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Exploring Self-Concept and Emotional Regulation Through Music Technology: An Autoethnographic Study and Literature Review

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Abstract

This autoethnography delves into the transformative potential of creative engagement, particularly through the lens of music technology, in shaping self-concept and emotional regulation. This study will also demonstrate how music technology makes it easy to facilitate hip hop therapy. Drawing on personal experiences and scholarly inquiry, the research explores the intersection of creativity and technology. Central to the study is the examination of various music technologies, including loop stations like the RC-505, digital audio workstations (DAWs) such as Logic Pro X, and Musical Instrument Digital Interface (MIDI) keyboards, as facilitators of creative expression and attunement. The research underscores the overarching principle that music technology serves as a conduit for inner balance and full engagement in creative experience. Informed by autoethnographic methods, the study intertwines personal reflections with theoretical insights, illuminating the lived experience of creative practice in the digital age. By examining my subjective experiences as I navigate various music technologies and creative processes, the research offers a nuanced understanding of how technology shapes and amplifies emotional expression and self-concept. This autoethnography advocates for the continued exploration and integration of music technology in personal and therapeutic practices, highlighting its potential to foster inner balance, connectivity, and creative expression. Through autoethnographic inquiry, the research invites readers to reflect on their own experiences with technology-mediated creativity and its implications for personal growth and well-being.

Keywords: Music technology, self-concept, emotional regulation, music therapy, hip hop therapy

Exploring Self-Concept and Emotional Regulation Through Music Technology: An Autoethnographic Study and Literature Review

I've noticed that putting my thoughts and feelings into a recorded format created moments in time as well as reverberations throughout my life that did not exist for me through any other medium. By using my RC-505, an intuitive multi-track looping recorder, and other music technology such as a MIDI keyboard, an electric guitar, a microphone, digital multi-effect guitar pedal, and digital audio workstation on my computer, I've been able to capture hundreds of musical journals every year. I share some musical tracks I created over nine weeks and my reflections on how the process has impacted my self-concept and emotional regulation.

In terms of my identity, I was born in the United States of America to a white American mother and an Indian father. I grew up without learning anything about Indian culture as my father had left when I was two years old. My stepfather, a Jordanian man was my paternal influence as a child. I traveled to Jordan when I was 9 years old and learned Arabic as well as assimilated to Arab Muslim culture, but I returned to the US when I was 12 years old upon my mother and stepfather's divorce. While my background is complex and multicultural, I still have the privilege of being white-passing in a society that largely rewards white presenting persons. I'm also a heterosexual, cisgender male, which provides numerous other benefits and spares me from many challenges and difficulties that those who are not often endure. I grew up with low-income parents and in low-income environments which provided a backdrop for many difficulties and struggles which negatively impacted my self-concept and self-esteem. I often felt misunderstood in my life, and music provided me with an avenue to express myself that was unlike any other. The level of focus and dedication along with the emotional and psychological

externalization I was able to achieve with music often provided me with moments of catharsis. It also allowed me to practice new skills and document my musical ideas which had a positive impact on my self-concept. Music technology allowed me to capture performance, to alter sounds, to adjust levels like bass, treble, volume, pitch, and audio direction (left to right).

My relationship with music technology began all the way in 1999 when someone gifted me a dual tape-recording stereo system. I was fascinated by the simple ability to record the radio and play back the song whenever I wanted. Later, I began to create mixes by recording one tape and selectively playing another as the system allowed for recording on both tapes. Around the same time, I began playing a game on *PlayStation One* called *MTV Music Generator*. This game was essentially a user-friendly digital audio workstation. It allowed me to input notes and beats individually, and this provided me with a platform through which to compose original music tracks. I couldn't believe how lucky I was to create music by playing on a video game controller. Little did I know that these skills would provide a foundation for the rest of my musical life. Music technology allowed me to capture self-expression and manifest it into a physical form, as music is simply sound waves, and provides me with an artifact and material to listen back to, reflect on, and share with others. Sharing allows me to feel witnessed in person by showing friends and family my audio recordings, and I'm able to feel witnessed by sharing it online and gathering likes, views, and comments which validate the work.

I've also greatly benefitted from using a looping machine called the RC-505 by Boss. This device allows users to instantly record any form of audio and then loop it. It has 5 tracks which allow users to do this, and it also allows users to dub over a track they've already recorded. For example, I can choose to begin by recording high hats on 1 of the 5 tracks, then I

can record kick drums on that same first track, and snares which will provide the drumbeat/rhythm for the song. I can then record a guitar rhythm on the second track which I can stop or play at any time. I could choose to record multiple vocal harmonies on one track or I could record them individually so that I can control the volume and playback of each vocal track independently. The possibilities are truly endless.

It's worth noting that I have absolutely no musical training in any category. All my skills were developed through deep interest, intuition, and by trying to replicate music I loved. I would argue that this amateur approach helps broaden implications of the study such that no formal musical training is required to reap the benefits.

