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“The Mirror Effect”

How do Musicians Experience Pang Composite Social Sound Sculpture Instruments as Mirrors of the Brand Hang[®] from PANArt

An IPA Study

Dissertation in Psychology for M.A. Music Therapy

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Abstract

In 2013, Felix Rhoner and Sabina Scharer of PANArt, Switzerland made an intriguing statement in their book, *Hang Sound-Sculpture*, referring to their resonating percussion instruments as being like 'mirrors'. The review of literature and searches did not find any previous research on this theme. The aim of this qualitative study was to bring to light how musicians experience the instruments as 'mirrors' and find any comparisons and effective ways of use in music therapy. Participants were from UK, Europe and North America and they were experts in their field. An online questionnaire was constructed, and the data was analysed using Interpretative Phenomenological Analysis (IPA). The analysis resulted in finding two main themes, three emergent themes and one superordinate theme. The two main themes were (1) *There are no boundaries it's in everyone's reach, Accessibility* and (2) *People with no experience can compose quickly, Liberating*. The three emergent themes were (1) *Warm inviting quality, Aesthetics*. (2) *Instruments for Healing, Holistic*. (3) *They reflect our inner world, Reflective*. The superordinate theme was, *The mirror effect, tuning-self*. The key findings arose from acoustical, psychological, and physiological experiences useful for the work of music therapists. These findings also mirrored external cultural forces negatively impacting musical and personal development, which highlighted developing areas in current music therapy training and practice.

Introduction

Pang Instruments

PANArt instruments are new complex sound-sculptures played by hundreds of people worldwide. Since 2000, under the brand name Hang®, PANArt Ltd. Switzerland has developed numerous hand-made percussive instruments. Hang refers to any of the pang composite sound sculptures that currently form the Pang Ensemble and the Balu Band. Since 2007 my experiences playing PANArt instruments in many continents and different settings has inspired a personal motivation to discover more about their benefits and how they can be used in music therapy. In 2013 an intriguing statement from the book *Hang Sound-Sculpture* caught my attention. The inventors, makers and tuners, Felix Rohner and Sabina Scharer, alluded to their sound-sculptures as being like 'mirrors', they describe their creations as follows:

'The musical instruments we build do not belong to just any tradition. Sheet metal, particularly our pang material, invites another kind of work. We build instruments which are in a sense, mirrors. They make people confront themselves, their innermost. They work as tuning devices which attune the player or a moment; as seismographs that reflect conditions; as spotlights that throw light in hidden corners. They reveal in a gentle, precise and clear manner' (Rohner and Scharer, 2013, p.5).

From analysing this text and reviewing literature spanning the last 25 years mainly accessed from UWE library, Voices and Google Scholar databases, Hangblog and PANArt's website it appears that no previous research has specifically focused on the phenomenon of how musicians experience pang composite instruments as mirrors. Word searches included hang instrument, ideophone instruments, resonating percussion, pang, and musical mirrors. Therefore, references came a lot from the PANArt literature. New instruments create new music and new music creates new experiences. This research aims to bring to light musicians' experiences, perceptions, and understandings of the instruments being played as mirrors, to look inside their potentials for use in music therapy and help develop the musical art form pang. Reviews will include themes that will discuss the instruments history and developments, idiophone instruments, the acoustical properties of pang and its physiological and psychological effects, social sound-sculpture, and the potentials for use in music therapy and comparable interdisciplinary concepts in ethnomusicology. These terms will be discussed in the next section.

History and Developments

During the 1990s steel pan makers and tuners, Felix Rhoner and Sabina Scharer began developing their instruments which led to studying the acoustical laws and vibrational modes of sheet metal on resonating idiophone instruments, for example: eastern and western bells, steelpans, cymbals, gongs and chimes. These are idiophone instruments due to their percussive resonating characteristics. Their findings led to the development of pang; a steel sheet containing soft ferric crystal enhanced with nitrogen that produces a high-energy metal matrix (Rohner and Scharer, 2013). The ceramic nature of pang has a good sense of touch for the hands and its rich musical impulse seems to have a powerful effect difficult to describe in words (Rohner and Scharer, 2013). They called their creations pang instruments and by 2000 they focused on developing their most successful instrument: Hang Sound-Sculpture (Figure 1). A mandorla or lenticular oval-shaped melodic idiophone instrument inspired by the special chamber like cathedral effect was created. It rests on the lap and vibrates when played with the hands and fingers (Rossing, Yoo and Morrison 2004).



Figure 1

Hang 5 stages. www.wikipedia.org

As time went on the instrument went through a refining process (Figure 1), which brought a mature sound and leaving the world of western music scales and exploring various tonal and modal music systems of other cultures. By 2008 the Integral Hang emerged with its new resonant frequency that had a multi-layered, deeper, and darker ambience (Rohner and Scharer, 2008). It was a catalyst for further developments, and this meant further liberation from tonal systems. This led to the free tuning with non-harmonic elements that enhanced the sound-sculptures meditative richness, they called it the Free Integral Hang (Figure 2)

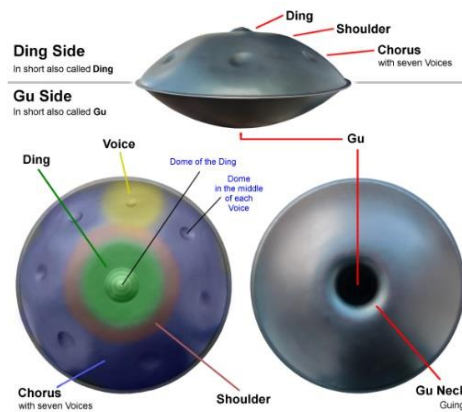


Figure 2: *Free Integral Hang*. Permission of PANArt www.hangblog.org

By 2013 its new sound embraced full maturity and evolved into a new shape with a strong pulse of energy resonating at the centre called Gung (Figure 3) woven into its rich overtones (Rohner and Scharer 2013), they called the new instrument, Hang Gubal (Figure 3). Shortly after, complimentary sound-sculptures joined the Gubal and by 2016 The Pang Ensemble was formed, consisting of Hang Gubal, Gudu, Urgu, Godo, Gede, Pang Strings and the Hang-Bal (Figure 4). By 2018 The Balu Band emerged which consisted of low, middle, and high voices, Hang Balu Sui, Sai and Sai which are accompanied by two more percussive pang pots Balu Urgu and Gudu (Figure 5). To date, a full interactive orchestra of multicultural - pang composite - social sound sculpture - percussion instruments are ready to be played, either in an ensemble or a band. Examples of the instruments being played can be seen and heard on PANArt's website.

www.panart.ch

Figure 3
Hang Gubal
www.panart.ch
Gung sound

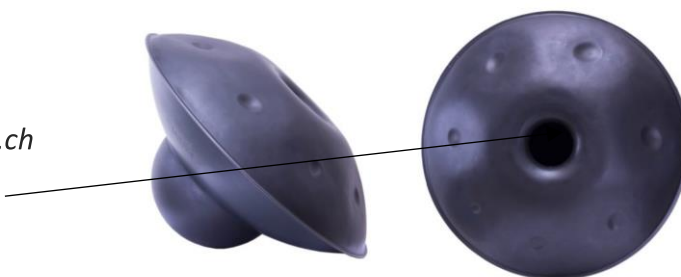


Figure 4
Pang Ensemble
www.panart.ch



Figure 5
Balu Band



www.panart.ch

Acoustical, Psychological and Physiological Effects

Right from the start, experiences of playing and listening had a global impact as written testimonies from around the world describing their effects flooded the Hangbau (Hang House) in Bern, Switzerland. Joy, peace, tranquility, imagery, altered states of consciousness, fluidity, serenity, new opportunities, were some of the reports coming in (Rhoner and Scharer, 2010). Concerning these phenomena, acoustical studies showed considerable vibrational frequency and radiation of sound intensity on these instruments (Rossing, Yoo and Morrison, 2004). This is achieved from years of getting to know the pang material, mastering tuning techniques and developing an intuitive inner ear for sounding or tuning a sculpture by ear, known as Harking (Rohner and Scharer, 2007). The process involves combining the sound sculptures' low frequency Helmholtz resonance produced by oscillations of air inside the instrument with the high-frequency tone field into a whole sounding resonating vessel. Achong (2013) picks up on this, highlighting that a person should attune their ears to acquire the full aesthetic experience of the pang sounds.

