I could not make any mistakes in improvisation" (Logis & Turry, 1999, p. 104). An interesting aspect of play is that mistakes *don't matter*. Logis' observation in relation to improvisation is supported by a recent study that showed that during improvisation, brain areas associated with self-monitoring shut down, while there was an increase in activity in areas associated with self-initiation and spontaneity (Tomaino, 2015).

Mistakes are also an integral part of music and of life. Keil's concept of *participatory discrepancies* maintains that: "It is the little discrepancies between the hands and feet within the jazz drummer's beat, between the bass and the drums, between the rhythm section and soloist, that create the groove and invite us to participate" (cited in Solli, 2008, p. 74). Trondalen (2016) refers to Tronick's concept of "errors and repairs," where errors in communication can be seen as information that maintains relationships. Imperfections are not only inevitable but can be a potential resource.

There is an element of freedom and chaos in play that open up for the possibility of change. We can throw all our pieces up in the air, and who knows what we might discern when they fall haphazardly into place? Ruud writes about improvisation in music therapy: "It is the spontaneous idea, the unforeseen connection of seemingly meaningless thoughts which come into attention. It is the accidental plucking of sound sources which interests us more than logical rules, compositional precision, or artistic virtuosity" (1995, p. 94). We free ourselves from our

cortico-centered logical reality and enter a space where everything is possible and we can see things in a new light. This safe space “allows for a variety of fantasies from different spheres of life to appear in combinations which would have been intolerable outside the play frame” (p. 94). In play, we can deal with serious issues in a non-serious way. And in this lies an enormous potential for transformation. We enter a space that presents alternate possibilities for action – the very heart of Ruud’s definition of music therapy (2010).

7.4 SUMMARY OF SECTION 7

As mentioned at the beginning of part III, Porges describes a positive spiral where feelings of safety and successful social interactions will mutually fortify each other. In vignette 4, the degree of trust present in the group contributed to “Tanya” opening up and daring to be vulnerable. She admitted to seeing herself as an outsider, something that seemed to be painful and negatively charged for her. Another group member offered her a new point of view; one where she could see her uniqueness as an asset. Her vulnerability was met with empathy, warmth and understanding, which in turn led to a deeper social connection and greater feelings of trust and safety. This might be interpreted as an example of the positive spiral that Porges refers to.

Music is a connector in many ways. It opens up for play. It erases the divide between normal and abnormal, allowing for diversity. It is a channel through which we can naturally tune into each other. The humanistic perspective in music therapy enhances this potential in music itself by consciously tapping into it; attunement, acceptance of diversity and a focus on play are all expressly promoted in the relevant literature.

PART IV: DISCUSSION

8. SOME REFLECTIONS ON THE POLYVAGAL THEORY

As we have seen, there is a lack of empirical evidence for the polyvagal theory. It seems to be based on interesting hypotheses that are supported by plausible explanations. It has sparked passionate interest but also polemic and criticism.

My feeling as I read through Porges' articles was that much of the same information was repeated, yet often without in-depth explanations. I felt that a deep analysis of the relationship between the biological and the experiential was lacking. Wordings like "the polyvagal theory postulates," or "according to the polyvagal theory" are used often, without concrete explanations as to why or how. *Why*, does evaluation put us into defensive states? *How*, concretely, is the social engagement system connected to our autonomic system? Porges does discuss this, but in vague terms. Graziano and Derefinko define this as an area where "empirical data is vastly missing" (2014, p. 14). In the articles I have read, his citations are often to his own work, or to older sources, like Darwin or Hughlings Jackson. Yet a field like behavioral neuroscience is in constant development; groundbreaking new information is being continuously uncovered through modern methods. Thus, I would expect more references to his contemporaries.

The greatest strength of Porges' theory as I see it, is that it resonates with the *experience* of people who are suffering from trauma and/or mental illness. It is astute in its behavioral observations, and it affords empowerment, consolation and understanding. In that way, it offers a welcome alternative to a biomedical model that tends to objectify and belittle. Neither has the existing biomedical model had much success in understanding the etiology of mental disease. The polyvagal theory offers a unified theory that on some level attempts to *explain* mental illness. Beauchaine and colleagues (2007) point out that, although the immense amount of data that Darwin collected on the natural world is invaluable, his greatest contribution to science was his theory of evolution through its explanatory insights. Furthermore, they describe how diagnostic manuals do not provide such insights and even strive to remain atheoretical to increase reliability.