In my research, I've found there is some literature on the use of music technology in a therapeutic context, but the emphasis was often on improving accessibility for individuals with disabilities. While that is an essential and useful topic, I believe it's worthwhile to talk about the benefits of music technology in relation to self-concept and emotional regulation. I researched using a variety of keywords and phrases such as "music technology and therapy," "recording in therapy," "music technology and emotional regulation," "music technology and self-concept," and "music technology and mental health."

Literature Review

In this literature review, I delve into the transformative power of music technology within therapeutic settings, focusing on the concepts of attunement, entrainment, flow, and the unique role of hip-hop therapy (HHT). The review explores how music technology, particularly devices like the RC-505, facilitates deep listening, kinesthetic awareness, and a profound connection to music, enabling users to experience and express their inner selves more fully. This technological

empowerment extends to the realm of hip-hop therapy, where beat-making and lyrical expression offer avenues for re-authoring personal narratives and fostering a sense of identity and community. The discussion further elaborates on how Digital Audio Workstations (DAWs) and Electronic Musical Performance Instruments (EMPIs) serve as vital tools for self-expression, allowing individuals to navigate their emotional landscapes and engage in therapeutic processes. Through this exploration, the review highlights the significant role of music technology in enhancing therapeutic outcomes, promoting self-exploration, and facilitating personal growth and healing.

Attunement, Entrainment, and Flow

Before jumping into the literature itself, I would like to do a quick overview of some key concepts. When I consider what music technology enables me to do, the first concepts that come to mind are attunement, entrainment, and flow. Attunement refers to the process of becoming harmoniously aligned or in sync with something. In various contexts, it can mean adjusting or fine-tuning to achieve a more effective or harmonious state. It's about responsiveness and a state of being aware, receptive, and adaptive to the surrounding environment or a particular stimulus. Entrainment is a phenomenon where independent systems synchronize their rhythm due to interaction. While it's often discussed in the context of biological or physical systems, it can broadly refer to any process where one system falls into step with another. This concept can be seen in various disciplines, including physics, biology, and even social sciences, where individuals or groups might sync up in behavior or thought patterns. The concept of flow describes a state of optimal experience characterized by a deep focus, full engagement, and enjoyment in an activity. It’s a state where people are so absorbed in what they’re doing that

other distractions or the sense of time fades away. I have found music technology to be an ideal catalyst for experiencing these states as it helps remove barriers to experiencing attunement, embodiment, and flow. The Boss RC-505 is particularly useful as it allows me to simply record and play back on it. Older music technologies may not be quite as helpful as they at times complicate things and provide too many options to consider at once. One could look at 1960's engineering studios with hundreds of buttons and switches to understand what I mean. Music technology can help with attunement as self-expression is repeated back in a rhythmic loop which then engages the senses by vibrating one's eardrum and creating consistent predictability. This process can also help one achieve a sense of flow. Kossak (2009) stated:

> Therapeutic attunement can be viewed as being based on an embodied awareness of rhythmic flow, and on mutual connections that occur when there is an intense process of deep listening, kinesthetic awareness, and deep attention to what is occurring in the moment (p. 15).

Kossak (2009) later mentioned that this process "will naturally be a shift away from my normal daily mental activity and toward a more focused inner presence" (p. 15).

Going deeper, I asked myself what exactly makes a looping function, one of the most fundamental music technologies, so useful for music creation? I would argue that the seamless operation and ability to quickly record any sound provides an ideal platform for improvisation. According to Kossak (2009) "research on the effects of rhythmic synchronization through drumming and improvisational music has demonstrated marked shifts in psychological and somatic consciousness." (p. 16) Both Freud (1930) and Jung (1989) have emphasized the usefulness of free association and artistic improvisation. Musical loops provide a container for

those activities. The term container in this context refers to the way looping creates a structured, predictable space for emotional expression and exploration. Just as a physical container holds objects, a musical loop holds sounds and phrases, allowing individuals to fill it with emotional and musical expressions. This containment can offer a sense of safety and boundary, within which individuals feel free to explore their feelings and thoughts through music.

Hip Hop Therapy

Hip hop has been a mainstream and often chart-topping genre for decades. Despite it being one of the most popular genres in the world, the far-reaching reverberations of hip hop as a form of therapy are lesser known to the general public; most people participate as consumers rather than creators. Hip Hop Therapy (HHT) research experienced a boom in the 1990s as social workers and therapy researchers recognized the immense power of the modality. Researchers have acknowledged that HHT provides a platform that feels "bigger than the mundaneness of everyday life" and can facilitate "spiritual catharsis." (Sulé, 2016 p. 190)

Inherently, HHT involves music technology. This is because the most fundamental aspect of hip hop, as well as many other genres, is the beat. Also referred to as the pulse, the beat provides "predictability via the temporal distance between each acoustic event." (Thaut, 2014, p.25) In the 1970s when the first examples of hip hop came to fruition, hip hop was one of the first genres to center music technology and is considered by many to be a field that calls for a self-taught style of learning (Crooke, 2018). Thus, software like Logic Pro X and hardware like the BOSS RC-505 are invaluable tools for facilitating hip hop therapy. Not only do they provide the functionality needed to record and play back audio, but they also remove obstacles by making it straightforward and simple to get a beat going. One study that employed therapeutic

beat making and hip-hop empowerment on pre-teens and teenagers found notable benefits, including reduced anxiety and depression scores. (Travis, 2019). Their research also noted increased positive youth development scores on the subconstructs of competence, confidence, sense of community, engaged citizenship and character.

