

**POLYVAGAL-INFORMED THERAPEUTIC DRUMMING FOR VICTIMS OF  
INTERPERSONAL VIOLENCE: A FEASIBILITY STUDY**

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## **Abstract**

*Introduction/Background:* The inclusion of therapeutic modalities for trauma survivors that integrate the brain, mind, and body is essential for addressing the range of physiological responses and symptoms caused by interpersonal violence (van der Kolk, 2014). Neglecting to include the body in therapy leaves out an essential component necessary for healing. The Polyvagal Theory helps explain the physiological responses to trauma from the perspectives of biology and neuroscience (Porges, 2018). An emerging method that has been used as a therapeutic tool has been the incorporation of rhythm and drumming.

*Methods:* This intervention integrated concepts from polyvagal theory into therapeutic drumming exercises, such as exploring the different nervous system states through sound and rhythm. Therapy clients of the Women and Gender Resource Center (WGRC) at the University of Alabama (UA) were invited to participate in 5 individual therapy sessions incorporating rhythm and drumming, with 8 total participants. Participants were then interviewed about their experiences, and the recorded interviews were transcribed and coded for thematic analysis.

*Results:* Five main themes emerged from the interviews: connecting with sound, insights gained, sense of agency, sense of safety, and social connection. Several sub-themes related to each theme are also discussed.

*Discussion:* As an initial feasibility study, this project's aim was to discover what participants liked and gained from the drumming sessions. All participants mentioned some type of movement from a sense of isolation to a sense of connection. The drumming sessions also offered survivors of trauma a creative and safe outlet for expressing difficult emotions and memories that may otherwise be too difficult to discuss using words.

***Keywords:*** *trauma, rhythm, drumming, polyvagal, feasibility study*

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## Introduction

The inclusion of therapeutic modalities for trauma survivors that integrate the brain, mind, and body is essential for addressing the range of physiological responses and symptoms caused by interpersonal violence (van der Kolk, 2014). Neglecting to include the body in therapy leaves out an essential component necessary for healing. The Polyvagal Theory helps explain the physiological responses to trauma from the perspectives of biology and neuroscience (Porges, 2018). Stephen Porges used this theory to explain the nervous system's three states as a reaction to perceived threat: dorsal vagal (shutdown), sympathetic (fight/flight), and ventral vagal (safety and connection). While it has been useful in helping to normalize the reactions of trauma survivors, therapists specializing in trauma have used this perspective in countless ways to help clients feel safer with themselves and when interacting with others (Dana & Grant, 2018). Polyvagal-informed therapists have used various modalities to help traumatized individuals reconnect to their bodies and re-establish feelings of safety with others, including yoga, tapping, music, and dance (Gray, 2018; Ogden, 2018). An emerging method that has been used as a therapeutic tool has been the incorporation of rhythm and drumming. Research studies involving drumming interventions have found many positive impacts including improved emotion regulation, enhanced immune system responses, decreased stress-related arousal, and increased feelings of empowerment and connection to others (MacIntosh, 2003; Pelletier, 2004; Bittman et al., 2001; Fancourt et al., 2016).

Building on previous research, the intervention described in this paper integrated concepts from polyvagal theory into therapeutic drumming exercises, such as exploring the different nervous system states through sound and rhythm. Concepts from the Rhythm2Recovery model were also used, an evidence-based intervention that has been adapted for various

populations, including trauma recovery (Faulkner, 2017). Therapy clients of the Women and Gender Resource Center (WGRC) at the University of Alabama (UA) were invited to participate in five individual therapy sessions incorporating rhythm and drumming. Topics included safety, boundaries, exploring fear and anger, strengths, as well as drumming through their trauma narrative and their individual healing journey. Participants were then interviewed about their experiences, and the recorded interviews were transcribed and coded for thematic analysis.

## **Project Rationale and Aims**

### **Introduction to the Problem**

The individual effects of sexual assault on survivors are numerous and can vary between individuals, but common reactions can include depression, anxiety, flashbacks of the assault, and difficulty sleeping (Rape, Abuse, and Incest National Network, 2019). When an individual is victimized, the impacts can have far-reaching effects on their ability to focus and achieve their goals. Survivors of trauma often have a constellation of symptoms, many of which are physiological and have major impacts on the body. One study examined the specific population of college females and found that those with a history of trauma had more difficulty regulating their nervous systems and engaging with others, leading to physiological symptoms such as heart rate irregularities (Dale, et al., 2018). The very nature of interpersonal violence is a violation against one's own body, and many survivors experience a disconnect between the body and mind (Levine, 1997).

Often, the techniques of talk therapy that practitioners largely utilize in treating victims of trauma do little to integrate the body's responses to trauma or address the mind-body connection (van der Kolk, 2014). For instance, many cognitive behavior therapy (CBT) based treatments tend to focus more on changing thought patterns and behaviors (Beck, 2011). While addressing

negative core beliefs about oneself is often necessary in the healing process, treating the complexity of trauma symptoms may require the addition of more body-focused interventions (van der Kolk, 2014). It should be noted that there are newer cognitive-based therapies that are becoming more trauma-informed. For instance, trauma-focused cognitive behavioral therapy (TF-CBT) is a widely used evidence-based practice that relies heavily on integrating techniques focused on the body, including grounding and regulation techniques, guided imagery, and progressive muscle relaxation, before beginning to process the trauma narrative (Gehart, 2014). These interventions acknowledge and work to heal the impact that trauma has had on survivors' bodies. Because of the physiological responses and symptoms related to trauma, it is essential to implement holistic treatments that integrate the whole person, including the brain, mind, and body (van der Kolk, 2014). Neglecting to include the body in therapy leaves out an essential component necessary for healing.

### **Background on Interpersonal Violence and its Effects**

Trauma has been studied using many different definitions, approaches, and areas of focus. One area that has been gaining considerable attention among treatment professionals is trauma stemming from interpersonal violence, an umbrella term used to describe many forms of violence, including sexual assault and dating or domestic violence. More than half of individuals who seek out some form of mental health treatment have experienced assault or abuse, underscoring the importance of understanding the needs of this population (McFarlane, 2001). In considering effective treatment modalities, it is important to understand the numerous effects that interpersonal violence can have on a victim's sense of self, others, and the world. While there are certainly unique components to each type of interpersonal violence, there exists considerable overlap in both characteristics of the abuse and symptoms experienced by survivors. For

example, domestic violence often contains a sexual component as a form of control, making sexual violence and its resulting effects on victims an area in need of ongoing further research (Domestic Abuse Intervention Programs, 2017).

Sexual assault is a widespread and far-reaching problem, with approximately 1 in 3 women and 1 in 6 men experiencing some form of unwanted sexual contact within their lifetimes (Smith, Chen, & Basile, 2017). The impact of sexual assault is broad, and affects not only the individual victim, but communities and whole societies as well. For example, when a sexual assault is reported and goes public, it is felt among the entire community. It instills a sense of fear, and the public's sense of safety is replaced with feelings of danger, anxiety, and distress. The "if" it will happen begins to be replaced with "when" it will happen, either to someone a person knows or to themselves. This fear cannot be overstated, as it becomes a reality for people and impacts where they go, how they interact with others, and how they see themselves.

### **Interpersonal Violence on College Campuses**

Sexual assault and dating/domestic violence specifically on college campuses is an issue that has been gaining considerable attention. College women are three times more likely to experience sexual assault than those outside the college population (Department of Justice, 2014). College sexual assault is widespread among universities nation-wide, with estimates that 20%-25% of college women will experience some form of unwanted sexual contact during their college career (Cullen et al., 2000; Cantor et al., 2015). Furthermore, when a college student is victimized, the impacts can have far-reaching effects on their ability to focus and achieve their goals, and may result in them having to drop out of school, affecting college retention rates. Trends involving increased discussions of sexual assault from high-profile cases and through social media have heightened awareness of these issues. The Me Too Movement in particular

proved to be a catalyst for the nation to start the discussion around sexual assault, where previously it was treated more as a taboo topic (Me Too, 2018). As a result, several student organizations at the University of Alabama (UA) have formed within the past several years with a focus on addressing and raising awareness of sexual assault, including “Not On My Campus” and “Unite for Reproductive and Gender Equity at UA” (University of Alabama MySOURCE, n.d). The Women and Gender Resource Center (WGRC) on UA’s campus has a sole client population of victims of interpersonal violence, with sexual assault comprising the most common victimization type, followed by dating or domestic violence. Offering a dedicated agency with a specialization in the trauma of interpersonal violence demonstrates a commitment to treating this population, and more universities across the country are designating centers on their campuses to address gender-related violence. College students are becoming more aware, as well as increasingly frustrated, with the problem and scope of sexual assault.

### **Societal Impacts**

The addition and involvement of campus-based centers to address interpersonal violence further reinforces the fact that the responsibility of addressing sexual assault should not rest solely on the college students who have been affected. Sexual assault is a societal issue, not just an individual one. In terms of societal impact, sexual assault also carries a financial cost. According to a study by the Centers for Disease Control and Prevention, the estimated average cost of sexual assault for one victim is \$122,641, totaling over \$3.1 trillion in costs to society including lost wages, medical costs, and criminal justice or court costs (Peterson et al., 2017). These costs are important factors to consider due to the high rates of sexual assault and the impact it has on the entire population.