The polyvagal theory seeks wholeness and connection rather than compartmentalization and reduction. In relation to music, for example, it seeks not to isolate parts of the brain where music is processed, as much as find convergence and similarities between neural processing of music and neural processing of risk evaluation and social engagement (Porges, 2008). The polyvagal theory also emphasizes the connectedness between body and mind; the circuit associated with safety and social engagement is also associated with bodily healing. I think that such a perspective is important in the mental health field.

Another vital aspect of the polyvagal theory is its focus on our autonomic processes. Historically in our culture, great weight has been given to the power of the rational mind. Yet there is an enormous amount of information processing and decisions taken by autonomic circuits without our awareness. Brean and Skeie (2019) describe how the brain recognizes and analyses others' feelings and intentions much faster than our conscious brain can perceive them. As to amounts of data, even a simple step across a living room floor would entail too much information for the conscious brain to process. The polyvagal theory gives these autonomic bodily processes a necessary focus.

Porges also ties these bodily processes to our mental health. To me, the concept of autonomic reactions being rewired through trauma ring truer than the vague and scientifically outdated "chemical imbalances in the brain." It makes much more sense to think that mental health clients need to be helped to feel safe, than to think that they need to be somehow "fixed". Feeling safe is a prerequisite for health, and, as Porges points out, our societal institutions don't prioritize making us feel safe.

It will be interesting to see what future research will reveal regarding the polyvagal theory. Hopefully empirical holes will be filled; maybe emerging data will spark a re-conception of it. My hope is that it can be a stepping-stone towards a biomedical model of mental health that is both more precise and more compassionate than the existing one.

There is one point where I unconditionally agree with Porges: music and music therapy have enormous potential to connect us and to trigger feelings of safety, and thus enhance our well-being.

9. ADDRESSING THE RESEARCH QUESTIONS

The research questions of this thesis are:

Can the polyvagal theory provide valuable insights into clinical practice of music therapy in the mental health field? If so, what are they?

To the first question I would unreservedly answer: yes. The polyvagal perspective provides interesting insights into the needs of clients in the mental health system. Many of these insights correspond with user testimonials. The theory describes the role that music and music therapy can play in meeting those needs. As such, the polyvagal theory provides important perspectives in support of the value of music therapy, both in terms of music itself and the relational perspective that humanistic music therapy theory represents. I will now discuss some of these insights, in answer to the second research question.

According to the polyvagal theory, feelings of safety are essential to our well-being and ability to relate to the world. These feelings are based on bodily experience rather than cognition. They are immediate and involuntary. Music provides a biological platform from which to meet and influence these involuntary responses. Music empowers, and reflects multifaceted layers of identity. Through clinical improvisation, therapists can use music to tune in to and reach clients in a unique and effective way. Constructs of normality or abnormality are irrelevant in the musical experience, and as such it allows for diversity. Music also creates a space for play and fun that motivates and affords opportunities for therapeutic change. It is important to note that music is a powerful tool and as such must be used appropriately, preferably by trained music therapists.

The humanistic perspective in music therapy theory addresses the *importance* of bodily states and the necessity of meeting them. There is a focus on empowering clients and reinforcing a positive identity, which can give clients resilience in an environment where they are continually put into defensive states by evaluation. Importantly, music therapy steers away from the evaluative aspect of music itself, rather seeing music as a way to communicate, heal, and cope with everyday life. Music therapy theory recognizes the importance of tuning in to our clients, and offers a variety of improvisational techniques through which to do so. Contributing to and working for a more accepting society is an expressed agenda. Music therapy can offer a safe

place for clients to experiment with ways of being, a kind of dressing room for real life that ultimately affords new possibilities for action.

10. THE LEARNING PROCESS

Writing this paper has been an intense learning process that has given me a deeper respect for both qualitative and quantitative paradigms. Diving into literature on the user perspective, as well as a phenomenological dive into the clients' experiences at my own work place, have given me a deep respect for their courage and perseverance in their fight for dignity and health in the face of often dazzling odds. It has allowed me to see the importance of respecting subjective experience, and the value of the warmth and humanity in the music therapy approach. I am proud to represent this approach at my work place, and to be an ambassador and an advocate for my clients.