A study by Viega (2013) suggested that employing music technology in therapy allows clients to develop as emerging musical artists, with therapists serving in roles similar to record producers in the hip-hop genre. This dynamic enhances client engagement, fostering empowerment and potential realization. This approach effectively supports clients in constructing their musical identities, encapsulating their personal experiences and emotions within their creative outputs (Viega, 2013).

Hip hop is also well-suited as an expressive arts therapy intervention for re-authoring (Heath & Arroyo, 2014). According to Heath and Arroyo, reauthoring in a therapeutic context refers to a narrative therapy process where individuals are encouraged to reframe and reinterpret their life stories. This shifts their perspective on past events to foster a more empowering and positive self-narrative. This approach helps individuals to detach from dominant, often negative, stories they've told about their lives. It enables them to rewrite their personal narratives in a way that acknowledges their strengths, values, and the complexity of their experiences. Through reauthoring, people can change how they view themselves and their life events, leading to enhanced self-esteem, agency, and a more nuanced understanding of their identity and experiences. As Heath and Arroyo pointed out, HHT is a way to facilitate reauthoring by allowing participants to articulate their experiences, struggles, and aspirations through music and lyrics. By engaging in hip hop culture's storytelling and lyrical expression, patients can confront

and reframe negative experiences or perceptions, fostering a sense of agency and empowerment. In essence, re-authoring in HHT empowers individuals to tell their stories in new ways, promoting healing, growth, and change through the powerful medium of hip hop.

Music Technology in Therapeutic Settings

In my exploration of music technology's therapeutic potential, I delved into how Digital Audio Workstations (DAWs) and Electronic Musical Performance Instruments (EMPIs) facilitate emotional expression and healing. This section reflects on the transformative capabilities of these tools, integrating personal insights with scholarly research.

DAWs, as I've discovered, are not just technical resources; they are gateways to emotional landscapes. These platforms have evolved from simple recording tools into comprehensive environments where users can manipulate sound, layer melodies, and craft complex compositions (Crooke, 2018). My personal journey echoes the scholarly perspective that DAWs extend beyond mere music creation—they are instruments of emotional articulation, allowing users like me to weave intricate emotional narratives through sound (Roberts, 2006; Sadovnik, 2014; Weissberger, 2014).

Engaging with DAWs, I've felt a direct connection between my inner turmoil and the music I create. This experience is supported by literature suggesting that DAWs offer a unique space for emotional processing, where the act of music creation becomes a form of self-reflection and therapy (Sadovnik, 2014).

Turning to EMPIs, I've noted their capacity to transform the music-making experience into a tactile and intuitive process. The literature corroborates my experiences, highlighting how

EMPIs like MIDI controllers and performance pads introduce a physical dimension to digital music creation, fostering a more intimate and expressive interaction with music (Crooke, 2018).

The therapeutic value of EMPIs is particularly noteworthy. They democratize music creation, enabling individuals with varied musical backgrounds to engage in sophisticated music-making (Crooke, 2018). My personal encounters resonate with studies that emphasize EMPIs' role in empowering users, offering them a sense of achievement and artistic identity.

In the literature, EMPIs are celebrated not just for their functionality but for their ability to imbue music creation with a sense of immediacy and presence, allowing users to essentially perform their emotions in real-time (Crooke, 2018). Music technology can motivate engagement in therapy and daily activities. Musical interfaces are also potentially applicable in routine and social tasks. According to Crooke, the modern and relevant nature of EMPI assists individuals in repairing and reconstructing their self-identity within contemporary cultural and social contexts. The integration of technology in music therapy and expressive arts therapy not only broadens access but also enhances the potential for clients to achieve a comprehensive sense of self, providing significant meaning and motivation in their lives (Crooke & McFerran, 2019).

Magee and Burland (2008) explored the use of electronic music technology (EMT) employed by music therapists and provided additional insights into the use of music technology in therapeutic settings. The study collected data through in-depth interviews with six experienced music therapists, focusing on their use of EMTs in clinical settings. Analysis involved rigorous coding methods, including member checking and theoretical sampling, ensuring credibility and capturing diverse practices in EMT-based music therapy. They discovered that by enabling music creation independently or collaboratively, EMTs support identity formation through social

encounters and shared musical experiences. Another finding from this study was that the modern and relevant nature of EMTs assists individuals in repairing and reconstructing their self-identity within contemporary cultural and social contexts, and they can motivate engagement in therapy and daily activities, with musical interfaces potentially applicable in routine and social tasks. Utilizing a technology-based approach in expressive arts therapy can be particularly beneficial for patients who experience intense anxiety when expected to produce music on the spot.