## **Relevance to Social Work**

Interpersonal violence is a problem that must be addressed with large-scale involvement from social workers, due to the individual and broader impacts discussed in previous sections. Social workers have an ethical obligation to advocate and take action against sexual assault. The National Association of Social Workers' (NASW) Code of Ethics is clear in its expectations that social workers take measured actions against injustice. Regarding the ethical principle of social justice, "Social workers pursue social change, particularly with and on behalf of vulnerable and oppressed individuals and groups of people" (National Association of Social Workers, 2017). Advocating for clients and advancing social justice includes finding gaps in treatment and seeking solutions for those gaps. Additionally, the social work profession tends to take a broad approach to treating individuals, looking through a biological, psychological, and social lens simultaneously. This holistic perspective is useful in considering all the complexities that make one human, especially in relation to trauma. Because of the ways that trauma impacts one's body, mind, and relationships, social workers hold a unique position in finding innovative treatments that look at all of these areas.

## **Safety Versus Danger**

In order to understand some of the limitations of traditional talk therapy in treating trauma, as well as why more holistic forms of therapy focused on integrating the body and mind have been successful, it is essential to understand the complex impact and effects of trauma on the brain and body (van der Kolk, 2014). Survivors often have difficulty verbalizing or expressing their own physical and emotional responses, and may feel numb or disconnected from previously felt or current emotions. In more severe cases, survivors may completely disengage from the body (Levine, 1997). Additionally, a survivors' perception of safety is often damaged,

leading to persistent fear and anxiety. Re-establishing feelings of balance and stability are essential in order to recover this critical sense of safety and reduce the effects of anxiety on the body. In Dr. Bessel van der Kolk's book *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma* (2014), he discusses the role of the brain's amygdala as being the essential component for distinguishing situations as either safe or dangerous. This area of the brain is also responsible for processing emotions, and is activated when trauma survivors see, hear, or smell a stimulus that reminds them of their trauma, even years later when the danger has passed (van der Kolk, 2014). Sounding an internal alarm, the amygdala decides whether or not something is a threat even before we are conscious of the danger. The sympathetic nervous system is activated, leading to a rise in blood pressure and heart rate. What is designed to be a survival response becomes maladaptive for those who have experienced trauma, as the nervous system signals that there is a threat even when the danger has long passed.

For most victims, the brain is impacted to such a degree that individuals have difficulty perceiving any situation as safe, and formerly safe situations are now considered threatening and dangerous. Van der Kolk's (2014) study using a Thematic Apperception Test (TAT)-like instrument demonstrated how children interpret the world as either safe or dangerous. The TAT is a psychological assessment tool using ambiguous pictures wherein participants are asked to generate stories. These stories are believed to be a reflection of a person's worldview (Tomkins, 1947). Van der Kolk (2014) used a similar strategy when he developed a comparable assessment using pictures from magazines. When showing the participants different pictures of scenes, children who had been exposed to interpersonal violence consistently interpreted the scenes as having impending danger, discussed themes of violence within their stories, and became highly agitated when describing their story (van der Kolk, 2014). He concluded that children exposed to

interpersonal violence view the world as an unsafe place. This shift in worldview has significant implications for how victims of trauma see themselves in the world and how they interact and relate to others. For example, survivors can be left feeling isolated and disconnected from relationships once they start to see the world as inherently dangerous.

### **Reconnecting to the Body**

Survivors of trauma are not only left feeling disconnected from others, but can often feel disconnected from themselves, including feeling numb or disengaged from activities (Levine, 1997). Developing a sense of connectedness to their own bodies can be a powerful step to manage to the overwhelming emotions that accompany trauma. Because of the connection between the body and mind, emotions are often experienced as intense physical sensations (van der Kolk, 2014). For example, anxiety may be experienced as sweaty palms or a racing heart, embarrassment as a flushed face, or anger as a clenched jaw and fists. Peter Levine's (2015) book, *Trauma and memory*, contains a diagram of different bodies representing different emotions, in which scientists have "mapped" where in the body a certain emotion is felt. This is a helpful illustration of how trauma and its resulting emotions are quite literally held in the body. Since trauma is stored in the body, neglecting to address the physiological effects on survivors will ultimately leave many aspects of the trauma untreated. Healing can only take place when individuals are able to feel a safe in their own bodies, rather than operating from a constant fear of impending danger.

## **Review of the Literature**

### **Introduction to Drumming**

An increase in awareness of sexual assault has been seen throughout society, in part because of the "Me Too" movement and other high-profile cases. While individual and societal

awareness has increased, awareness alone is simply not enough in creating change for individual victims. Needs have increased to further implement emerging modalities for treating victims of trauma, and interest is growing surrounding a novel approach within the treatment of trauma. Drumming has been studied in various populations as a modality to connect the body and mind (MacIntosh, 2003). The approach of using therapeutic drumming as a complement to talk therapy may serve to supplement more cognitive or dialectical methods by including the body as an essential component within treatment. This review will explore the potential benefits of drumming relevant to trauma recovery, including establishing a sense of connection, safety, and empowerment.

### **The Power of Music**

Music in all its various forms has been used for millennia to express emotions, connect to others, and communicate one's culture. Music can be used in a multitude of ways and settings: as a celebration at a wedding, as an expression of grief at a funeral, or to uplift the spirit in a religious ceremony. Music conveys deep meanings and evokes an array of emotions. Stated beautifully, "Music succeeds where words sometimes fail because our lives are lived by more than just our rational brains. True healing must be a holistic process that reunites and integrates all parts of our total experience" (Volkman, 1993, p. 250). The limitation of words is often the very issue that music can address. While music has been acknowledged for its benefits throughout history, the use of music by counselors and therapists has been a relatively new intervention. While music therapists have worked with a number of populations, such as those with behavioral issues or developmental disabilities, this type of intervention is starting to expand to other populations, including survivors of interpersonal violence (MacIntosh, 2003). As clinicians continue to develop a deeper understanding of the many impacts that trauma can have

on both the brain and the body, growing efforts have been made to find creative ways of addressing these effects.

### **The Body's Response to Music**

Music has the power to not only elicit an emotional response, but research has shown that it can also have positive biological effects on the body. In a meta-analysis of 22 quantitative studies examining the effects of music on the body, a statistically significant decrease in stress-related arousal was found for those who participated in music therapy activities (Pelletier, 2004). Further studies have examined the biological impact of drumming specifically. In an experimental design study using 111 participants with two control groups and four experimental groups randomly assigned to four different drumming therapy groups, all four drumming groups showed enhanced immune system response and biological changes opposite to that of the body's natural stress response (Bittman et al., 2001). In a study by Fancourt et al. (2016) involving 59 participants assigned to either a 10-week therapeutic drumming group or a non-musical control group, the participants in the drumming group not only showed significant improvements in the areas of depression, anxiety, and social resilience, but saliva samples taken showed significant biological shifts in an anti-inflammatory immune system response by week six for the drumming group. These studies highlight the positive health benefits of drumming and the potential for drumming interventions to affect biological processes within the body, including immune and stress responses. Although further research is needed in this specific area, these results have implications for treating the physiological symptoms related to the trauma of interpersonal violence. For instance, van der Kolk discussed the body's inflammatory response to trauma, leading to autoimmune disorders including arthritis, lupus, and fibromyalgia (2014, pp. 128-129).

## **Research on Group Drumming**

As an emerging field, current research studies examining the affective impacts of music therapy or therapeutic drumming tend to involve a relatively small number of participants for pilot studies. Because of the often unique and personal impact that music and drumming can have on an individual, attempting to quantify this impact has proven difficult for researchers. While some quantitative studies have been conducted using standardized measurement instruments, quantitative methods in this field are still in their infancy. Most researchers studying therapeutic drumming have used a qualitative approach to capture a more in-depth understanding of participant's experiences. Several of these studies examining drumming circles focused on the psychiatric benefits for mental health patients. A study by Deraney et al. (2017) showed significant decreases in anxiety scores in psychiatric patients who participated in a 6-session drumming circle. While the study only had 53 participants, this was a larger sample size than many other available studies. Although no control or comparison group was used, the use of a pretest-posttest method of evaluation allowed for comparison of anxiety scores, strengthening the argument for the drumming's influence in reducing anxiety. Another single-group pretest-posttest design study involving 13 psychiatric patients with mood disorders who participated in 6 drumming circle groups yielded statistically significant improvement in all 6 areas of the Stellenbosch Mood Scale after the drumming groups (Plastow et al., 2018). While these studies are not specifically focused on the population of interpersonal violence victims, mood disruptions and feelings of anxiety are often relevant to the treatment of trauma and sexual assault.

Using a qualitative design, Perkins et al. (2016) conducted a thematic analysis of individual interviews and focus groups in a group drumming program with 39 participants.

Common themes that the researchers found included: connection with others in the group, encouraging feelings of belonging and safety, the freedom to make mistakes, and feeling supported in the learning process (Perkins et al., 2016). This study showed that drumming can be used not only as a creative outlet of emotional expression, but can also provide a supportive environment where participants can connect with others.