The oscillations of such instruments are heard and absorbed directly through the body and into the senses. This is a significant musical quality found in heartfelt instruments often used in community ritual and celebrations as they hold deep personal meaning to the community traditions, their values, and beliefs. They include instrumental sound bodies like gamelans, steelpans, bells, chimes, and gongs, to which the hang sound-sculpture situates itself and draws influence and will be discussed in further detail in the ethnomusicology section. These resonating instruments also belong to the family of idiophone percussion instruments known for the vibrational qualities that induces strong sensory musical experiences. The sacred spiritual sounding nature of such instruments have a musical ability to penetrate the human quite deeply (Rhoner and Scharer, 2010). Further, research into the acoustics of such percussion instruments has focused on observing their modes of vibration and understanding how they radiate sound as the instruments vibrate when played (Achong 2013; Rossing, 2001). This can be achieved through holographic interferometry which is a method of frequency and vibrational analysis especially useful for understanding the tuning process of idiophone percussion instruments (Achong, 2001). Various ancient cultures understood the centrifugal powers of such instruments because they produce an emanating rich pallet of vibrational and penetrating sounds, even to the point of casting oval-shaped bells themselves (Rossing, 2001).

Social Sound-Sculpture

The transition from the singular playing of the original high-frequency hang sound-sculpture to the collective play and deeper grounding of the ensemble, saw the natural socialisation of pang instruments. This organically created the concept of social sound-sculpture: where it's all about a musical collaboration, so people can play an instrument together and together they can become an instrument (Rhoner, 2019). The spontaneous, fluid, and intuitive ease of play frees people from having to master techniques, which helps prevent performance anxiety and worrying about getting it right or wrong, it allows for musical expression to flow quite easily. These central concepts provide an accessible opportunity for people at every level of creative ability to submerge into a unique world of music that has therapeutic potential and can awaken innate musicianship (Malloch and Trevarthen, 2009). The experience of rhythm, melody and harmony driven by the grounding pulse-based playing of the gung sound, lays a foundation. This is layered with percussion, melody and harmony and the aesthetically rich textured sound of tuned pang material, which means there is a large musical and therapeutic landscape to explore in a collective. It is excellent for both improvisation and instant composition, methods that are used in music therapy (Loth, 2006)

Approaches in Music Therapy

The impression is that PANArt's philosophy, combined with the therapeutic aesthetics of pang music, naturally embody some active and receptive music therapy approaches: Bunt

and Stige (2014) appreciate the use of resonating percussion instruments emerging in clinical music therapy. Bruscia (1998) also distinguishes between the important use of sound, frequency and vibration and musical interaction in music therapy. Smith and Patey (2003) discuss the importance of acknowledging ancient cultures using music for therapy and its influence in the profession. Stern (2010) mentions 'affect attunement', where matching inner states involves spontaneous interaction in the musical relationship. Wigram (2017) refers to mirroring, grounding, holding and containing; techniques which reflect, synchronise, compliment style and create stability for people to have musical experiences in order to reach therapeutic goals (Grocke and Wigram, 2007; Bonny and Summer, 2002). Cohen (2017) and Grocke and Moe (2015) talk about deep listening and the unfolding of imagery, using music for relaxation and improvisation in music therapy that also acknowledges the use of utilizing aesthetics of sound and vibration.

However, music therapy has focused mainly on highly exclusive western music traditions developed in psychological and psychotherapy theories, that remain mostly disconnected from the study of musical processes from different cultures (Lee, 2016). Whilst this has been its evolution it presents one of the biggest challenges for the profession's development; to attune itself to the worlds diverse musical richness and enable it to merge with other related musical theories and traditions, both in training and practice (Lee, 2016). Furthermore, integrating different styles of world music into music therapy can offer enriching experiences for therapists and clients; new sounds and new instruments open up possibilities for the unexpected and in many occurrences it's where growth blossoms (Lee and Houde, 2011). From my experiences over the years and on many occasions, in both clinical and recreational settings, I have witnessed many people begin a healing or personal development journey with pang instruments. Some of these contexts would include mental health group work, and music and musicianship retreats. However, I would reinforce that these experiences were also in the context of sensitive facilitation skills, advanced knowledge of the instruments and the growth of the therapeutic relationship.

Ethnomusicology

Additionally, the Pang Orchestra mirrors concepts of the South East Asian, Balinese gamelan music (of which the original Hang sound-sculpture drew inspiration). Gamelan is a large hand played percussion ensemble. Its musical foundation is a communal experience focused on creative group processes, comparable to group music therapy. Participants are immersed into an emotionally rich experience anchored in deep pulses and aesthetically pleasing textures, melodies, rhythms, and resonating percussions (Loth, 2006). Everybody is invited to play, and participation is an organic, all-inclusive accessible learning experience, supported by and created for the community (Pun, 2011).

There has always been an element of mystique around PANArt, perhaps because they are not mass-produced instruments but are hand-made by a tight-knit family, whose creative expertise in the art of tuning and playing are traditions passed on in the family. These traditions resemble concepts comparable to Indian Gharanas where the creation and transmission of sonorous musical traditions are mastered, taught, and disseminated between the expert and the student (Sharma, 2006). The family tradition of building and mastering instruments this way develops a musical heritage that attracts the attention of devotees who want to learn the art from the master. Eventually, they form schools, traditions are passed on to the next generation and the music gains its reputation. In a similar way, the steel pan traditions of Trinidad and Tobago call them Pan Yards (Achong, 2013), from which PANArt instruments also have their origins. It seems there are interesting comparisons here, where a growing musical heritage unique to a small family in Switzerland has been emerging and attracting global attention.

Art Form Pang

However, those who are truly immersed in the art form pang are relatively few and there is no intention to create a school. When the instruments are collected in person by invitation there is only a short time of demonstration, some friendly talk, and time of playing together. The rest is based on a personal journey of discovery through, musical experiences, equipped with a book, a few articles, an online forum, and devotion to the art. In my own experiences, it was the effects of the Hang's music that I observed on myself and others whilst travelling and playing that reinforced my convictions about its potentials in music therapy. The rich musical heritage can be traced back to steel-pan yards of Trinidad and Tobago and thousands of years back to the ancient ceremonial percussion instruments of the Far East and African traditions. However, the new art form transcends those traditions and desires to reach beyond contemporary limitations and therefore longs for some significant dialogue. Little is documented about the intentional creation of the instruments being 'mirrors' and their specific uses in music therapy. In relation, Lee (2016) goes on to reinforce that music therapists must comprehend the contextual origins of the music and immerse themselves into the authentic sound and music of the culture to give an authentic representation. As far as the pang orchestra can effectively function this way, questions need answering to help find ways forward. How are these instruments experienced as mirrors? And what does that mean in the human experience? What are the sound-sculptures reflecting? And what are their potentials in music therapy? These questions relate to the main research question: how do musicians experience pang composite social sound sculpture instruments as mirrors of the brand hang from PANArt? The aim is to explore specialist musicians, musical experiences with these instruments and how they make sense of them being 'mirrors' and to understand what therapeutic effects and applications could be made in music therapy. This will be investigated, analysed and discussed with the data.