Another fascinating study in which the researcher used music technology to help clients write, record, and then have a CD release party was in Silverman's study (2022). The CD party was a celebratory event where participants and others involved in the study came together to listen to the songs that were created during the project. The study maintained ethical standards by obtaining informed consent, conducting voluntary interviews in a familiar setting, and ensuring participant confidentiality. Thematic analysis was employed to derive codes directly from participant narratives, and feedback from a peer-reviewed music therapist enhanced the trustworthiness of the findings. The results showed that clients enjoyed the recording process, wanted to deliver a positive message with their song, and anticipated future songwriting. The clients also experienced pride, elevated mood, self-expression, and ultimately, accomplishment. The CD release party was also a positive experience for them. One client said, "it did help my self-esteem…and I just think that anything like this that's creative, it helps you when you're depressed and nervous about things" (Silverman, 2023, p. 5).

A study which provided adolescents with mobile music technology found that clients felt able to express their feelings more precisely by creating their own music as opposed to listening to music on Spotify. Eusterbrock (2023) found that music-making with these technologies can

function as self-care for clients, particularly when they consider music to be part of their identity. The study involved nine musicians with diverse backgrounds and musical genres, conducting 2-4 field visits over three years in various settings such as homes, studios, and concerts. Clients in this study found music-making to be a way to access and regulate their emotions. The participants found that music-making put them in charge of their own outcomes in a playful way that also allowed them to feel a sense of accomplishment. The author noted, "they may feel uplifted by playing music associated with positive emotions, overcome negative emotions by expressing them, or accept emotions by giving space to them" (Eusterbrock, 2023, p. 58). Self-exploration was also a persistent theme amongst the participants. Interestingly, there was quite a variation in terms of how clients used the music technology. Some would want to express the dark feelings they are having in order to accept them while others would want to create positive, upbeat music in order to improve their mood. One client in the study said the music made him feel "not alone but connected to something 'which' keeps me grounded 'and' makes me feel at home" (Eusterbrock, 2023, p. 59). In terms of the self, the researcher concluded, "music-making apps are used for mobile musical technologies of the self, and involve a complex interplay between music, place, and various aspects of the self." (Eusterbrock, 2023, p. 65)

(Kirkland & Nesbitt, 2019) focused on the therapeutic value of recording in music therapy conducted a study where they assessed and evaluated several clients' experiences utilizing music technology to explore and express themselves. The methods were flexible in that they were customized based on the musical desires of each individual client. Working with several clients with differing conditions and goals, the study found that recording was "an

essential therapeutic component to client self-development" (Kirkland & Nesbitt, 2019, p.16). In their conclusion, the researchers said that recording could offer:

> substantial therapeutic, supportive opportunities for methodical listening, planning, self-organization, rehearsal, patience, collaboration, creativity, performance, comprehension, and self-expression, as well as teamwork, reflection, and insight (Kirkland & Nesbitt, 2019, p.16).

Furthermore, the study suggested that recording provides opportunities for clients to "reflect on and recompose their lives" (Kirkland & Nesbitt, 2019, p.16).

Viega (2018) examined the role of digital music technology in fostering agency, expressing selfhood, and voicing personal narratives among songwriters within a therapeutic context. The study investigates how adolescents, particularly those who have experienced trauma and identify with Hip Hop Culture, utilize digital technology in therapeutic songwriting to express agency, selfhood, and stakeholder engagement. Employing qualitative analysis methods, including narrative and thematic analysis of song lyrics and therapist reflections, the study explores the humanistic implications of digital technology in facilitating the creative expression and empowerment of adolescents within therapeutic contexts. The research found that the vast array of sonic textures available through digital music technology enabled songwriters to experience and exert agency, creating a dynamic interplay between the songwriter, the technology, and the music therapist. This agency facilitated the construction of a unique musical identity, as songwriters had the freedom to mix, layer, edit, and shape sounds, thereby embedding aspects of their identity within the music itself. The study highlighted that selfhood was expressed in two distinct ways: through the holistic aesthetic experience of the song and

through the individual sonic textures that comprise the song's entirety. Furthermore, digital vocal manipulation tools allowed songwriters to explore and express new facets of their identity, enhancing their ability to voice their lived experiences and personal narratives. Additionally, the study underscored the potential for digital technology to connect adolescent songwriters with a global community, enabling their music to contribute to broader social narratives around health, trauma, youth culture, and justice, thereby transforming stakeholder engagement with these topics. Viega (2018) stated**:**

> The use of filters, reverberation, delay, compression and bass reduction, and distortion in this study provided songwriters with choices for expressing selfhood. The combination of expressive elements through layering and editing techniques provided opportunities for a sonic picture to emerge of the songwriters. It should be noted that digital technology affords an endless array of possibilities and identity expressions to be shared, since a recording is not static. Therefore, songwriters can always go back and make adjustments depending upon their own development. (p. 156).

He further suggested that the application of these audio effects offered songwriters various avenues to articulate their individuality. Through the process of layering and editing, these artists were able to craft a distinct auditory representation of themselves. Digital technology plays a crucial role here, presenting a limitless spectrum of expressive possibilities, allowing for the continuous evolution and sharing of one's identity, as recordings are inherently dynamic and adaptable.