From a quantitative methods perspective Mungas & Silverman (2014) used a stronger design by incorporating a comparison group when they studied the differences among 50 college students who participated in either a wellness-based drumming group or a standard guitar class. They also implemented a mixed methods approach using both a standardized mood scale and semi-structured interviews, utilizing the benefits from both quantitative and qualitative methods. Results found statistically significant improvements within the drumming group measured by the Quick Mood Scale (Mungas & Silverman, 2014). The authors reported that participants in the drumming group felt more relaxed, cheerful, and clear-headed after participation, and that they believed it had a bigger impact than a more passive form of music. Additionally, through semi-structured interviews, participants described the positive impact drumming had and their favorite activities, including “Following set rhythm allowed my mind to simply focus on music and ignore all the other things in my life. Good sense of community,” and “I really liked the group drumming because we got to be creative and interact as a group. There was no pressure. I also liked the breathing because it put me in a good state of mind to participate” (Mungas & Silverman, 2014). It was interesting that several participants mentioned the impact that drumming as a group had, including a sense of community, connection, and creativity. Developing a sense of connectedness rather than isolation can be particularly important for

victims of trauma, who often feel isolated and alone due to their experiences (van der Kolk, 2014).

While not discussed in detail here, there have been several other studies that have attempted to research the benefits of group drumming (Kjellgren & Karlstad, 2010; Maschi & Bradley, 2010). These studies only included one short drumming session, rather than a series of several sessions as is intended with the intervention planned for this project, and therefore are not included in this review.

### **Group Drumming and Trauma**

Some research studies have utilized group drumming interventions for treating general types of trauma. While not necessarily focused on trauma caused by interpersonal violence, the findings could still be applicable to this population. One article discussed the use of brief improvisational drumming interventions to improve assertiveness and anger management for adult and adolescent trauma survivors in an inpatient hospital setting (Slotoroff, 1994). Through the use of case studies, the author discussed his own observations of increased participant self-awareness and assertiveness, including being able to voice one's boundaries. One limitation noted by the author was the inability to track larger changes due to the nature of a short-term hospital setting, such as only having one or two sessions with each participant at times (Slotoroff, 1994). Additionally, this study relied on the researcher's own observations, which can introduce a level of researcher bias. Nevertheless, this study's focus on assertiveness and boundary issues points to further potential benefits of drumming to be explored.

A study by Bensimon, Amir, and Wolf (2008) focused on the outcomes of a therapeutic drumming circle for soldiers diagnosed with post-traumatic stress disorder (PTSD). Although the study was very small with only 6 participants, the researchers developed a deep understanding of

the participants' experiences by filming the sessions, conducting open-ended interviews, and recording the therapist's own observations. Sixteen 90-minute sessions were held. The sessions were divided into four categories: group cohesion, traumatic associations, rage and relief, and rhythmic categorization. Results found that the drumming sessions increased participant's feelings of connectedness and openness. The drums themselves were seen by participants as helpful for facilitating discussion of their traumatic experiences in a safe environment, as well as for expressing and releasing feelings of rage associated with PTSD. The authors discuss the concept of "drumming out the rage" that benefitted the soldiers and gave them a safe outlet for expressing intense emotions (Bensimon, Amir, & Wolf, 2008). This technique could be useful for sexual assault survivors in releasing suppressed feelings of anger, and could be a cathartic release of heavy emotions tied to the traumatization. A unique difference within this study was that the therapist had several different types of drums and percussion instruments that each participant could choose from, rather than placing a drum in front of them and asking them to play. This could serve to increase a sense of control and agency in the experience, which Braswell (1992) suggests is particularly relevant to address with survivors of sexual violence.

### **Healing Trauma Through Music**

While there has been little research specifically studying drumming as a therapeutic modality for sexual assault victims, there have been efforts to study broader forms of music therapy in the treatment of trauma. Various forms of music therapy have been found to have numerous benefits for trauma survivors in their healing process. In her work with trauma-induced dissociative disorders, Volkman (1993) discussed how trauma can leave victims feeling "disjointed," and how music combined with more traditional forms of therapy can be beneficial in reintegrating the traumatic experience back into the victim's life in a way that is less

distressing, utilizing symbolic elements of music. Volkman (1993) used case studies to explore the ways that music therapy was useful in treating traumas. She discussed three stages of moving through the healing process with music: developing a safe space and a trusting environment; exploring and expressing the emotions tied to trauma; and finding closure within the group or in the session through some closing ritual. A specific strategy used included the use of “holding,” in which the therapist participates in and “holds” the musical improvisations set by the client that represent some aspect of their trauma, allowing the client space to more freely experience the associated feelings and affective elements (Volkman, 1993). “Holding” or “containing” involves the therapist playing the instrument in the same way that the client initially begins, which allows more freedom for the client to explore repressed emotions or associations with the sound. This type of technique can facilitate feelings of support and validation for the client by having a trusted therapist bear witness to their pain, and also allows victims of trauma to have immensely painful experiences felt and heard within a safe space. Experiences that are too difficult to express in words can be communicated through music and sound (Volkman, 1993). This also honors and acknowledges the importance of community and connection with others in the process of healing from trauma, where many victims have previously never had the freedom to experience and express such raw emotions to others.

While Volkman worked with various populations experiencing trauma, including veterans, other researchers have examined the influence that music therapy can have specifically on sexual assault survivors. Amir (2004) discussed the impact that improvisational music therapy exercises can have specifically with adult survivors of childhood sexual abuse. He used several case examples to focus on how creative musical expression can serve to bring unresolved and unconscious traumatic memories into the conscious mind, where they can then be more easily

worked through. Clients were empowered to choose the sounds they wanted to hear, when they wanted the therapist to join, and the tempo, pace, and volume. This was followed by periods of reflection and connecting the elements of music to their own trauma. While having control of several choices and decisions could be difficult for survivors of trauma, the therapist's role is to provide a safe environment where survivors feel empowered, rather than threatened by such choices (Amir, 2004).

Another relevant approach focused on the Bonny Method of Guided Imagery and Music, which has been specifically adapted for victims of sexual abuse (Clements-Cortez, 2014). This method combined elements of music therapy with several guided imagery exercises. In a case study, the author explained how the Bonny Method of Guided Imagery helped one client resolve previously unexplored feelings of anger and resentment stemming from an extensive history of sexual abuse. Methods such as this may prove to be useful for clients who need and desire more structure in the therapeutic space, rather than improvisational methods which may make certain clients uncomfortable due to their more freeform design. It is important to consider each client's individual needs and capabilities when deciding on specific techniques and methods.

### **Bridging Music and Drumming**

In adapting to clients' needs, at least one researcher has focused primarily on music therapy while also bringing in drumming exercises as a component of treatment. Because trauma is processed in the non-verbal areas of the brain, using words to describe the emotions and effects of a traumatic event can be very difficult for survivors (van der Kolk, 2014).

Interventions involving music can facilitate the healing process by allowing survivors to convey experiences that words cannot express. MacIntosh (2003) discussed the effects that various music interventions can have on sexual assault survivors. She has explored the impact of music

and developed interventions specifically for sexual assault survivors, termed “music and healing workshops.” In a group setting, survivors are first taught grounding and relaxation techniques, including the use of their own voices to pick a tone in which to musically ground themselves. They are then invited to share their favorite song or piece of music, as well as the emotions felt when listening to it. Additionally, MacIntosh integrated drumming circles and other rhythmic exercises into the workshops. Even without words, communication took place from one drum to another, and rhythm was used to express emotions such as anger, fear, vulnerability, or sadness (MacIntosh, 2003). While these emotions can be difficult for victims to express in words, drumming can allow for a safe space for these emotions to be heard and felt.

MacIntosh (2003) used drumming activities to explore concepts of boundaries and assertiveness. Through a drumming “conversation” between therapist and client, the client is given the opportunity to set a boundary by voicing when the therapist is to start or stop. The therapist then attempts to interrupt the client’s drumming until the client says to stop, challenging the client’s boundary. In another exercise, clients take turns leading each other and directing others on how they want them to play and when to stop. MacIntosh noted that, through her own observations and conversations, clients reported several benefits including increased communication and regulation of emotions, feelings of empowerment, and feelings of safety within a group. Although not a research study, this report gives at least some initial anecdotal evidence of how drumming can be used with sexual assault victims and the potential benefits that may be experienced.

### **Trauma and Polyvagal Theory**

The Polyvagal Theory, first proposed by scientist and researcher Stephen Porges in the mid-90s, became a way for researchers and biologists to better understand how the autonomic

nervous system shaped mammalian behaviors and influenced their physiology from an evolutionary perspective (Porges & Dana, 2018). The theory describes the three “systems” of the autonomic nervous system that are essential for survival: dorsal vagal (collapse/freeze response or immobilization), sympathetic nervous system (fight/flight response or mobilization), and the evolutionary newest ventral vagal system, which Porges has also coined the social engagement system (Porges, 2018). When a potential danger is detected, the body’s defense system responds in one of two ways. The body can be mobilized to take action via the sympathetic nervous system, or in an attempt to conserve energy or when the fight/flight response is unconsciously deemed ineffective, the dorsal vagal system responds by shutting down, freezing, or even by playing dead (Porges, 2018). The higher-level survival system via the ventral vagus nerve was developed as the social engagement system in mammals. This shows how social engagement and interaction is necessary for mammals to not only survive, but to thrive as a species. Importantly, this pathway connects the brain stem to muscles connected in the face and heart, giving mammals the ability to communicate safety through mechanisms such as eye-contact, smiling, and voice intonation, as well as the ability to co-regulate with others (Porges, 2018).