Method

Methodology

The main research question emerged from the book *Hang Sound-Sculpture*. To encapsulate some significant aspects within the research paradigm, there are numerous ways that the assumptions, practices, values, and beliefs can be brought together. This way a comprehensive structure of investigation provides a framework that the research community is able to analyse data and practice in (Braun and Clarke, 2013; Kuhn, 1962). This research method presents its positioning as follows.

Method

The aim was to give a community of specialist musicians an opportunity to express their experiences playing PANArt instruments as 'mirrors' and explore this intention relating to music therapy. The research situates itself in qualitative experiential phenomenology, due to an interest in meaningful procedures that delve deep into reflective and subjective phenomena emerging from the language in the data (Braun and Clarke, 2013). This choice of method sits well in IPA (Interpretive Phenomenological Analysis). Smith *et al.*, (2009) emphasizes that IPA offers precise qualitative ways of inquiry into the psychological experiences of participants. Owing to that, subjective experiences expressed through language is one of the better means of providing an entrance into understanding and interpreting phenomena (Tracey, 2019; Langdridge, 2007). Its twofold underpinnings mean that hermeneutical interpretations can also reveal the significant aspects of personal experiences, because it allows for in-depth interpretation of phenomenon (Smith *et al.*, 2009). This is achieved through coding and deep ongoing analysis of the data, which illuminates nuances in the language and experiences and starts the process of defining and explaining themes emerging in the phenomenon. However, although its ontological concerns are with human experiences, its critical realist interpretations consider experiences are within the cultures and languages that can only be known or expressed in part (Braun and Clarke, 2013; Smith *et al.*, 2009). A purposive sample was preferred, so focusing on experts in their field could depend on the expertise of the selected group, known as hidden populations originating with qualitative research (Barratt *et al.*, 2015). Although interviews of smaller sample sizes are the preferred approach to IPA, it does allow for more participants using a questionnaire (Braun and Clarke, 2013, p.50). A questionnaire was chosen to strike a happy balance with the group size, geographical locations and expert knowledge and was analysed using the eight-stages of coding as a guideline (Braun and Clarke, 2013).

Participants

Each participant was recruited by myself via email from a small worldwide community of pang instrument players. This recruitment concept was embedded in Joseph Beuys' (2004)

notion of 'social-sculpture' defining 'every human being as an artist' able to create or perform works of art that produce new paradigms in society using objects, thoughts, language and actions (Tisdall, 1974, p.48), and bears similarities useful for IPA methods of research. Although the desired number of participants to take part was originally a larger number, the recruitment of seven participants was due to their being relatively few professionally immersed musicians in the art form pang. The way this emerged resulted in seven participants, cannily correlating with the number of notes on the various instruments. Within Western and some Eastern musical traditions there are seven main notes in both scales that range in musical pitch and frequency in some scales with their quarter notes in both scales. This concept went on to metaphorically represent each participant as a note on a hang sound-sculpture scale. Each participant contributed their organic frequency and pitch to the overall sound, that being the imaginative formation of a social sound-sculpture expressed through the language of describing musical experiences. This is playing on similarities of Beuys (2004), Tisdall (1974) and Rhoner and Scharer (2019) with ideas that everyone is an artist and can contribute to social and cultural developments. This is achieved through creative acts expressed through instrument making and playing together. For example, you become an imaginative instrument or a social sound-sculpture that once expressed through language that describes musical experiences; the research participation and interpretation can be an academic and creative act. This is then offered as an artistic work that could contribute to existing or new paradigms in music and therapy.

Participants were identified by: (1) age 18 years or over; (2) their in-depth experience with the instruments; (3) their trusted relationship with PANArt and (4) I have personally met them. Notably, for the sake of transparency one potential recruitment did not reply to a second email invitation to participate and was replaced by another with whom I had also met yet has less experience with the instruments. However, that participant is an expert in their field and a researcher would be wise to consider any potential bias in participants wanting to please in their responses. Appendix 1,2,3, cover the following requirements: participants were sent a participation information sheet and understood they had the freedom to withdraw without reason (within one month of participation), refusal to answer any questions and the intentions of publishing the research with quotations. Participants gave demographic information and full consent to understanding the framework of the study and their extent of voluntary involvement, including any potential psychological or emotional risks and the benefits of contributing to an important social, psychological, and musical topic. For confidentiality and anonymity participants have been identified by ordered abbreviations of the main notes of the ancient Indian musical scale and as an imaginative formation of a social sound-sculpture.

7 Participants Demographics Summary

Countries: UK, Europe, and North America

Ages: 27-65

Gender: 6 Male, 1 Female

Musical Expertise: 2 Music Therapists, 1 Busker/Teacher, 2 Other, 1 Composer/Performer, 1 Maker/Tuner.

Played Pang: 3 months – 15 Year

Procedure and Materials

Participants were emailed a questionnaire (appendix 4) as an attachment and given one week to reflect on the questions and answer them in detail in an online survey. However, due to Covid 19 effecting financial income and the survey costing a monthly fee, a more financially viable procedure needed to be carried out rather than using Survey Monkey. Data was collected via email attachment and anonymity guidelines were still adhered to. The data was confidentially and securely stored as part of the University West of England ethics approval (appendix 5&6). Upon completion of the questionnaire, participants were emailed a link to a free download of pang music from the researcher played by myself as a thank-you.

Data Analysis

The coding and data analysis proceeded the eight stages of phenomenological/hermeneutics outlined in Braun and Clarke (2013, p.201-3): “(1) Data preparation, (2) Familiarisation, (3) Focusing on one data at a time, (4) Developing the emergent themes, (5), Finding connections and superordinate themes, (6) Repeat with other data, (7) Produce figurative or tabular representation, (8) Write up final analysis.” Furthermore, this coding and data analysis shows more interest in meaningful procedures that delves deep into reflective and subjective phenomena emerging from the language in the data (Braun and Clarke, 2013). This is unlike quantitative methods of research that deal more with measurements, experiments, and statistics and must deal with the problem of missing data (Vogt, 2011). These stages will be used for informing the interpretive stages, to capture the essence of the experiences and conclude a just and worthy interpretation that is true to the participants’ experiences and the researcher’s knowledge and expertise.

Ethics

To handle any possible distress researchers need to produce strategic plans as subject material can give rise to difficult emotional responses that require sensitivity (Israel, 2014). Following these procedures participants were informed of some minor ethical implications that may have occurred due to the low-risk nature of probing reflective questions. To safeguard the well-being of participants and not to ignore any minor potentials, participants

were provided with website links to psychological and psychotherapy helplines, should they feel any distress because of topics being raised in the questionnaire (Wiles, 2013). All participants consented to understand any risks involved and the procedures they may have needed to take in the worst-case scenario (appendix2). The ethics application and risk assessment were approved and procedures made sure anonymity and confidentiality of all the data was safely stored without risk by following The University of the West of England Health and Applied Sciences Faculty low risk ethics requirements (appendix 5-6).