Active Music Therapy and Mental Health

The reason I chose to include active music therapy as a term in this paper is that music technology opens up countless active music therapy possibilities for clients regardless of their current musical skills. Schneider et al. (2022) compared active and passive music therapy with chronic pain patients and found that there was a significant reduction in anxiety reduction and an increase in perceived motivation. The study defined active music therapy as a combination of music and therapy, where patients actively participate in making music rather than being passively exposed to music. The study reviews active music therapy approaches and presents components for manipulating musical expressiveness and physical engagement, utilizing a technology-based music feedback paradigm to enhance rehabilitation success.

O'Callaghan and Grocke (2009) conducted a study on lyric analysis in music therapy, examining its rationales, methods, and representations. In this method, researchers conducted a grounded theory-informed analysis of lyrics, utilizing a framework developed by O'Callaghan and colleagues, supported by ATLAS/ti software, and verified through qualitative inter-rater reliability. They compared their analysis to a phenomenological approach used in a prior study, examining original lyrics to inform each thematic finding, and selecting their study due to its manageable size and availability of lyrics in the public domain. The research discovered some common experiences during songwriting such as relief, joy, and validation.

Dowlen et al. (2022) highlighted the significant benefits of improvisational music-making for individuals with dementia, demonstrating how it enhanced their creativity and connection to personal memories, others, and their environment). This study employed a multiple-case study design to explore the musical experiences of people living with dementia

within a Music in Mind program, emphasizing choice and agency in music-making. Through video-based observation and video-elicitation interviews, the research delved into the sensory and embodied aspects of participants' experiences, generating a multi-layered dataset for analysis guided by an embodied and sensory approach.

Diaz Abrahan, Justel, and Shifres (2023) conducted a mixed methods study investigating social interactions in younger and older adults during musical improvisation. The study aimed to understand how client-therapist musical interactions within improvisational sessions could influence therapeutic outcomes, particularly in the context of depression. There was a notable positive relationship between the average musical interaction across sessions and client improvement, suggesting that higher interaction with therapists correlated with better therapy outcomes. These findings suggest that active engagement in musical improvisation, characterized by specific interaction patterns, may facilitate emotional processing, and contribute positively to mental health outcomes in therapy. This underscores the potential of improvisation as a therapeutic tool in enhancing client-therapist interaction and fostering clinical improvement.

Travis (2019) stated, “Beat making offers a highly engaging intervention approach; near-instant gratification in the form of aural and visual feedback when using beat making equipment and technology means rapport can be rapidly developed in a fun and interactive way” (p. 749). Taking it even further, the study suggested the possibility of improving one’s self-concept. The dimension of Self-Concept encompasses advantages for both self-esteem and self-efficacy. Self-esteem refers to an individual's perception of themselves in relation to an ideal self-image, while self-efficacy involves a sense of agency, indicating the ability to influence or impact the world.

Fundamentally, beat making presents an avenue for various skills, intelligences, and strengths to be affirmed as competencies.

This literature review on the intersection of music technology, emotional regulation, and self-concept illuminates the profound impact of music technology within therapeutic settings. Through concepts like attunement, entrainment, and flow, music technology facilitates deep emotional engagement and self-expression, enabling individuals to regulate their emotions and cultivate a positive self-concept. Moreover, the review underscores the transformative potential of active music therapy interventions, such as improvisational music-making and hip-hop therapy, in fostering emotional resilience and empowering individuals to construct their narratives. By integrating digital audio workstations, electronic musical performance instruments, and therapeutic beat-making techniques, music technology emerges as a powerful tool for facilitating emotional exploration, personal growth, and healing. This synthesis not only underscores the therapeutic value of music technology but also highlights its capacity to enhance emotional regulation and shape individuals' perceptions of themselves, ultimately contributing to holistic well-being and empowerment.

Methods

In this study, I employed an autoethnographic approach to explore the intricate relationship between self-concept, emotional regulation, and music technology. I intertwined my personal narrative with scholarly inquiry to elucidate my lived experience within a particular cultural context. I serve as both the subject and the analyst, drawing on my personal experiences and reflections to generate insights into the research topic.

The methodology is informed by the premise that autoethnography offers a unique lens through which to investigate complex phenomena citation, such as the interplay between creativity and technology. By centering my lived experiences within the research process, autoethnography allows for a deep exploration of subjective perspectives and emotional realities, thereby enriching an understanding of the phenomenon under investigation. Central to the methodology is the use of reflexive writing, wherein I critically engage with my own experiences and biases throughout the research process. This reflexivity enables me to acknowledge and interrogate my subjectivity, while also recognizing the broader socio-cultural influences that shape my perceptions and interpretations.

The primary data source for this study is my personal experiences with music technology, including the creation and analysis of original music compositions. I reflect on my interactions with various music technologies, such as loop stations, digital audio workstations (DAWs), and MIDI keyboards, examining how these tools mediate my creative process and emotional engagement.

In addition to personal reflections, I also included a review of relevant literature from fields such as psychology, musicology, and expressive arts therapy. This interdisciplinary approach allows me to situate my experiences within broader theoretical frameworks and engage in a critical dialogue with existing scholarship on creativity, technology, and emotional expression.