### **Polyvagal Theory Applied to Rhythm**

Establishing a sense of safety between client and therapist is a central component of therapeutic methods applying polyvagal theory. Promoting safety within the therapeutic relationship can be achieved through various polyvagal-based exercises, as demonstrated by several researchers and therapists who have used polyvagal theory in their work with traumatized clients. Dana and Grant (2018) discussed the importance of first having clients identify what their individual cues of safety and danger are, promoting an environment that is non-threatening. Clients then use their senses to describe what each of their three states looks, sounds, and feels

like. This can be done through the use of a “map” of the ventral vagal, sympathetic, and dorsal vagal nervous system, with clients giving descriptive words and assigning colors to each state, as well as completing the phrases “I am...” and “The world is...” for each state (Dana & Grant, 2018). This can help clients identify the differences felt in their bodies in the different states, and can also serve to bring language to their experiences, often for the first time (Dana & Grant, 2018). This specific exercise could be applied in drumming exercises by having clients create a rhythm for each of their 3 nervous system states, which can serve as a basis for further exercises, including moving between states or to elicit the social engagement system by recalling the client’s individual rhythm for that state.

The polyvagal theory has been applied specifically to interventions incorporating music. In an interview between Porges and Devereaux at the 51<sup>st</sup> American Dance Therapy Association conference, Dr. Stephen Porges described the effects that music can have on one’s physiological state, and that by listening to calming music, one’s sense of safety is activated (Devereaux, 2017). Porges then discussed drumming circles as one intervention that combines the physiological effects of music with spontaneous social engagement. Music has the powerful ability to impact emotions and influence bodily responses. Features such as rhythm, tone, and frequency of sounds can support both a sense of internal safety and connection to others (Devereaux, 2017).

Understanding the physiological influence that music and sound can have, Porges (2018) developed the Safe and Sound Protocol as a way to “reduce auditory hypersensitivities, improve auditory processing, calm physiological state, and support spontaneous social engagement” (p. 63). This protocol uses computer-altered sound frequencies to mimic certain vocal ranges that are hypothesized to promote cues of safety and enhance the ventral vagal pathways, and utilizes

five 60-minute sessions of the participant listening to the sounds (Porges, 2018). By altering the sounds to higher frequencies, and therefore changing what the listener hears, the social engagement system can be accessed and the nervous system calmed. Studies involving hundreds of children with autism spectrum disorders have shown increased social engagement and improved emotional regulation (Porges et al., 2014). Additional clinical trials are being conducted with other populations, including children with histories of abuse (Porges, 2018). As one result, Porges showed the powerful impact that sound can have on the nervous system.

### **Rhythm as a Co-facilitator in Therapy**

Rhythm itself can encourage connection and bring the social engagement system online. Rhythm speaks when words fail. Dance and movement therapist Amber Gray (2017) has incorporated rhythm and movement into treatment for trauma victims, and used a polyvagal perspective to show how the social engagement system is activated. Polyvagal informed dance movement therapy (DMT) has been used with the most traumatized individuals in helping them express what they could not with words, assisting in reorienting them to their bodies (Gray, 2018). One goal of this approach is to use movement and rhythm as resources to move more flexibly between the different physiological states, rather than getting stuck being hyper-aroused or hypo-aroused (Gray, 2017). In a case study working with a victim of torture, rhythm and movement helped the client progress from a state of complete shutdown, isolation, and dissociation, to physically becoming more open and being able to verbalize her experience (Gray, 2018). In the course of therapy, the client “mapped” her body’s states, gave them names (Patience, Struggle, Time, and Strive), then created movements for each state on her “road to home” back to her body (Gray, 2018, p. 218). Through this approach, clients can discover that they have an inherent right to take up space and use their “voice” through movement, sound, or

rhythm when they may otherwise feel unsafe to speak. This exercise could easily be adapted by creating a rhythm “story” of a client’s healing journey, using drums or other percussion instruments to facilitate storytelling.

Gray (2017) suggests that drumming can be both a tool that may feel safer than dance or body movement for clients who have experienced an assault on their body, as well as a means to enhance the social engagement system. The use of various call and response techniques in drumming can also be used to engage clients and develop the therapeutic relationship, such as the therapist or facilitator drumming a simple rhythm and the client responding with the same or a complementary beat. In this sense, rhythm can be seen as a co-facilitator within therapy.

### **Evidence-based Social Work Intervention**

#### **Rhythm 2 Recovery Model for Drumming**

For this intervention, techniques were chosen based on various polyvagal-informed exercises, as well as the Rhythm 2 Recovery Model (Faulkner, 2017). Based out of Australia, Rhythm 2 Recovery is evidence-based and cited by many other researchers for its use in the practice setting, and also boasts that over 4,000 professionals have received training in this model (Faulkner, Wood, Ivery, & Donovan, 2012; Martin & Wood, 2017; Wood & Faulkner, 2014). The model combines principles of evidence-based therapy methods, including Acceptance and Commitment Therapy and Positive Psychology, with strategic drumming exercises focusing on specific themes, such as identifying strengths, clarifying values, or overcoming adversity. Key components of rhythm and reflection allow for creative expression using drums or other rhythm instruments, as well as thoughtful reflection and application of the exercises (Faulkner, 2017). The model has programs specifically adapted for bullying, healthy relationships, youth with special needs, as well as general trauma recovery. In his work with trauma survivors, Faulkner

(2017) discusses the critical element of creating a sense of safety for the participants. As with other modalities of trauma work, if victims do not feel safe then the intervention will not be effective, no matter how intricate or well-planned it may be. Related to safety is comfort in engaging with difficult feelings. Faulkner discusses the role that drums can have in facilitating a “discussion” without using words. If talking about how an experience felt proves to be too difficult, participants can instead play how they felt or how they would imagine the feeling would sound. This can be a less threatening way for survivors of trauma to begin to reconnect and re-engage with intense emotions. Other activities integrated into the Rhythm 2 Recovery model include the use of drums to facilitate grounding and mindfulness exercises, such as beating a drum to the tempo of a resting heartbeat for participants to have a grounding point to return to if feeling distressed (Faulkner, 2017). Due to its use with other forms of trauma, a model such as this could seemingly be easily adapted for victims of interpersonal violence.

### **Intervention Model**

While many models use a group drumming format, this intervention utilized individual sessions with the client and therapist. Although some of the benefits of a group may be lost, such as connecting with other survivors, an individual model was chosen due to the ability to focus more on each client’s specific needs and issues, as well as the ability to tailor each session to that individual. Five drumming sessions were conducted with each client, using a specific theme for each session (see Table 1). Discussion and feedback took place after each activity, and related specifically to the client’s own trauma. Opening exercises were used in each session to assist in building rapport and building the client’s comfort level using drums. For example, the therapist would play a rhythm and the client could choose to either match the rhythm or play a different rhythm that connected to the therapist’s. Exercises such as playing a steady, “grounding” rhythm

were used at the end of each session, as well as a closing discussion to ensure the client felt safe leaving the session. See the table below for an overview of sessions and objectives. Specific details for each session can be found in the appendix. Drumming exercises mentioned were obtained from part 2 of the *Rhythm to Recovery* book (Faulkner, 2017).

**Table 1. List of session topics and objectives**

<b>Session</b>	<b>Topic</b>	<b>Objectives</b>
Session 1	Introduction/Safety	Familiarize clients to the drums and to concepts of polyvagal theory and the different states
Session 2	Boundaries	Use rhythm to explore boundary violations related to trauma
Session 3	Exploring Fear and Anger	Use drums as a “container” for intense emotions and explore potential resolutions for fear and anger
Session 4	Strengths/Resilience	Identify rhythms for strengths that clients would like to highlight; Explore ways client has had to adapt to adversity after trauma
Session 5	Drumming Your Trauma Narrative	Development of rhythm story reflecting the client’s healing journey

## **Theoretical Framework**

### **Applications of Polyvagal Theory**

As described earlier, the Polyvagal Theory helps explain the physiological responses to trauma from the perspectives of biology and neuroscience (Porges, 2018). The theory quickly attracted the attention of therapists and mental health practitioners, particularly as it relates to trauma responses, as it provided a way of explaining symptoms and behaviors experienced by trauma survivors that had not previously been described so clearly. While it has been useful in helping to normalize the reactions of trauma survivors, therapists specializing in trauma have used this perspective in countless ways to help clients feel safer with themselves and when interacting with others (Dana & Grant, 2018).

Levine (2018) further explored the application of polyvagal theory to trauma reactions, including difficulty for victims to regulate or even experience difficult emotions such as anger, fear, and shame. He noted that in order to address these emotions, one must first look to the underlying physiology and visceral responses of the nervous system (Levine, 2018). Shame in particular can be an intense and debilitating emotion, and one that many trauma survivors experience. Polyvagal theory can offer an antidote to shame once clients make the courageous decision to confront these feelings. Shame, as well as many other difficult emotions, lives deep in the dorsal vagal state, where collapse and shut-down also happen (Levine, 2018). Additionally, shame also exists in survivors' own reactions during the traumatic event, such as freezing during a sexual assault when they believe they should have fought back or run away. Freezing can be a natural and automatic response to threat as the body enters a state of dorsal shutdown (Porges, 2018). In educating clients on the reactions of their nervous systems from a polyvagal perspective, they are empowered by the knowledge that their bodies did exactly what they needed to in order to survive the trauma, which is a crucial step in recovery.