With regards to the scientific paradigm, this process has been a journey. At the outset, I had unbridled enthusiasm about the polyvagal theory. At some point in the process, I met with the rather significant empirical paucity in it, and turned 180 degrees. A knowledgeable supervisor was able to make me see the greys, and see something of the enormous complexity in biological systems and the human brain. No theory is correct, because no theory can accurately depict the complexity of the natural world. The process has woken awe and humility in me for the rigor and meticulousness of scientific research, as well as the mystery and intricacy of the natural world.

One element that I had hoped to investigate deeply in this thesis was the fusion of the two paradigms. This did not happen to the extent I had hoped; most of the thesis focuses on subjective experience, and some sections focus on biology. To a certain extent this is a reflection on the polyvagal theory; as discussed above, I found in-depth explanations that could have opened for such connections lacking. Other literature that I encountered, however (e.g. Getz et al 2011; Beauchaine et al 2007), show that there is increasing interest in fusing the two paradigms. I would argue that this is particularly important in the field of mental health, where the two paradigms are simultaneously highly relevant.

PART V: CONCLUSION

11. A LAST VIGNETTE ON THE NATURE OF TRUTH

One client enjoyed sharing songs and chatting in the music therapy session. In one of her last sessions, she confided to the music therapist that her psychotherapist had told her that the voices she heard were only in her head. “I just nod and go along with him,” she stated, obviously in disagreement.

Mental health by definition is vitally dependent on subjective truth. What can objectivity afford in a terrain that is peopled with subjective experiences - subjective experiences that weigh heavily and torment and chain? Because in the end we cannot climb into other people’s minds – or even our own. Brean and Skeie (2019) so poignantly pointed out that if our brain were simple enough for us to understand, then we would be too simple to understand it. If understanding a healthy brain is an impossibility, how are we then to understand a brain in imbalance? I would argue that the field of mental health has no choice but to consider subjective experience as empirical data.

On some level, I do agree with the therapist that, yes, the voices are the client’s subjective experience and, as such, are in her head. But I do not agree with him that that fact is more important than respecting her truth and helping her navigate *her own way* through her experience. This clinician had, in order to reality-orient this lady, totally shut down the communication between them. In the name of objective truth, he had mowed over her subjective world. He wasn’t *listening*.

12. CONCLUSION

Science is a tool, just like music is. The fact that science has been used to destroy says more about humankind than it does about science. Objectivity has traditionally been a bastion of science. And objectivity works very well to fix a broken arm or classify plant species. But faced with the complexity and diversity in the human condition and brain, being categorically objective complicates more than it helps. I would thus argue that scientific rigour is exactly the reason that the biomedical model in mental health care needs revision; a revision that embraces the complexity of the human condition. In mental illness, there is no alternative but to humbly

listen to the subjective experience of those who are suffering from it, and do our best to support and cheer them on in their experience.

Yet I don't think we should leave science by the wayside. Science is flexible and progressive by nature. The polyvagal theory is only one of many currents in a new paradigm. One that considers systems and complexity in nature and society. One that considers social, political, genetic and bodily aspects of mental health. One that recognizes the diversity and complexity of the human condition.

The polyvagal theory, as we have seen, is imperfect; and indeed, no theory can accurately or wholly depict our marvelously multifaceted world. I hope that the polyvagal theory can broaden our perspective and offer valuable insights in mental health care. Here is a theory rooted in biology that underpins subjective experience and promotes a humanistic view. My hope is that it can be a stepping stone in uniting our objectively shared truths with a subjective reality, and in bridging the chasm between reductionism and humanism. Importantly, it presents convincing and interesting arguments for the use of music and a humanistic music therapy approach in mental health care.

We have explored how music is an excellent way to wire our biology into safety states, as well as celebrate the complexity and diversity that make the human race unique. As we can't truly understand the brain, we can't possibly understand how music works in it. But we can see *that* it works. In the spirit of science, we can keep seeking more and better knowledge. In the spirit of humanism, we can use that knowledge in a humane and respectful way. And, thankfully, there will always be elements of mystery and surprise.

Music offers us a place to share the magic of being alive as fellow human beings. A humanistic perspective in music therapy offers an outstretched hand and a willingness to share this magic with a vulnerable group of people as fellow human beings.

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