As for scheduling and timing, I set 1 hour aside every Friday for 3 weeks on each song. The process often led me to a place where I did not want to stop working on it, so some of those

1-hour sessions went on for longer than that. Some sessions were incredibly efficient which led to it taking less than an hour, so 1 hour is a solid average to consider for this project.

In terms of setup, I ensured that I had access to a BOSS RC-505, which as previously mentioned, is a looping station that allowed me to instantly capture sound and loop it. The RC-505 was connected to my computer which has Logic Pro X and is connected to a MIDI keyboard for quick and intuitive music making. A microphone was connected to my RC-505 allowing for infinite recording possibilities. I also had an acoustic guitar nearby at all times along with a connected electric guitar. This setup was ideal for drafting tangible song ideas very quickly whether it begins with a drumbeat, a guitar riff, a keyboard melody, or a vocal recording.

Overall, the methodology is guided by a commitment to authenticity, reflexivity, and ethical integrity. By foregrounding my lived experiences and subjective insights, this study aimed to offer a rich and nuanced exploration of the complex dynamics at play in the intersection of self-concept, emotional regulation, and music technology.

Results

Conducting this autoethnography led me to several realizations about how music technology can help with the expression and regulation of emotions as well as the exploration and re-authoring of my self-concept. In this section, I will discuss the results of my sessions involving music technology.

These Tears - Coping with Hopelessness During a Genocide

As someone who has had long standing relationships with Palestinians and Jordanians, the genocide of the Palestinian people had been impacting my wellbeing and still does today. While knowing that my tax dollars are directly funding this catastrophe, I've felt a sense of

hopelessness and disbelief in the face of this situation. During my first session, I found it incredibly difficult to put my thoughts and feelings into words. I tried singing some lyrics, but initially, I wasn't resonating with the lyrics as being meaningful enough. It wasn't just that; it was also hard to feel inspired with negative feelings like guilt and hopelessness. I decided to start playing guitar, and I felt the music fade into the background just like the it seemed the Palestinians' plight would fade into the background.

The sense of hopelessness had a real grip on me, and it would manifest as anxiety and low motivation. Since I eventually came up with a few guitar melodies and lyrics that resonated here and there, I felt an urge to, at a minimum, record some of what I had done. I wasn't sure why at the time. There were just a few words and one melody that were really resonating with me. I recorded it, and I later found myself craving to listen to it again. I listened to it about 12 times during that week, which was certainly not a planned part of the process, but it was helping me regulate my feelings of hopelessness and gave me a way to reflect on my feelings around the topic. This was another advantage of music technology as it allowed me to have an artifact that I could reflect back on at any time.

During my second session, I felt ready to elaborate on what I had and record a full song. To my surprise, writing the rest of the song was remarkably easy as my unconscious mind seemed to have done so much of the work already. I entered into a flow state, and I was able to channel my emotions in a way that previously felt ambiguous and all over the place. After I recorded my guitar melody and allowed it to repeat on a loop, the lyrics began pouring out of me. The foundation of the song was now established, and I achieved a sense of flow as I engaged with it. What began to excite me about this was also the fact that I could share my art with the

world. While I may not have been able to impact what was happening directly, I could at least contribute artistically to demonstrate my empathy and potentially bring more exposure to the situation.

There was a strange thing that happened when I started to have completed, recorded tracks. I began to feel some sense of motivation and hope. The sense of hopelessness began to subside from about 9 out of 10 to approximately 6 out of 10. I began to feel like I was on a mission of sorts to complete the song. For my third session, I completed the song and decided to add footage of Palestine to emphasize the message. I shared it with friends, family, and social media. Feedback included heartfelt reflections from friends about their relationship to the situation, discussions about exposure to massacre, and reinforced calls for a ceasefire. It was the kind of processing and witnessing that I needed, and it was through music technology that I was able to actualize it. Here are the lyrics that I ended up recording:

These tears of mine; they'll dry away again.

But the kids who died; they'll never play again.

And what's their crime? Are they merely born in the wrong time?

Well, I deny any word that justifies their death; it's a genocide.

Click on the following link to listen: https://on.soundcloud.com/ydcpDEduhAFdPaLHA

I Believe in My Potential

While my first song was birthed from intense negative emotions, the next song was created when I was feeling a mixture of acknowledgment of my life's difficulties and a sense of hope that I still had the ability to transcend them. During my first week of working on this song, I began by playing my guitar through my Boss RC-505, a looping station setup that allowed me

to instantly record tracks, play them back, and even dub over them if I wished. I began by playing a few chords on guitar in a combination that I hadn't tried before. As soon as I felt comfortable with playing it, I recorded it onto the first track of the RC-505, and the device can hold five tracks. While I felt some emotions beginning to surface, they were somewhat vague in the beginning and began to crystallize as I continued building upon the song. The RC-505 has a guitar-to-bass function which lowers the pitch of a regular guitar down a full octave and adds lower frequencies, making it sound a lot like an actual bass. This began to add depth and groove to the song, which for whatever reason, helped refine the types of thoughts and feelings I wanted to put into it.