### **Neuroception and Safety**

One additional aspect in the polyvagal theory that is important to understand is the concept of "neuroception," first coined by Porges (2018) to describe the unconscious process of evaluating whether a situation or person is safe or dangerous. Porges (2004) defined neuroception as "the evaluation of risk without awareness." In a functionally normal state of neuroception, the nervous system is able to evaluate and adapt to situations relatively easily, responding under threat and relaxing when the environment is deemed safe (Porges, 2018). After experiencing multiple traumas, individuals can develop a "faulty" neuroception due to being in a constant state of high alert. As such, safe situations are unconsciously determined to be

dangerous, causing the body to consistently be in a state of either sympathetic activation (fight or flight) or dorsal vagal shutdown (Porges, 2018). It is important to understand that while this process is a biological survival response, it also keeps trauma victims from being able to trust themselves and others, and consequently keeps the social engagement system from becoming activated. Because interpersonal trauma is often perpetrated by someone known or even trusted by the victim, relationships can become distorted, resulting in survivors having immense difficulty engaging in these relationships and leading to worsening isolation and shame. Polyvagal therapist Bonnie Badenoch (2018) emphasized the importance of safety in re-establishing a sense of trust and interpersonal connection with clients by simply titling her chapter title, “safety *is* the treatment.” If a sense of safety is not fostered within the client’s body and between the therapist and client, progress will be largely unsuccessful.

### **Integrating Polyvagal Theory to Other Trauma Therapies**

Polyvagal theory offers practical ways to regulate the nervous system, extending a way to manage difficult emotions and make them more tolerable. Multiple researchers and therapists have discussed the application of polyvagal theory in treating victims of trauma (Dana & Grant, 2018). In fact, due to the physiological nature of symptomatology that is present in survivors of trauma, understanding the neuroscience of trauma through the lens of polyvagal theory may prove to be essential in working with this population. In addition to its use in psychotherapy models, polyvagal theory has been used in the context of somatic or body-oriented modalities, such as dance/movement therapy, yoga, or music (Ogden, 2018). These techniques rely heavily on “right brain to right brain” communication between therapist and client, focusing on implicit memories and felt experience, as opposed to many talk therapies which target the logic and rational thinking of the left hemisphere (Quillman, 2013). Van der Kolk (2014) explained the

difference in left brain and right brain focused treatments beautifully: “While the left half of the brain does all the talking, the right half of the brain carries the music of experience” (p 44).

When the reality of emotions, such as shame, despair, or helplessness, become too difficult to articulate, the body “speaks” through the nervous system. Schore explains that “implicit attachment communications are expressed within the therapeutic alliance, and...they are expressed in ultra-rapid transactions of non-verbal facial expressions, gestures, and prosody between the patient’s and therapist’s right brains” (2007, p. 8). Victims of trauma often communicate emotions and experiences non-verbally (i.e. foot tapping, rapid breathing, looking away) before they have the ability to communicate their trauma verbally. For these reasons, some trauma researchers emphasize the importance of working with trauma survivors initially through a “bottom-up” approach (techniques focused on the body), rather than a “top-down” approach (therapies focused on verbalizing a logical sequence of events or memories) (Ogden et al., 2006).

Other researchers have discussed the limitations of conventional models of psychotherapy with victims of trauma due to impacts on certain areas of the brain, including the prefrontal cortex, that are responsible for rational thought and verbal processing, but are also directly impacted and often inaccessible after trauma (van der Kolk, 2003). Trauma is not usually recalled and remembered as a story in a logical sequence, but as a sensory experience with sounds, smells, physical sensations, and emotions (van der Kolk, 2014). A polyvagal approach offers solutions for engaging with the whole sensory experience, and has been integrated into other therapeutic modalities including dance/movement therapy and energy psychology (Gray, 2018; Schwartz, 2018). Integrating a polyvagal approach into treatment acknowledges the biological reaction that occurs during and after trauma, hijacking the body and leading to shutdown. A polyvagal perspective shifts the traumatized individual out of hijack and into safety

and social connection (Dana & Grant, 2014). Once clients have established a sense of safety within themselves and with others, including skills for self-regulation, they can better access the logical parts of their brain, making the narrative aspects of therapy more effective.

### **Healing Through Connection**

Healing from trauma can only be established in an environment of safety and connection. Van der Kolk (2014) argued that at the core of human suffering is either a lack of connection in relationships, or the inability to regulate the nervous system. The polyvagal theory offers an explanation and treatment for both. Geller and Porges (2014) studied the concept of safety through a Polyvagal perspective and applied it to the therapeutic relationship, including the therapist's role in promoting an environment conducive to safety. When clients feel safe, they become less defensive and more receptive to treatment. Additionally, because trauma often happens in the context of relationships that have been harmful and abusive, emotional injuries sustained in an abusive relationship can be repaired and healed through a safe one. This process takes tremendous skill and patience on the part of the therapist, due to the deep wounds carried by the client. To be social and connect with others is also to be vulnerable, and vulnerability is often extremely difficult for traumatized individuals. Through the use of therapeutic presence, clients are able to detect features of safety within the therapist, such as a warm smile or soft gaze, helping them move into a ventral vagal state of connection (Geller & Porges, 2014). Essentially, safety recruits the social engagement system, so that the older systems of defense are not needed at the time. Additionally, consistent with the concept of neuroception, bidirectional communication happens between therapist and client, facilitating co-regulation and promoting the client-therapist relationship (Siegel, 2012).

The need for continuous improvements in treating trauma survivors is evident. Trauma's

impact on the body should not be ignored, but even more so, should be integrated as a part of treatment. Re-establishing a sense of safety and repairing both the relationships with one's own body and the relationships with others should all be foundational aspects within the chosen treatment modality. Polyvagal theory offers a solid framework for helping victims understand their own responses and improve their interpersonal connections, and offers hope for victims to have a more regulated, grounded presence.

## **Methodology**

### **Evaluation Methods Overview**

This study used a feasibility approach to determine the general practicality of the intervention's use, as well as the perceived acceptability and benefits gained by participants. Feasibility studies are often conducted as an initial tactic to determine whether a research project is suitable for future, more rigorous research (Bowen et. al, 2009). The findings of this study can therefore inform potential modifications and continued development of the intervention.

Various methods of evaluation can support feasibility studies in answering the question "Can it work?" (Bowen et. al, 2009). One such method includes individual, semi-structured interviews, which took place with each participant after the five drumming sessions were completed. A second method, thematic analysis of recorded interview transcripts, was also conducted in order to determine common themes that emerged among participants. Interview questions were open-ended and explored how participants generally reacted to the intervention, which could then assist in guiding and developing future studies.

The qualitative methods described above took a phenomenological approach in order to fully capture the experiences of each participant in the intervention. This approach is often used in social research to describe the lived experiences as told by the individuals themselves and

aims to portray the perspectives of participants as closely as possible (Denscombe, 2017). Because drumming is a uniquely individual experience, participants who complete the same intervention may come away with different perceptions and impacts. In fact, phenomenology has been applied in several studies involving drumming and music interventions for well-being (Dingle et al., 2012; Perkins et al., 2016; Perkins & Williamon, 2014). Phenomenology acknowledges the idea of “multiple realities” and that people can interpret similar experiences very differently (Denscombe, 2017, p. 140). To account for the possibility of these differences, this approach relies on relatively unstructured interviews, allowing the participant to drive the interview process. Within phenomenology, Reinharz (1992) uses the term “co-researcher” rather than subject or participant, in order to highlight the value of allowing interviewees to describe their own experiences in rich detail. Hence, although an interview guide was used to facilitate initial conversations (see Appendix C), interviews were largely participant-driven, and the researcher asked follow-up questions to elicit deeper conversation and develop the participants’ stories. Therefore, questions in this intervention’s interview were rather open-ended at the beginning, with follow-up questions guided by participants’ answers.

Thematic analysis of transcribed interviews and coding of responses also took a phenomenological approach. Consistent with this methodology, open-coding of transcripts allowed for the reality of participant experiences to come through, rather than the researcher relying on their own preconceptions of what might be found. Denscombe (2017) describes the necessity in phenomenology to suspend one’s own beliefs about what might be found, in order to provide a more accurate and “pure” description of participants’ encounters with the intervention. This suspension of beliefs is accomplished by the researcher first acknowledging one’s own

internal biases about the results hoped for, and approaching the interviews without any presumptions of participant responses.

### **Researcher's Positionality Statement**

I first experienced my own incident of interpersonal violence early in my undergraduate career, which was also the initial catalyst for me to invest my time in sexual and domestic violence as a social justice issue. I first volunteered as a victim advocate at a local rape crisis center. Then, while obtaining my Master's degree in social work at the University of Alabama, I obtained a part-time job as a sexual assault counselor within a grant-funded community provider. These experiences ultimately helped in progressing my career to becoming a Licensed Independent Clinical Social Worker at the WGRC, where this intervention took place with my clients. The intersection of my personal and professional experiences with interpersonal violence, along with my musical background, ultimately helped shape my views of this project. My mother was a piano teacher, and music has always been an integral part of my life. While I dabbled in piano-playing, the love for the violin ultimately became my passion, particularly fiddle tunes or Irish songs. I occasionally played with a small band at a local restaurant growing up. While I was confident in my ability to hold a rhythm, I had never considered myself a drummer. While working at the WGRC, I was connected to Jennifer Caputo, an instructor at the University of Alabama who led African drumming circles on campus. We decided to try integrating some drumming circles into the support group that I facilitated with clients at the WGRC. While she brought her instruments and led the technical aspects of drumming, I facilitated the therapeutic discussion. We incorporated topics such as boundaries, fear, and anger into group drumming experiences, and watched as those participating began feeling more empowered and connected to each other. Seeing these powerful encounters is what ultimately led

me to seek out more research on the impact of drumming and form the basis of this project.