Results and Data Analysis

Individual investigations of each participant's experiences revealed credible connections with music therapy. The qualitative IPA research paradigm (Braun and Clarke, 2013) provided detailed reports that showed an emergence of robust themes and therapeutic language similarities across data (Figure 6). Each participant's individual case expressed their varied experiences; the data was categorised into (a) One superordinate theme (b) two main themes and (c) three emerging themes. For in-depth analytical processes examples of coding, theme reflections, theme developments and thematic maps can be seen in (Appendix 7,8,9).

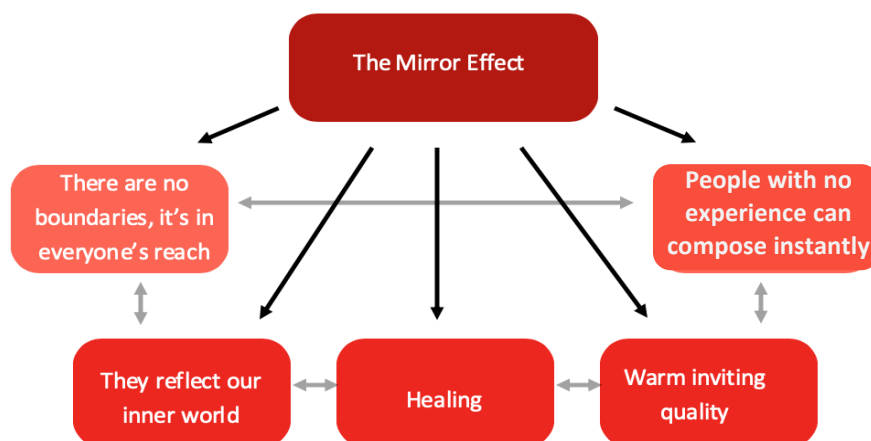


Figure 6

These themes (Figure 6), reflected multiple resonances deeply rooted in the overall superordinate theme '*the mirror effect*', (a term originating with participant Re) a central feature of pang discussed in the literature review, which participants reported occurs through an amalgamation of instrument and player, created by the sound-sculptures'

accessibility and aesthetically pleasing characteristics. Due to the quality of these phenomena the instruments 'mirror effect' was experienced in the other themes, which was embodied as reflective healing tools that stimulated holistic musical experiences of a psychological and physiological nature and liberated players from music theory limitations. [Participant Re] reports that *"there are no boundaries it's in everyone's reach"*, (Main theme 1). [Participant Sa] reports, *"people with no experience can compose instantly"*, (Main theme 2). [Participant Ma] reports a *"warm inviting quality"*, (Emergent theme a), [Participant Pa] reports on *"instruments for healing"* (Emergent theme b) and [Participant Ga] reports how *"they reflect our inner world"* (Emergent theme c). The analysis of the themes are presented in their phases and are discussed with detail in their sections. As a guide each theme has been given a subtitle that reflects the nuances in the experiences and provides the tone of the analysis.

Main Theme 1: *"there are no boundaries, it's in everyone's reach" (Accessibility)*

Main Theme 2: *"instant composing for themselves it works" (Liberation from music theory)*

Emergent Theme a: *"warm inviting quality" (Aesthetically pleasing)*

Emergent Theme b: *"Instruments for healing" (Holistic journeys)*

Emergent Theme c: *"they reflect our inner world" (Reflective Tools)*

Superordinate Theme: *"the mirror effect" (Tuning-self)*

The accessible and liberating nature of the sound-sculptures have similarities reported throughout but connect the two main themes as the foundation. For example, *"beginners and experts can mix without any problem"* [Participant Re] and *"there is no right or wrong"* [Participant Ga]. These types of experiences are foundational as they gently open participants instilling confidence and invite them to experience the aesthetic, reflective and healing phenomena of Pang as reported throughout the three emergent themes. For example, *"the complex and fascinating harmonics"* [Participant Pa], *"have very positive effects on all levels"* [Participant Re] and *"reflects parts of myself I can't see"* [Participant Da]. These themes finally merge into the superordinate theme and links them altogether; *"everything we express inside is explosively reflected outside, the mirror effect"* [Participant Re]. These interconnected themes are the fabrication of Pang music experiences which submerges participants through the themes into a holistic playing cycle called *"The Mirror Effect"*.

Main Theme 1: “there are no boundaries, it’s in everyone’s reach”

~ *Accessibility* ~

All participants reported on the instruments’ accessibility and the quality of innate musicianship being able to be reached and discovered quickly by people at every level of musicianship. These reports indicated a sense of limitation and anxiety external to playing PANArt instruments. Effectively this is potentially mirroring boundaries and dividing lines commonly experienced with playing other instruments.

“there is no tradition of right and wrong, it’s like carte blanche on your lap ready to be discovered”

[participant: Sa]

“there are no boundaries, it’s within everyone’s reach, beginners and experts can mix without any problem”

[participant: Re]

“freedom to find your own inner music, they are easy to learn no right or wrong”

[participant: Ga]

“exploration and improvisation unlike anything I’ve experienced”

[participant: Ma]

“it’s very easy to be in the zone”

[participant: Pa]

“there is something universal about these instruments, inspires trust”

[participant: Dah]

“impossible to make ugly music on this instrument”

[participant: Ni]

This initial phase of ‘the mirror effect’ resonates throughout this theme and highlights foundational characteristics that feature with pang instruments. You can make your own music free from internal and external critique as [Participants Sa & Ga] expressed there “*is no right and wrong*”. Improvisation requires no great effort and therefore, participants are immersed with confidence into encouraging musical and psychological experiences. Without the ease of access and playability, the acoustical properties of pang and its deeper capabilities would be difficult to experience, consequently the ‘mirror effect’ would only

be experienced in part or more in depth by the advanced musician. However, the instruments are intended for everyone to play and the universality breaks the boundaries which makes it achievable and manifests the phenomena.

Main Theme 2: “instant composing for themselves, it works”

~ Liberation from music theory ~

There were notable challenges for those with strong musicianship skills and promising possibilities for those with no or limited musicianship skills. Consequently, participants experienced a letting-go of predetermined musical processes and a letting-go of their self-doubts. These reports indicated a sense of liberation from traditional systems of creating music and perceptions of being a musician. Effectively, this is mirroring further boundaries and limitations that causes greater distance between classically trained musicians from other traditions and untrained novices. This also potentially reflects a thirst in society for instruments that challenge the traditions of the past and current musical trends. This further reveals a need for instruments that provide new pathways into making music and clinical music therapy.