During my second session with this song, I added drums onto the third track directly from Logic Pro X. I could feel the song really come together, and that included a sense of attunement, progress, and achievement. The song creation process was already making me feel calmer and more emotionally regulated. Once the groove was essentially put together, I began to sing lyrics off the top of my head. The lyrics I eventually landed on were:

I believe in my potential

I believe that I could do

Anything that I put my mind to

I don't know if I am special

But I know that I'm not you

And I believe that my time will be coming soon

An unfolding experience of mental clarity and hope for the future was enveloping me after I recorded those lyrics. When I wrote "I don't know if I am special, but I know that I'm not

you," it felt as though I had removed many obstacles to self-understanding. It provided a cognitive and rational explanation for what it means to be special. By definition, by not being any other person, I was inherently special.

Moving on to my third week working on this song, I was able to quickly get into a state of flow and joy just from listening back to my work, and I went on to record a guitar solo to round off the song. Once that was done, the song felt like a completed artifact and acted as personal proof that I had what it takes to create a better life for myself. The calmness and sense of self-worth that I felt after writing the song still reverberates within me as I write this. I found it to be incredibly powerful that I could listen to this song anytime and attune to those same feelings and thoughts. I also decided to share the song with some peers, and they unanimously provided positive feedback, with a few of them saying they were both impressed and moved. This of course led to even more engagement in this recorded piece of music as it had moved beyond the constraints of simply being a private artifact and instead became a source of social connection and validation as well.

Click on the following link to listen: https://on.soundcloud.com/UFVDvoKGR3YeAm7A7

Aggressive Silence

For this song, I began the first session by using my MIDI device which was connected to Logic Pro X on my Apple Mac device. In this song, titled *Aggressive Silence*, the first instrument I selected was cello. I played with chord variations until I found a musical sequence that provided me with a sense of attunement. Once I established that, I found myself falling deeply into a sense of flow as well. I sang over the piece, and the lyrics seemed to emerge spontaneously like an effortless improvisation. The first words that came to mind were "Why should I even

speak when I'm drowning in your apathy? Why even show you truth when you're denying their humanity." I felt a deep connection to this piece once the foundation was established, and I did not have a plan for what the song would be about before improvising it. These thoughts had been agonizingly floating around my mind in many variations, but I had previously not yet found a way to synthesize them so that I could truly engage with my emotions around the topic. While *These Tears* was focused on my feelings of hopelessness around the genocide in Palestine, *Aggressive Silence* was more centered around my frustration with the lack of empathy for the Palestinian people as well as my sadness and anger pertaining towards those who consider themselves humanitarian and progressive yet seem unconcerned about the genocide of the Palestinian people.

When I came back to the song for the next session, I felt a deep sense of involvement and creative engagement. I felt like I was on a mission to express something that was important to me, and I wanted this message to be heard. Crafting the song on Logic Pro X provided a platform where I could experiment and add dimensions to emphasize the emotions and thoughts that I had going into the project. This also made it so that I could save the project and come back to it the next week. I eventually added violins, trombones, brass instruments, piano, and drums. I found myself engaging in hip hop therapy as I moved further into the song. While the intro contained the sadness I felt, I decided that I wanted to channel my passionate anger about the subject in the middle of the song where I added a tempo increase from 70 bpm to 85bpm, and altered the chordal sequences in such a way that it channeled the angrier parts of my message. I chose to rap on part of it in Arabic, and I realized that my message was largely an apology to Palestinians while I criticized American complicity and silence regarding the genocide. I returned to work on

this project on the third week, and I decided to play the intro again towards the end of the song, but this time I added resonant piano notes to complement the vocals. I felt that, ultimately, it was my sadness that was at the forefront of this topic.

Engaging in this project so deeply allowed me to explore who I am and how I relate to the genocide in Palestine. It also allowed me to express emotions that were otherwise repressed and bubbling up inside of me. I achieved some regulation of these emotions, and my mood changed from feeling hopelessly sad and frustrated to feeling like I had something tangible to share with the world despite the difficult emotions surrounding it. Rapping in Arabic allowed a different part of my psyche to emerge in a way that feels almost impossible without the musical foundation established by utilizing music technology. This project transported me to an empowered state that engaged my sense of competence, character, and relationship to the world outside of my everyday life. It provided me with a cathartic experience where I could re-author my self-concept from one of insignificance and irrelevance to one of meaningful engagement and advocacy.