### **Participant Selection**

All of the researcher's current therapy clients at the University of Alabama's Women and Gender Resource Center (WGRC) were invited to participate after August 15, 2021. Clients initiate contact with the WGRC because of a history of trauma related to interpersonal violence. This circumstance made them suitable for the study. Relying on purposive sampling, inclusion criteria for clients of the WGRC included: they must have been a student, faculty, or staff member of the University of Alabama or a student of Shelton State Community College; and they must have been a victim of interpersonal violence, including sexual assault, dating or domestic violence, stalking, sexual harassment, or an adult survivor of childhood abuse. Clients of all genders and gender identities were eligible. Exclusion criteria for clients of the WGRC included having an arrest or criminal charge related to any form of interpersonal violence, or having been found responsible for a sexual assault or harassment-related violation in a Title IX investigation. The same inclusion and exclusion criteria applied to this study.

### **Sample**

Based on research detailed below, it was expected that 6-10 participants would be sufficient for this study. This range allowed for both saturation and feasibility. Saturation as used in qualitative studies describes "the point in data collection and analysis when new incoming data produces little or no new information to address the research question" (Guest et al., 2020, p. 2). Several researchers who have relied on qualitative interviews for their data collection have found that the majority of new information had been discovered within the first six to ten interviews (Morgan et al., 2002; Guest et al., 2006; Francis et al., 2010). Therefore, fewer than six participants for this study would likely be insufficient in generating significant and

meaningful data for a thematic analysis. Consistent with this number, Guetterman (2015) discussed differences in sample size needed depending on the methodology used, and determined that as few as six could be adequate for a phenomenological approach examining participant experiences. Additionally, more than ten participants would likely not be feasible due to time constraints and limitations within the agency, including the time required for the researcher to transcribe each interview and code the data. A total of nine participants were initially recruited, with one participant dropping out.

### **Participant Recruitment**

Before any participants were recruited for the study, Intuitional Review Board (IRB) approval from the University of Alabama was obtained (see Appendix D for IRB approval letter). The WGRC's Executive Director provided a letter of support for the study, which was included in the IRB protocol. Clients of the WGRC initiate counseling services themselves, and typically call the office to schedule an initial intake and begin therapy. The researcher's current therapy clients were eligible for the study and were recruited by the Center's administrative assistant when clients checked-in for their regular therapy appointment, starting August 16, 2021. The administrative assistant gave clients the recruitment flyer and told them that if they were interested, they could inform the researcher at their therapy appointment. The researcher left it up to potential participants to initiate interest in order to avoid any possible coercion. Once clients expressed interest in the study during their therapy session, the researcher engaged them in the informed consent process before starting the intervention. Potential participants were given a handout with a brief description of the drumming sessions as part of the informed consent process before agreeing to participate (see Appendix A).

## **Procedures**

This study involved the integration of drumming and rhythm activities into five individual therapy sessions between the participant and the researcher. Each session focused on a different theme, culminating with the participant's use of sound and rhythm to tell their trauma experience. A detailed description of the intervention model was discussed above. After the completion of the five drumming sessions included in the intervention protocol, individual interviews were scheduled with each participant. The interview session was separate from the participant's regularly scheduled therapy session. Interviews lasted between 45-60 minutes and were audio-recorded for transcription. Interviews were semi-structured in nature and largely guided by the participant's responses (see Appendix C for interview guide). Consistent with the protocol for a feasibility study, participants were asked about what they learned and what was significant to them in each session and were guided through the five session exercises and asked about their experiences in each one. They were also asked about their thought process in choosing which instruments to play, which sounds they chose the therapist to play, and significant rhythms that they developed. The instruments used throughout the sessions were laid out during the interview to assist in participant recall of experiences. The researcher also relied on notes taken during each of the sessions to assist in reminding participants of what they did during each session, a break-down of the different activities, and what instruments participants chose for each activity and the ways they were played. Finally, participants were asked about what specific aspects or sessions they benefited from the most, and what they would like to see changed. The researcher asked clarifying questions throughout the interview to ensure accurate interpretation of participant accounts. Through this interview method, the participant's story of their experience with the intervention was told.

## **Data Analysis**

After conducting the interviews, thematic analysis of the interviews was conducted in order to determine what themes and sub-themes emerged. Interviews were transcribed utilizing transcription services from rev.com, then reviewed for accuracy. Transcripts were then uploaded to NVivo software, read and re-read, and coded using an open-coding approach. The codes generated helped to inform what patterns and themes emerged from the datasets. Themes and sub-themes were then reviewed for fit by the researcher and given names to reflect their meaning. This process of thematic analysis was developed by Braun & Clarke (2008) to provide clear methodological guidance. With the assistance of NVivo, visual representations of the data, such as a word cloud, were used in addition to reporting on themes. A report of the data that emerged from the interviews assisted in exploring the feasibility and acceptability of the study. Relying on participants' discussion of their experiences could then be used to help guide and inform future studies.

## **Ethical Considerations**

As previously discussed, the research project was approved by the University of Alabama's Institutional Review Board (IRB) to ensure the project was carried out ethically, including the protection of participant confidentiality. Several steps were taken to safeguard participants. In the recruitment process, the Center's administrative assistant recruited participants for the study in order to avoid any potential conflict or perceived coercion of participants, since the researcher was also the therapist engaged in the study. The researcher engaged interested participants in the informed consent process, including providing them with a brief overview of each therapeutic drumming session, and assured them that they could still receive services from the WGRC if they choose not to participate in the study. The researcher

answered any questions prior to the participant signing the informed consent form, approved by IRB. Participants were informed that they could stop the intervention at any time by notifying the researcher. None of participants' identifying information was used, and participants' identities were given pseudonyms when interviews were transcribed and analyzed. Data was kept securely either in the researcher's double-locked cabinet, or on a password-protected and secure computer.

### **Trustworthiness**

#### Credibility:

1). Credibility was first established by the researcher engaging in reflexivity within the memoing process, as well as self-reflection of their own personal biases that may be present in the study.

For example, since the researcher is also the therapist conducting the therapy sessions with participants, there was the potential to seek out or encourage responses that would yield positive results for the research. By being straightforward and maintaining active awareness of potential biases, credibility was increased.

2). During participant interviews, the researcher engaged participants and asked clarifying questions to ensure their statements were being accurately captured. As previously discussed, using a phenomenological approach in this study allowed the researcher to take a "backseat" to the participants' voices, allowing their stories to be told.

Dependability: After the data were collected, a detailed description of data collection processes was provided, facilitating an audit trail for future use. De-identified data are planned to be published or available for other researchers to review for accuracy, as outlined in the IRB protocol and participant consent form.

Transferability: Although not generalizable in the customarily understood sense due to the size and scope of the study, the findings of this research may be useful for other populations or in similar settings. A discussion in this paper of how findings relate to a broader shared human experience contributes to the element of transferability.

## Results

After coding the transcribed interviews, five main themes were generated, along with several sub-themes under each theme (see Table 2). Participant quotes were placed in italics in order to highlight their importance as the primary source of results.

**Table 2. Themes Generated from Participant Interviews**

Theme	Sub-Theme
<ul style="list-style-type: none"> <li>• Connecting with sound</li> </ul>	<ul style="list-style-type: none"> <li>- Communication through sound</li> <li>- Emotional regulation</li> <li>- Processing difficult emotions</li> <li>- Processing trauma Memories</li> <li>- Symbolizing emotions through sound</li> </ul>
<ul style="list-style-type: none"> <li>• Insights gained</li> </ul>	<ul style="list-style-type: none"> <li>- Insights related to self</li> <li>- Insights related to trauma</li> </ul>
<ul style="list-style-type: none"> <li>• Sense of agency</li> </ul>	<ul style="list-style-type: none"> <li>- Agency after trauma</li> <li>- Agency over decisions made</li> <li>- Ownership of feelings</li> </ul>
<ul style="list-style-type: none"> <li>• Sense of Safety</li> </ul>	<ul style="list-style-type: none"> <li>- Comfort in sharing</li> <li>- Freedom to experiment</li> <li>- Memories of safety</li> <li>-Safety in processing trauma memories</li> </ul>
<ul style="list-style-type: none"> <li>• Social Connection</li> </ul>	<ul style="list-style-type: none"> <li>- Connection to others</li> <li>- Connection with therapist</li> </ul>

### Theme 1: Connecting with Sound

Due to the nature of the intervention involving experimenting with different rhythms and sounds, it was unsurprising that all eight participants discussed the various ways they connected

emotionally to different sounds. Many participants highlighted specific instruments that they connected more to, or that reminded them of specific memories in their lives.