“you could make schools and workshops around it, but it’s the quality of the freedom you have, play what you like not what you heard someone else, people with no experience can compose instantly, instant composing for themselves it works”

[participant: Sa]

“people with no experience can quickly manage to improvise, gives them confidence in their abilities, use their letting go”

[participant: Re]

“the pang social sculptures free you from all this, they are easy to learn there is no right or wrong”

[participant: Ga]

“I had to learn not to impose so much of my ideas on the instrument, explore music in a different way than most of us have experienced”

[participant: Ma]

“it allows anyone to make a sort of musical experience”

[participant” Pa]

“sense of confidence that comes from expression beyond self-judgment”

[participant: Dah]

“the sense of ownership of the sound”

[participant: Ni]

The second phase of ‘the mirror effect’ uncovers similar layers of freedom the instruments can give through creating a “*sense of confidence*” and a “*sense of ownership*” reported by [Participants Dah & Ni]. These experiences reflected immediate and personal music making capabilities at the fingertips, that nurtured the ability to “*compose instantly*”. Consequently, the all-embracing nature of the sound-sculptures encourages people at all levels of musical ability to discover their own musical treasure which challenges existing musical norms and past experiences. The sense of liberation from theoretical pressures and cultural expectations of how we make music is reflected and left in the distance, further mirroring the effects of pang. The frequent use of the word “experience” has an interesting tone due to its threefold nature: (a) it’s about an experience; (b) it’s about no experience; and (c) it’s about letting go of experience. Within either or all three types of experience participants relate to, they are securely embedded in two foundational elements of the pang’s ‘mirror effect’, accessible and liberating and united strongly within the two main themes.

Emergent Theme a: “warm inviting quality”

~ Aesthetically pleasing ~

All participants reported on the sound quality of pang composite material being aesthetically satisfying and pleasing to play. The instruments were quick to capture attention and generate a strong interest that was very engaging. This left no doubt of the sound-sculptures’ distinct musical capabilities of communicating straight to the senses. These reports indicated that individually hand-crafted pang instruments have definitive acoustical qualities, capable of satisfying the thirst for artistic beauty and making your own rich musical experiences. This is rather than mass consuming digitally compressed music, that potentially dumbs down and desensitises the senses when listening. Effectively, this phenomenon is potentially mirroring the need for appealing hand-made instruments of exceptional quality that have the capability of touching people on deep psychological and physiological levels.

“I admire the characteristics, invites your hands to play...a sounding landscape”

[participant: Sa]

“one can feel the organic living energy. I knew it was what I was looking for, the depth moved me, the pulsation, my body could feel it”

[participant: Re]

“pang is crucial for the unequivocal sound; pang instruments resonate in me”

[participant: Ga]

“the warm inviting quality the pang material has, calming, energising, penetrating, easy on the hands”

[participant: Ma]

“complex fascinating harmonics and fulfilling auditory and physical experience”

[participant: Pa]

“contains layers of sound simultaneously, sensations of pleasure, relief, euphoria”

[participant: Dah]

“mesmerising deeply emotive sound, it breathes and resonates”

[participant: Ni]

“I knew it was what I was looking for”, reports [Participant Re], this theme sums up the effects of the pang’s aesthetic qualities experienced by all the participants. The natural inborn desire for living music that offers multisensory experiences is another characteristic of pang’s capability of satisfying the senses. It is an invitation into the deeper layers of psychological and acoustical experience. The ‘mirror effect’ can be felt in numerous reports as participants described further accounts of the pang’s physiological and emotional impact that is reflected in its distinct sound and vibrational properties. The unmistakable auditory and vibrational qualities attract attention and invites participation; once interest is generated musical capability is realized and the instruments open up their personalities simultaneously opening up the senses and drawing participants into the deeper cycle of playing.

Emergent Theme b: “Instruments for healing”

~ holistic journeys ~

All participants reported on the sound-sculptures giving holistic healing experiences. They described how the instruments have the ability of producing therapeutic music that is

characterised as being able to uncover deeper layers of being and treat the whole person on multiple levels of mind, body and psyche. This amalgamation of instrument and player appears to produce a personal or group equilibrium. These reports indicated that the multi-layered sound-sculpture characteristics are personable to the therapeutic impressions and experiences that participants received. Effectively, this phenomenon potentially mirrors the dis-ease we sense owing to the culture of stress in an age of anxiety.

“a system that is stimulated holistically and sounds as a whole”

[participant: Sa]

“very positive effects on all levels, collective play intensifies energy and well-being, exorcise our problems by sharing them with our musical partners, healing together”

[participant: Re]

“all sides of my being are effected that is for sure, it is pure freedom, the most truthful kind of music, very calm, very balanced”

[participant: Ga]

‘spiritually it centres me, they serve as tools, for relaxation, dissolves thoughts like a meditation”

[participation: Ma]

“instruments for healing and deep transformative experience, allows for emotions to flow and move as needed, food for the whole system, harmonising and recalibrate”

[participant: Pa]

“there is a synchronisation that takes place between the player and the instrument, a way of working with materials that are usually hidden and bundled deep inside us”

[participation: Dah]

“bringing a sense of deep emotional spiritual peace, instrument and instrumentalist become one”

[participant: Ni]

Psychological states of being induced by the instruments begin to emerge and emphasise similar emotional conditions among participants. These encouraging emotional states can be experienced individually and in a group and these experiences reinforce aspects of the

sound-sculptures mirror effect by “*synchronization*” [Participant Dah] and cause the “*instrument and instrumentalist to become one.*” During the creative processes it dissipates thoughts and uncovers the deeper parts of self that are not often verbalized. These experiences confirm pang sound-sculptures are not only percussion instruments but a mirror of human beings that can be stimulated and sound as a holistic instrument.

Emergent Theme c: “they reflect our inner world”

~ *Reflective tools* ~

All participants reported comprehending experiences that emphasised the instruments were intentional reflective devices. At the most basic level as an extension of self, instruments that provide a lens through which internal observations reflect psychological states of being that can be understood and interpreted by participants. These reports indicate further sound-sculpture attributes; abilities to create reflective conscious awareness and support honest self-expression. Effectively, the instruments are mirroring on a physiological level, the lenticular shape of the human eye and seeing ways of coming to know and understand oneself through the lens of Pang music, which concludes with being able to successfully give personal insights and bring about musical and psychological self-development.

“every touch provokes a sound a noise that’s part of the mirror-function, if you listen and observe yourself, you can draw a lot of conclusions on yourself and others”

[participant: Sa]

“it must be able to reflect our feelings and state of mind, the intimate conversation with oneself”

[participant: Re]

“most of all they reflect our inner world, our feelings, our state of mind, our fears, our wishes”

[participant: Ga]

“reflects the energy we radiate and what I am experiencing internally”

[participant: Ma]

“it’s an extension and expression of your-self”

[participant: Pa]

“they reflect parts of myself I can’t see, allow the instruments to be a tool to look inside”

[participant: Dah]

“reflects the essence of the instrumentalist”

[participant: Ni]

These phenomena were reported as other elements of “*the mirror function*” by Participant Sa which emerged as another expression that encapsulates the purpose of the instruments’ goals, being able to open the senses and provide personal and group insights. These points suggest that music can be regarded as a means of expression that not only reflects states of being, but especially gives clear insightful understanding to psychological processes and a musical voice to express it. The indispensable qualities of the sound-sculptures require a relational exchange of giving and receiving. This enables participants to gain insights into the instruments’ function and receive insights into themselves. Their self-presentation is directly uncovered through participation, in a way that enables participants to become fully aware of their subconscious thoughts and feelings through mirroring.

Superordinate Theme: “the mirror effect”

~ *Tuning-self* ~

All participants reported on the function of the instruments as mirrors, uncovering further comparisons of internal processes and external expressions. The sound-sculptures have an ability to put musicians intimately and honestly in touch with themselves with great ease. These reports indicate direct reflections of further psychological states. Effectively, this is mirroring instrumental and acoustical characteristics that can touch the soul or the deeper spiritual part of humans directly and intend to restore harmony between the internal (psychological) and the external (social) worlds of the participants.