Click on the following link to listen: https://on.soundcloud.com/QmwpwLfE3UXC2gAJA

Key themes emerged from this study that can be translated into a clinical framework, enhancing the therapeutic use of music technology. In terms of emotional regulation, music technology served as a tool for managing intense emotions, allowing for reflection and transformation of feelings of hopelessness and anxiety into expressions of hope and proactive engagement. Through the process of creating music, I was able to reconstruct my personal narrative, moving from feelings of insignificance to a renewed sense of agency and advocacy. The use of looping stations and DAWs enabled spontaneous and profound musical expression,

which was essential in articulating complex emotions and thoughts that were initially challenging to express. Sharing the created music with a broader audience facilitated social connections, validating my experiences, and fostering a communal dialogue around critical social issues. Finally, the act of creating music was therapeutic, not just the end product, highlighting the importance of process-oriented approaches in expressive arts therapy. These findings advocate for the integration of music technology into therapeutic practices, providing a bridge between traditional expressive arts therapy techniques and contemporary digital practices. By adopting these insights into a clinical framework, therapists can offer more nuanced support to individuals navigating complex emotional landscapes, promoting healing and empowerment through creative expression.

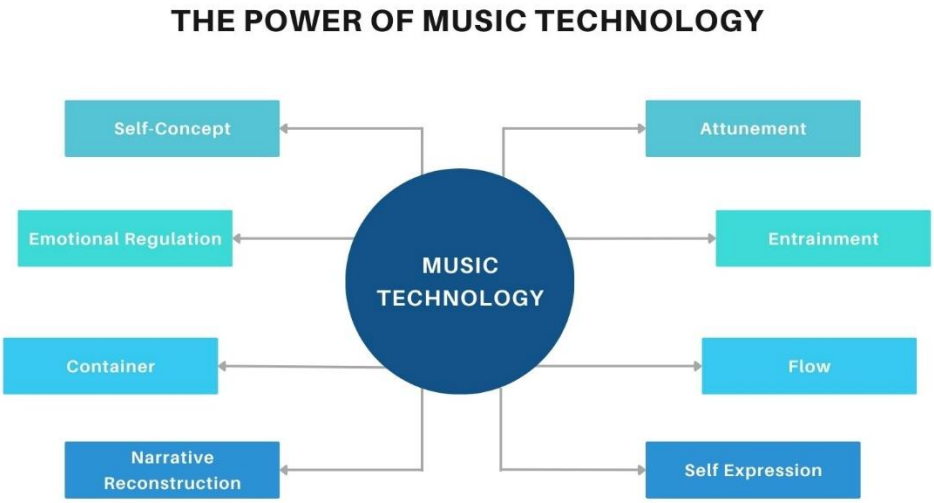

Figure 1 – Key themes around music technology in therapeutic settings

Discussion

The results of this autoethnographic study underline the profound impact of music technology on emotional expression, regulation, and the re-authoring of self-concept. This discussion integrates these personal insights with relevant literature to explore how my experiences align with existing theories and research in music therapy and expressive arts therapies.

Therapeutic Attunement and Emotional Regulation through Music Technology

Kossak (2009) posits that therapeutic attunement involves an "embodied awareness of rhythmic flow" and a deep, mutual connection facilitated by music (p. 15). The creation of "These Tears" and "I Believe in My Potential" exemplifies this process. The use of looping and improvisation allowed for a deep emotional engagement and a shift from daily mental activities to a focused, inner presence, aligning with Kossak's description of moving toward "a more focused inner presence" (Kossak, 2009, p. 15). This aligns with Sadovnik (2014), who discusses how Digital Audio Workstations (DAWs) create a unique space for emotional processing, transforming music creation into a therapeutic act.

Re-authoring Self-Concept

The exploration of Hip Hop Therapy in the song "Aggressive Silence" aligns with findings by Sulé (2016), who highlights the modality's capacity to facilitate "spiritual catharsis" and a sense of being "bigger than the mundaneness of everyday life" (p. 190). This method helped externalize and reformulate personal narratives, offering a powerful medium for expressing and transforming my self-concept, a core aspect of re-authoring as described by Heath and Arroyo (2014). In crafting "I Believe in My Potential," the act of looping and layering

sounds on the Boss RC-505 looping station not only facilitated musical creativity but also acted as a medium for emotional expression and regulation. This reflects findings in the literature suggesting that music technology can extend beyond simple sound creation to become a dynamic tool for emotional exploration and narrative construction (Sadovnik, 2014).

Community Engagement and Advocacy through Music Creation

In "Aggressive Silence," the use of music technology facilitated a deep engagement with community and global issues, particularly the Palestinian conflict. The ability to articulate complex emotions and political stances through music provided a platform for advocacy and community interaction, underscoring the role of music technology in fostering social engagement and activism. This reflects the views of Eusterbrock (2023), who discusses how music-making apps integrate the personal with the communal, enabling artists to navigate and express various aspects of self and societal issues.

Future Directions

This study highlights the need for further research into the specific mechanisms by which different genres of music and types of music technology can uniquely affect emotional regulation and self-concept re-authoring. Future studies could explore the impact of various music technologies in diverse therapeutic settings and populations to better understand their potential in clinical practice.

Conclusion

The discussion ties the personal experiences detailed in the results section with the scholarly research reviewed earlier, providing a comprehensive understanding of how music technology serves as a potent tool for emotional regulation, therapeutic intervention, and social

advocacy. This integration not only validates personal experiences but also contributes to the broader academic dialogue on the therapeutic potentials of music technology in expressive arts therapies.

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In the judgment of the following signatory this thesis meets the academic standards that have been established for the above degree.

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