### ***Communication through Sound***

Several participants discussed ways that they were able to effectively communicate ideas, needs, or emotions through the instruments, often more easily than speaking such things using words. For example, Blaze stated, *“Something that was helpful for me was having to communicate things that I've said verbally or I have written about or whatever, in a new way, such that I had to encounter those stories or those narratives in a new way, because I was trying to drum them or I got to walk around language in some ways, not like in a typical therapy session.”*

Another participant, Matthew, discussed similar feelings of being able to express certain feelings through the sounds that he had not previously done in talk therapy: *“I've always kind of looked at therapy as a thing that you come in, you do, you leave. It was interesting; it made therapy feel a lot more than just talking. It was a lot more than just a place to rant. I have gotten more emotional than I have before. But also just the other thing that was really pleasant about it, it was just expressing what was happening because I'm not used to talking about what I'm feeling, even physically. So it was good practice for that.”* These and other similar statements reflect the unique abilities that sound and rhythm had to communicate nonverbally.

### ***Emotional Regulation***

Many participants spoke about the ways that hearing certain sounds and creating various rhythms helped them to regulate their emotions. More specifically, participants discussed the ways that the instruments served as an “anchor” or grounding point during more difficult sessions. This shows the importance of introducing regulatory exercises early on, such as the

heartbeat rhythm, as several participants used such grounding tools when they started to become dysregulated. Blaze discussed their experience with using the instruments to transition out of a more difficult session: *“Yeah, I think that was maybe the hardest session to transition out of. And we tried the little eggs and that was good, but I think that was definitely the session that was the most “Ahhh!” And I feel like the drums offered a really helpful anchor through that conversation. I definitely think that was the most emotional day...But something that, with this being over, I’ve been thinking about how to work this in to how I regulate normally.”* Georgia also echoed the anchor metaphor by stating: *“It’s calming in two ways, of this is the anchor noise, this is what I’m holding onto, but also the idea that it could be so soothing in this environment, of there was a thing for me to put that into.”*

### ***Processing Difficult Emotions***

Participants additionally mentioned the ways that sound and rhythm served as a useful tool in processing emotions that may be too difficult to discuss or process verbally. This finding is supported by research discussed previously indicating that verbal processing of trauma may be more difficult for survivors, due to trauma’s impact on the brain (van der Kolk, 2014). Georgia specifically discussed the ways that the instruments helped in exploring feelings of anger: *“You know rain is symbolic of rebirth and growth and stuff like that, and it felt like, that is very comforting, to come out of anger and into a cool place of growth. And that is so helpful with the people I love and trust to see me angry now, that I know that they will be that place for me. It felt cool to be able to voice that, and know that that was happening. It’s like doing the thing helps you to realize the feeling, and then you get to talk about the feeling, and then you realize the feeling and it goes back and forth.”*

Another participant, Katie, talked about her experience with encountering emotions

through music and rhythm, and how it differs from talking: *“Not having to relive that mentally but emotionally reliving, I feel, is different because with talking you can talk yourself out of words and just not be able to speak but with emotionally like with music, you can go on forever. And with music if you get upset, there's not really ... You'd only have to pause. You'd run when trying to collect yourself because you can just switch to a different rhythm or you can cry. I feel like it's more acceptable to cry while you're playing music than it is while you're talking, which is really weird.”*

### ***Processing Trauma Memories***

In addition to processing difficult emotions, a similar theme that emerged relates to rhythm's ability to support the processing of actual memories of trauma. Once again, sound could be seen as a tool in facilitating further processing and discussion of traumatic memories. Mary discussed how the instruments were helpful in combination with processing memories verbally to share memories of trauma that she had not previously been able discuss in therapy: *“It was awkward at first. But I think it was easier, in a way. And I was able to share something and then was able to ground myself after. And I don't know. It was really helpful, honestly.”*

Several participants also mentioned how different instruments represented different people or aspects from their trauma, allowing them the ability to experience those memories in a way that could not be otherwise felt or encountered. Heather discussed some of the ways she connected different sounds to past memories: *“I thought it was a good representation for the drums for my dad. It was evolving from before, when I didn't think there was anything wrong and it was a simple marching beat to something that was much more aggressive and overwhelming and hurtful to me. And then going from the chime drum to more of the singing bowl, but it was one tone, it was just the one, like the ringing in my ears...That's what it felt like a lot of the times*

*for me during that time, because I was extremely depressed and lonely, I didn't feel like I had anyone to turn to. And then some of the time when I tried to turn to my dad, it was very rigid and like military marching tune, he didn't know how to help me. And a lot of the times during that time, he would hurt me, not intentionally, but he still hurt me.”* Several participants connected different sounds or were able to play one instrument in several different ways in order to emulate the memory they wanted to process or re-visit.

### ***Symbolizing Emotions Through Sound***

The final sub-theme under “Connecting with Sound” involved the ways that participants used the instruments as symbols for either expressing how they were currently feeling, or what emotion they had previously experienced that they wanted to embody through sound. Georgia spoke specifically about how one particular drum helped her notice and experience what she was feeling in her body: *“But this drum is crazy [pointing to buffalo drum]. Just, it felt very, very real in a way that I don't think the other ones did. I think it's the resonance, the way it resonates, just kind of vibrates in you, and it's like, that is the pit of my stomach. It's right there. It makes you think about the stuff that exists right there, in the pit of your stomach, which is cool.”* Katie also mentioned the sound’s ability to represent emotions in a new way:

*“And it brought up, I think, we were able to go a little bit deeper than by just talking about something because I think with emotions they brought out ... Are they different? Well like, with talking, you can only go so far, but with the instruments, we were able to unlock something else, in terms of thinking emotionally and hearing and stuff. Well, because there's something about speaking and just being able to sense the sounds and how you feel it within your hands when you play and stuff.”*

## **Theme 2: Insights Gained**

Participants spoke about general insights they gained through the intervention. Some of these insights occurred in the context of the actual drumming, while others happened later when participants processed the experience on their own, or even during the interview. Insights were divided into those related to the participants' sense of self, and those related to their trauma.

### ***Insights Related to Self***

Insights participants gained about themselves through the course of the drumming sessions covered a myriad of issues, including ways they have grown, what they want to change or things they cannot change, and how resilient they have become. In their interview, Blaze discussed some insights they gained throughout the sessions: *“Part of it is that strange backwards glance of how much feels like it's changed since our first session, or I guess that was the second. And something that I had been thinking about a good bit after that session was, what do I not have control over? And that is other people.”*

Several other participants echoed insights they gained about themselves and things they adjusted in their lives throughout the intervention's sessions. Matthew discussed how his understanding of therapy evolved, and how he also grew in his relationship with his partner: *“It was probably the first time ever that I felt that I kind of understood the point of therapy. I mean, I felt like a different person when I came into the room versus when I left. I've been a lot more open with my partner and with how I'm feeling...And this made me have a shift in mindset, that of, it's not just a place to blow off steam or to kind of put myself back together so I could go and just break myself apart again. It was a place where I could reshape who I was and what I wanted.”*

### ***Insights Related to Trauma***

Another set of insights that participants discussed related directly to how they viewed their own trauma. Of particular interest was the ways that participants mentioned the ways that the drumming helped to facilitate a process of giving themselves permission to feel certain emotions related to their trauma. Blaze stated: *“I remember especially feeling at the end, the word activated, definitely fair. And I remember playing the drum was the first time that I let myself be angry about the situation or like I had called a feeling I was feeling anger, but hadn't actually been, ‘I want to externalize this emotional force.’ And I remember how pleasant it was, in the aftermath of having done that, of being, ‘Wow, hitting a drum feels great.’”*

Other participants made connections between how they chose to use different instruments and specific aspects of trauma they had experienced. Georgia stated: *“But I know that the people I love now only have the best intentions, and the people I used to be with are harmful individuals. So it's kind of been realizing that, I know in that session I said, ‘I know I do have other options, I can change instruments, I can leave people and go to new people.’ I've always had a hard time leaving people. But I can leave people, go to new people. But I think with friends like this, I was able to find a new rhythm on the same drum, of these friends, while they have a lot of similarities to men who have done me wrong in the past, also are very different.”*

### **Theme 3: Sense of Agency**

Many participants discussed the ways that the sessions helped them develop a sense of agency or empowerment with themselves. This theme was further divided into 3 subthemes related to agency: agency after experiencing trauma, agency over the decisions they made in the sessions, and having a sense of ownership of their feelings.

### ***Agency After Trauma***

Regaining a sense of control after trauma is often an essential step for survivors in establishing normalcy. Katie talked about what it was like for her to use sound to explore her experience of regaining control and agency: *“It was interesting because it's hard for me to feel agency, and exercises like talking about it, it's harder to learn to feel what it feels like to have agency. So doing it through sound, you get to feel what it feels like to have agency, without me feeling outside of my comfort zone by like talking and having conversation.”* This quote also echoes the above-mentioned theme of connecting with sound, and how that experience differed for her versus solely talking in therapy.