“they are mirrors because they show you what you are”

[participant: Sa]

“everything we express inside is explosively reflected outside, the mirror effect”

[participant: Re]

“of course, they are mirrors, the most subtle, realistic and sincere ones. Sometimes cruel, but always truthful”

[participant: Ga]

“they mirror what I’m experiencing internally”

[participant: Ma]

“mirrors of the most beautiful expression of yourself”

[participant: Pa]

“allows the player to see what is happening emotionally, hidden covered feelings are temporally disarmed”

[participant: Dah]

“a mirror of the soul, perhaps easier than some other instruments to interpret, mood, feelings, inner energy, spiritual well-being emotional and mental health”

[participant: Ni]

“everything we express inside is explosively reflected outside, the mirror effect” [Participant Re], sums up the main intention of pang sound-sculptures and makes claim to framing the phenomena as “the mirror effect”, which all participants reported in their own words and is summed up by Participant Ni *“a mirror of the soul, mood, feelings, inner energy, spiritual well-being emotional and mental health”*. The ‘mirror effect’ extracts the metaphysical aesthetics of pang music, as well as educates and facilitates the metaphysical expression of self. Consequently, the creative process of tuning the sound-sculptures mirrors the main objective of pang play. Participants can self-tune the soul securely embedded within their internal and external realities and go on a holistic journey of self-discovery and healing, which is mirroring the truth about self and potentially mirroring other social realities. The ‘mirror effect’ is reported in this theme as a process of psychological and physiological expression through music and fine tuning of self. This naturally, results in a more harmonious and healthy way of being in society and inclusive ways of creating music together.

Summary

Hang refers to any of the pang composite instruments and participants reported playing various PANArt sound-sculptures, either as an individual or in a collective group. The themes link together in a way that intimately relates the main characteristics of the instruments and musical experiences to the superordinate theme that participants experienced throughout, *‘the mirror effect’ (Figure 6)*. Which to summarise, is a sequence of accessible musical

experiences that improves health and well-being and reflects personal social and cultural conditions. Accessibility and freedom from music theories are foundational as they invite improvisation and simultaneously open up the instruments and the participants. It draws participants into the aesthetics of the music and the phases of more complex holistic musical experiences. The musical experiences are categorised and guided by the theme's subtitles experienced by the participants and combined with my interpretive sense of what is being mirrored or reflected in the experiences.

Accessible (b) Liberating (c) Aesthetic (d) Holistic (e) Reflective (f) Tuning-self

To summarise, the subtitles the following points briefly describe the nature of these experiences:

- Immediate and easy access to freeing experiences that are aesthetically satisfying and nourish the senses.
- The instruments draw people into a cycle of play that immerses them into musical phases that helps process and understand existing psychological states and discover new ones of a metaphysical healing nature, feeling emotionally better after playing than before.
- The instruments draw attention to other external facets of social sound-sculpture. Through mirroring a mass consumerist spectator society taught to download digitally compressed music rather than actively participate
- Societies that are underdeveloped musically because of boundaries and limitations that western musical traditions hold
- Pang instruments mirror the need for personal peace and healing in an age of intense pressure and anxiety.

These people friendly instruments offer opportunities to discover personal musical treasure, (innate musician) which is in itself a healing experience and a reclaiming or rediscovering of music and musician. Figure 7 illustrates the 'mirror effect' which was an evolved drawing from my reflective notes (appendix 9).

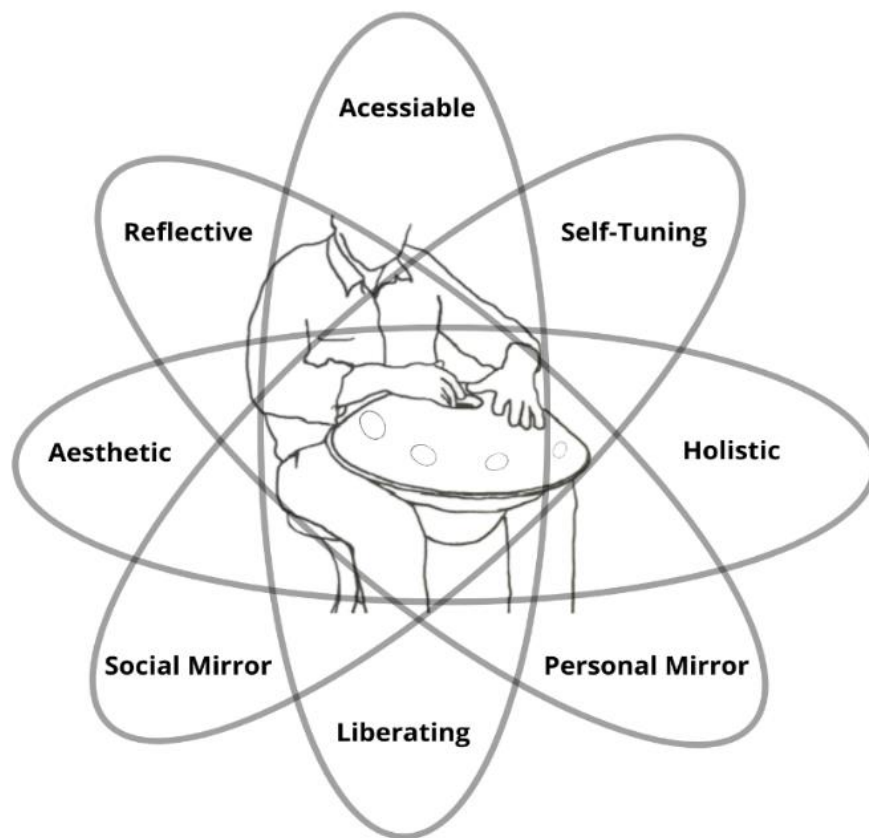


Figure 7

Discussion

Introduction

The aim of this research was to understand and interpret seven musicians' experiences of the PANArt phenomenon 'we build instruments which are in a sense mirrors' (Rohner and Scharer, 2013, p.5). According to the literature review this research was the first to formally investigate this topic among musicians and find comparisons for potential uses in music therapy. Generally, the participants' sense of musical exploration and interpretation of these new instruments was inspirational and reflected psychological and cultural considerations valuable for the discussion. The key points arise from acoustical, psychological, and physiological experiences that embody the phenomenon and frame them 'the mirror effect', which was experienced throughout the themes. This is a unique concept that has become helpful for understanding the philosophical and therapeutic underpinnings of pang instruments and their effects. Furthermore, upon reflection, I sensed that participants' experiences, and explanations reflected deeper social constructs, mirroring external cultural forces that have a negative impact on musical and personal development. As the discussion unfolds the personal pronoun 'I' will be used as I engage with the themes explaining my personal reflections and interpretations.

Innate Musicality

Participants bonded with the sound-sculptures quickly and easily, enabling them to develop a relationship with the instruments and find their own inner music. This was especially owing to the instruments' all-inclusive accessibility and aesthetic properties that were foundational to 'the mirror effect' (Cohen, 2017; Grocke and Moe, 2015; Pun, 2011; Loth, 2006). However, although music is an everyday social phenomenon, naturally communicative and can be beneficial for individuals and communities. I can see these themes lead into questioning music's inclusiveness, which is in genuine need of cultural reframing and reinforcing (Rickson, 2010; Malloch and Trevarthen 2009). Child development stages have a natural musicality that is usually developed between the child and the main care giver. And as we grow and mature into different life stages, our inborn gift for musical expression is often channeled into western ideas of music and musician, resulting in a separation between the gifted and the not so gifted. Therefore, we grow up with western ideas of music and musician that are far removed from the inclusive concepts that other cultures encourage (Blacking 200; Lee, 2016; Loth 2006; Moreno, 1998). Upon reflection, I can see that this misconception is reflected strongly in the first two themes, and thus highlights a negative force in society and a cultural illusion that we grow into and accept about 'who can make music and who is a musician'. This is a negative cultural condition, that I can see in these initial themes that PANArt have tackled, through connecting participants to their people friendly sound-sculptures and their universal playability. Furthermore,

reflecting upon this theme in the early stages I sense this is where a music therapist's professional and social stance can be vital for addressing these socially conditioned musical disadvantages and help reframe and reshape our musical education, development, and culture. This is because a music therapist's work can build bridges for sharing and including world music ideas and accessible music making concepts, underpinned with scientific theories and evidence-based practice culturally relevant to individuals and music therapists (Aigen, 2014; Bunt and Stige, 2014; Stige, 2010; Pavlicevic and Ansdell, 2004). These ways of working musically can help reshape, reform, and re-educate from the early developmental stages of life through the whole life span.

Free Improvisation

Free improvisation also forms the foundational stages of 'the mirror effect'. The ability to compose quickly and improvise was a liberating experience for the participants. I could see how this simultaneously challenged their musical knowhow and yet at the same time instilled confidence and trust in new musical exploration, which is promising for use with active music therapy techniques. On reflection about liberation, these early themes begin to move into strong ideas about the nature of improvisation. Since its early development, improvisation has become the daily bread for the way many music therapists work. They can create a holding and containing atmosphere where the therapeutic process can be cultivated through free improvisation, almost identical to participants' experiences (Wigram, 2017; Bunt and Hoskyns, 2002). Furthermore, as I continued to explore accessibility and liberation, this moves deeper into improvisation ideas, which have long been around in western music traditions. For example, Jazz music, yet it can be restrictive due to rules and can be ignored in music education and training. Nevertheless, improvisation belongs to all of us and not just for the advanced few (Bailey, 1992; Pressing, 1998 cited by Odena, 2012; Wigram, 2004). This is something that has been made available by PANArt in a very musically rich, non-biased all-inclusive way.

Further reflecting on improvisation, interestingly, has a fervent presence in ethnomusicological therapy traditions. It facilitates playful and social interaction and can produce altered states of consciousness of a transformational nature, depending on the type of instruments used, very similar to participants' experiences (Pun, 2011; Aldridge and Fachner, 2006; Loth 2006; Rudd, 1998). These ideas then begin to merge and start revealing further healing aspects reflected in the later themes. Human beings absorb vibrational sounds produced by idiophone instruments, as the music is processed it can stimulate sensory perceptions and reactions that can result in positive short-term or long-term changes. Free improvisation has proven to be an essential element of pang social sound-sculptures and combined with its unique vibrational characteristics, it enables participants to let go and encourages them to take ownership of the sound and therefore discover its therapeutic pathways. I could see that the only sense of restriction was self-doubts and

fears, which I sensed were influenced by previous and limiting music making experiences. However, these psychological and physiological drawbacks were soon dissolved, once participants were engaged with the instruments; therapeutic musicality was at the fingertips.

Sound Bath

Once participants were attracted to the immediate playability they were simultaneously absorbed into the vibrational textures, melodies, deep pulses, and rhythms of pang music, which was intensified in collective play. These elements are further prominent features in ethnomusicological therapy, holistic healing traditions (Rohner and Scharer 2013, 2007; Fachner, 2007; Loth, 2006; Rossing, Yoo and Morrison, 2004). Rohner (2020) goes on to point out that the PANArt tuners are energy experts; whose instruments intend to open the senses and stimulate people. This then moves into one of the unmistakable features of pang, the highly sensitive resonating percussion instruments form a unified social-sound sculpture, where I could see in the emerging themes participants were able to find their musical voice and sound together in a reflective healing experience. These are inherent facets of the holistic and aesthetic qualities woven into the overall musical experience that produces ‘the mirror effect’. These ideas then, begin to move into group work, and resonate with group music therapy perspectives, as active and receptive participation is made accessible, encouraged, and supported (Cohen, 2017; Bunt and Stige, 2014; Bruscia, 1998). This is how the music therapist can tap into the innate musician and facilitate its awakening and nurture growth with the aim at reaching therapeutic goals within the musical and therapeutic relationship, quite easily possible in a unique way with pang instruments.

Ethnomusicological Therapy

Given that, these healing experiences among participants were aesthetically and emotionally rich, I could see that these type of reactions can be effortlessly self-induced and can form the basis for receptive and active music therapy techniques (Thaut and Wheeler, 2010 cited in Juslin and Sloboda, 2011; Aigen, 2005; Bonny and Summer, 2002; Bunt and Pavlicevic, 2001). Furthermore, this moves into the area of clinical training ideas. On reflection of these areas, I can understand that a highly trained music therapist, combined with an authentic immersion into the musical heritage of PANArt, has a definite advantage for utilising and understanding the instruments’ potentials. I could see that the reason for this is not only due to the acoustical and aesthetic properties of the instruments, but to some extent it could be challenging for other music therapists to facilitate such experiences. This is due to the apparent lack of music therapy rooted in the study of musical process and instruments from different cultures; and music therapists’ ability to integrate different styles

of world music in theory and practice (Lee, 2016; Lee and Houde, 2011; Chase, 2003; Moreno, 199). There is a developing interest in the use of other world musics, and in music therapy an improvement as trainers become aware of the issue. Chase's (2003) review of the topic suggests a need for more research and clinical training for those practitioners interested in multicultural ethnomusicological therapy traditions, and also supported by others (Mahoney, 2015; Berman, 2015). Upon reflection these themes not only highlighted similarities with ethnomusicological therapy but highlighted that this developing area in clinical music therapy could benefit from further dialogue and collaboration to enable its growth and sensitive integration into training and practice. This highlights there is a potential danger of losing out on the power of other music due to views substantially rooted in western biomedical and psychotherapeutic principles (Edwards, 2016; Koen, *et al*, 2008).

Hidden Places

It can be argued that any instrument is an extension of the person playing it and the sounds and music they produce are reflections of self; many advanced musicians even share the concept that the instrument becomes a part of them (Nijs, 2017). However, I could see that unlike PANArt sound-sculptures, instruments are not usually created as intentional 'mirrors' and they also take time to learn and master to gain peak experiences. Peak musical experiences are like participants experienced, for example, altered states of consciousness, deep relaxation or euphoria that has positive long-term effects and can help keep people engaged in making music (Gabrielsson, *et al* 2016). This is an advantage of the pang, reflected in the early themes, on one hand easy to merge with the instrument and on the other, it makes peak experiences accessible. Participants experienced this, accompanied by the instruments' friendly playability that fostered a sense of trust and confidence, thus enabling being abandoning to the creative process and allowing the instruments to master themselves (rather than trying to master an instrument), within the more complex therapeutic sound-world; intentional self-tuning tools that "throws light on hidden corners" (Ronher and Sharer 2013, p.5). From participants' experiences, these themes begin to move into the more reflective areas of hidden corners, which are the deeper parts of the psyche that I could see are often difficult to perceive and understand, a complex network of memories and emotions buried deep in-side the subconscious that were accessed and soothed through music (Aldridge and Fachner, 2006). These approaches bear further similarities to ethnomusicological therapy healing traditions that treat mind, body and spirit within a threefold therapeutic relationship between the client, the therapist and the instruments (Fachner, 2007; Ubaldo and Hintjens, 2020; Moreno, 1995; Moreno, 1998). Upon reflection, I could see that these ideas were valuable to the experience of the participants and go on to 'mirror' the philosophical and therapeutic function of pang instruments.

In Music Therapy

Over the last several years the scientific research of music's physiological, neurological, and psychological effects has helped us understand its therapeutic role in our lives, societies, and cultures, (Hallam and Thaut, 2018; Edwards, 2016; Juslin and Sloboda, 2011; Blacking, 2000). It is apparent through participants' experiences reflected in the all the themes, that the social sound-sculpture pang can combine both 'music for its means of interaction and self-expression within a therapeutic relationship and its inherent restorative or healing qualities', usually music therapy situates itself in either one of the two, (Smith and Patey, 2003, p.8). The whole experience especially the aesthetic, reflective and holistic aspects are an immersive cycle of 'the mirror effect', which plunges participants into a sound-bath where they experienced multiple resonances of the instruments' healing effects. This revealed a metaphysical characteristic of the instruments that put participants into the transcendent nature of music whilst keeping them safely grounded. Music, that I could see, not only 'mirrors inner states' but provides a necessary means of self-expression and transformation of current realities. Due to the ethnomusicological therapeutic nature of the instruments, it leads into a valuable music therapy perspective. I could see that the therapeutic process can be compared to being held in a secure base with transitional objects, (instruments that ground and can be used for providing psychological security to transition towards therapeutic goals) initiating rhythmical and tonal grounding and containing (being held and safely anchored by the music) whilst mirroring, matching, and dialoguing (attuning to self and one another and communicating through musical experiences) (Winnicott, 2005; Wigram, 2004). These particular musical functions of the pang orchestra would naturally be at home working in different approaches and perspectives of music centered models of aesthetic, receptive, creative, community and psychoanalytic music therapy (Lee 2016; Priestley, 2012; Nordoff *et al* 2007; Pavlicevic and Ansdell 2004; Bonny and Summer 2002). This could function as a way of facilitating musical experiences of the pangs 'mirror effect' and applying it to professional clinical music therapy. I could see that the knowledge of psychological and biomedical music therapy practice combined with ethnomusicological therapy concepts can create a therapeutic framework. This can provide a way for people to participate in active and receptive ethnomusicological music therapy, with pang instruments. This is an opportunity for a safe framework where people can experience themselves and others within the context of the 'mirror effect' in music therapy. Additionally, although participants did not report any negative experiences, good music therapy practice with these instruments would be giving attention to the emotional and psychological regulation of clients. As immersion into music and using instruments to match emotional states could prompt difficult emotional experiences or invoke painful memories they may not be ready for or need sensitive support to help work through them (Gebhardt *et al*, 2018; Jaakko 2009; Bodner and Gilboa 2006).

Mirrors and Attunement

Notably, this then indicates that the instrument's accessibility can be a healing experience for a non-musician or an inexperienced novice. It is ideal for someone who wants to access a music therapy service and play an instrument yet does not have any musical experience. Since music therapy is more concerned about musical experiences used to reach a therapeutic goal in a relationship, it is not the focus of musical expertise or knowledge. Therefore, accessing instruments that give you the ability to immediately compose can help attune you in the music. These themes move into an honest reflection of how certain instruments and their music can be deciding influences that either encourage or suppress undeveloped musical interaction and ability (Blacking, 2000). Furthermore, reflecting on these themes I could see that PANArt intuitively adopts and supports the view of: we all have an innate musician within us; the pang orchestra as a 'compact mirror of society'; and 'music as a social mirror' (Taruskin, 2006, page number not available). This is reflecting musical equality in diversity that combines ancient traditions of music making and healing, whilst being a leading example of taking art, culture, society, and music therapy forward. On reflection, I sensed according to participants' experiences, pang music reveals itself as a social mirror, reflecting societies and cultures out of harmony with themselves and profoundly affected by dis-ease and musical elitism.

This leads into Stern's (2010) ideas of attunement at play, and helped participants attune themselves to an improved emotional state with a positive outlook on their musicianship, as compared with their previous states of being and musical thinking. I could see that this was experienced through accessibility, auditory reception, and absorption of the music into the senses, which created clear self-reflection and expression. Likewise, I could see that the reflective and self-tuning aspects of 'the mirror effect' also resonates via the tuner who is absorbed in the hammer blows, sculpting the sheet metal pang, and creating a sonorous melodic vessel. Harking, is the pang tuner's daily bread (Rhoner and Scharer, 2007), and imparted to participants who experience it as a creative and meditative process of improvised self-tuning. This creative process is a sculpting of the mind and soul into a more harmonised and peaceful way of being.

The Mirror Effect

Therefore, 'the mirror effect' as experienced as the overall superordinate theme that could be felt throughout the whole musical experiences, indicates that the art form pang is as much about empowering transformational health and well-being through potential uses of ethnomusicological therapy and clinical music therapy methods as it is about playing an instrument for the sake of enjoyment. Participants had access to a wide musical landscape of almost infinite rhythmical and tonal possibilities (Rhoner and Scharer 2019), in which an orchestra of pulsating bass, percussion, melody, and harmony with rich aesthetics can be

played either alone or in a group. It emerges that these aesthetic qualities are essential for stimulating the process of 'the mirror effect'. Which, to summarise, is a sequence of accessible musical experiences that improves health and well-being and reflects personal social and cultural conditions. Indeed, the instruments are mirrors of the mind, body, and soul: they reflect interior and exterior. These musical experiences can potentially be explored and expressed within the framework of ethnomusicological therapy and clinical music therapy practices.

Conclusion

The inspiring qualities of PANArt instruments and the musical experiences they offer are aligned with multidisciplinary approaches to music, health, and healing. At its heart, music within the therapeutic relationship and music for its healing qualities are at play. Reflective and active participation creates interesting work for the music therapist that bears a cohesive attunement to ethnomusicological therapy and clinical music therapy, embodied, and experienced as 'the mirror effect'. This reflects both positive and negative forces in a person, society, and culture, music therapy training and practice. These forces can profoundly influence personal, musical, and professional development. The research has begun to investigate an important musical and psychological topic that offers valuable insights for the effective use and applications of pang instruments in music therapy.

Limitations and Recommendations

The research has initiated the beginning stages of investigation on the topic of pang instruments as mirrors and has provided rich enough data to get underway. Although the depth and breadth of experiences have usefully embodied and framed the subject, I recognise further in-depth attention could be given beyond the purposive sample, from among a larger population group. Therefore, since the subject has now been opened for discussion and debate, it would be beneficial to offer the wider international community of pang musicians an opportunity to participate in further research on the same topic. Compliant with IPA, this could include a refined questionnaire and survey groups of up to 20 participants (Braun and Clarke, 2013, p.50). Alternatively, Grounded Theory could be a useful methodology for investigating the inception of 'the mirror effect' and its development into a theory. Small focus groups on different populations could be another useful option for either methods or hands-on with small groups of university music therapy students. Further research could generate advanced insights that could present deeper understandings as a way of highlighting effective applications influenced by ethnomusicological therapy in clinical music therapy practice and training.

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