### ***Agency Over Decisions Made***

One important component in this intervention was that participants had full control over what sounds they wanted to hear, what instruments they wanted to play and how they played them, and what they wanted to hear played along with them from the therapist. Several of them mentioned this experience of having choices and decisions throughout the sessions, and how this contributed to their sense of agency. When reflecting on one session exploring boundaries, Katie shared: *“So for me, it's hard to be able to voice my concern to take initiative and make a decision, especially in something like that. So it felt like a safer space to make a decision because there really wasn't a wrong way to do something because it was how I felt. So it forced me to think about my sense of agency and that I deserve to begin a boundary.”*

### ***Ownership of Feelings***

Related to agency and control, participants discussed how the intervention allowed them the space to own their feelings. This points to the process of allowing oneself to feel strong emotions that may have been cut off after trauma. Georgia discussed her process of owning her

feelings within the larger context of rhythm: *“Making up the pattern, the beat, the rhythm, the melody for this, was hard, but it was relying back on what I felt, and what I thought, and the kind of rhythms that already exist within being an alive human being. Like a heartbeat, or running, or stuff like that. I think that it was very much like that falling back on myself for those things, that I didn't have to use my head to divine some beautiful creative artistic thing. That it could just be me, what I felt.”* This thought also explores the related sense of taking ownership of drumming as a deeply creative experience, and the freedom that comes with allowing oneself to turn inwardly and rely on intuition rather than solely on reason or rational thought.

#### **Theme 4: Sense of Safety**

Arguably the most important theme related to participants' feelings of safety. As mentioned before, if survivors of trauma do not feel safe while in therapy, making progress will be much more difficult. Several subthemes emerged related to safety, which most participants discussed in some way.

##### ***Comfort in Sharing***

Several participants discussed how the intervention expanded their comfort in sharing emotions or details of their trauma. In particular, Mary talked about how the drumming allowed her to feel safe enough to share things she had not previously been able to share in traditional talk therapy: *“I feel I was able to share things that I've never really talked about before. I didn't know what to expect the first time, so I was really nervous and I think it took me one or two times to get comfortable with it. I guess, it made me feel more comfortable in a way to share things. I guess it was difficult to talk about, but I felt a sense of relief to talk about it.”*

##### ***Freedom to Experiment***

A sub-theme related to safety was the freedom to experiment. This was another theme that was not unexpected, given the importance of this freedom within rhythm and music. The

participants who took part in this intervention came from varying levels of musical experience, but even those with little to no music background shared that they felt free to play around with the different instruments and sounds. The value of freedom also extends the idea that there is no right or wrong way to play, releasing the players from any expectations to perform a certain way. When reviewing the final session during the interview, Georgia reflected: *“Yeah, the chime drum. I hadn't touched it this whole time. It's been looking at me, I was looking at it, and I was like, 'not now chime drum.' But it felt very right to do it as the last thing. It's such a beautiful noise, and there are the numbers on the top of it, and I know that they all have different notes, and I was like, I should be making a melody or something like that. I was trying to do three-five-six-four, that kind of thing, and then I was like, that doesn't matter. I don't have to try to figure out how to do this, I can do whatever I want. It was like, I got to do the freedom by making my own structure, and then also departing from it, which was cool. I got both sides of the, freedom can be structure, but it can also be whatever you want it to be. So that was excellent.”*

Several other participants echoed their process of getting outside their “comfort zone” and pushing through some initial discomfort or awkwardness with trying something new. Phoebe stated: *“It was hard at first just getting myself to be able to drum because I felt like I didn't know what I was doing and I was going to play it wrong. But, I think that got easier as I went on and I realized there's not a right way to do it and it's just what I want to do.”* Matthew also spoke to his initial uncomfortable feelings, and his process of finding a place to be free to experiment: *“I think the biggest thing I found that was really helpful with it honestly, was that it put me into an uncomfortable position and made me have to be willing to be vulnerable, and to also just not have any structured guidance, because I'm so used to doing things where there's one particular way of doing it. There's no one right way. And the fact that there's no right way of doing it was a*

*very, unfamiliar experience... That like, I wouldn't be ridiculed or punished if I did something wrong. It was just, it was very pleasant and it also allowed me to, it brought me out of my comfort zone. So it brought me kind of out of my own self, kind of took down a lot of walls."*

In addition to the emotional freedom several participants spoke about, others discussed a sense of freedom with experimenting with different instruments until they found the sound they wanted. Heather talked about her experience with using the same instrument different ways to represent very different emotions. When discussing her experience with a session exploring fear, as well as a resolution to that fear, she shared: *"Yeah for me, the difference between when I was using it for anxiety and when I was using it as the resolution I guess, was for that anxiety, it was like building on top of other things...I think for the anxiety one, I might've been moving the beads in it faster. And then for the calm resolution one, it was not as fast and it was the only instrument. So it sounded to me more like calm ocean waves, it's not crashing at the shore or whatever. So it felt very different in those situations, even though it was the same instrument."*

### ***Memories of Safety***

This sub-theme largely relates to memories that emerged for participants during the actual sessions. Through engaging participants early with grounding and safety exercises, they were able to use these throughout the project when feeling dysregulated. Several participants discussed the memories they recalled in the sessions that elicited feelings of safety, as well as the shift from anxiety to comfort. Katie described her process of choosing different instruments in part based on the memories of safety they were attached to: *"I kind of picked them on sounds that I remembered from different aspects of my life. So there was the ocean sounding one because I really like the ocean. And then...so that would remind me of certain things. And then I just liked the frogs because there are frogs that chirped outside my home when I was little."*

Mary shared a similar experience of choosing an instrument that reminded her of supportive people that had surrounded her in life: *“I feel that one with the frog, when I heard it, I don't know. It was weird because it probably sounds weird, but it like reminded me of crickets and I don't know. It was just good to hear that. I know I have all these people around me, but it's just good to hear reiterating it. That all of these people in my life do care about me. Even if I don't see them every day or whatever.”*

### ***Safety in Processing Trauma Memories***

Although “Processing Trauma Memories” was listed as a sub-theme under “Connecting with Sound,” a distinguishably different sub-theme emerged related to participant’s feeling safe in sharing, processing, and confronting trauma memories. Katie shared some of her experiences with safety through the intervention, as well as processing certain aspects of how she responded during one of her assaults: *“So when we talk to the deeper stuff that was probably scarier and harder to talk about, unlike if we were just doing talk therapy, I was able to connect with it more because I felt safer. I had control and there was someone else with me, so if I felt overwhelmed, I could stop. And it was in a controlled environment. I've had issues with, when one of the assaults happened, I couldn't move. And there was that catatonic, like not being able to move and it seemed like it always bothered me, and then we started talking about, that's a normal response. And then how it feels and venturing into that scariness, but in a safer place where I don't feel that. And in doing so, it made me feel less responsible for having done it, for that happening. I guess, because it's not something that I could control and being able to explore it again in a safer environment, but not through words.”*

### **Theme 5: Social Connection**

A final theme that appeared relates to the social connection that occurred throughout the

sessions. Music has often been described as a social experience, and interpersonal violence can frequently leave survivors feeling isolated, craving connection. Throughout the interviews, participants described how they felt connected to others in their personal lives, as well as a sense of connection between participant and therapist.

### ***Connection to Others***

Several participants discussed the ways they felt more connected to safe, important people throughout the course of the intervention. Mary described an important conversation she had with her boyfriend after the session related to fear: *“Because I think with that, I felt the fear of abandonment, because I think I said it's not ‘if’ it's ‘when’ (my friends) leave. It was actually something I talked to (my boyfriend) about, after our session, and I feel like I was able to open up more to him, about why I felt the way that I did, because I felt like emulating me being alone in my thoughts and having the background noise of him or my mom or my friend, whoever's there through that. And then I feel he was able to understand more...which helped me and made me not feel so alone.”*

### ***Connection with Therapist***

Researchers have shown the ways that music and rhythm can facilitate a genuine connection between those participating (Devereaux, 2017). Blaze discussed their feelings of connection within the therapeutic relationship, and their ability to discuss things in the context of drumming that they would not have otherwise: *“I think it's also interesting because you and I started maybe a couple of weeks before we started this. And so there were things that I said for the first time in this context of a therapist relationship while drumming. So thinking about those things, there was a lot of vulnerability built in, without it really at any point feeling necessarily precarious.”*

Georgia talked about the playfulness that occurred between herself and the therapist while engaging in an exercise: *“But the noise is so happy, and it's a fun little thing that we did together, that felt like a game or something like that.”* Blaze also spoke about the playfulness that occurred between themselves and the therapist while drumming: *“It's a little bit like when you feel silly dancing, and then you dance, and then it's fun, or like roller skating or bowling. They're these things that feel like there's a jumping-off you have to do into the activity, and then once you're in it, it is fun, and it is nice, and it is cool. And then I think afterwards the feeling was simply, it's called playing drums for a reason. And it felt like I had played, even if we were talking about difficult things. Even though we went deep, I felt like I got to work through it. I didn't feel like I was carrying baggage into the rest of my day.”*

### **Making Meaning**

Once all the themes were gathered from participant interviews, I wanted to provide a visual tool that could aid in connecting all these themes and responses. The tool that was chosen to assist in exploring the meaning of the findings was a word cloud (see Figure 1). This word cloud was created using NVivo, which searched the word frequency of nodes (themes) created, and set to the grouping of “specializations,” so that it looked at words with similar meaning to create the words in the cloud.



While these experiences may be felt very differently among individuals and can take on different meanings, previous research has already demonstrated the impact that music and rhythm have on connecting humankind to each other (MacIntosh, 2003; Pelletier, 2004; Bittman et al., 2001; Fancourt et al., 2016). This sense of movement may also be experienced as the participants' ability to move *through* their trauma, not just talking around it. As previously mentioned in the results section, several participants noticed a distinguishable difference in what they were able to process, share, and feel with the addition of rhythm that they were not able to experience before in talk therapy. This further reinforces the usefulness of music and rhythm to facilitate discussion without using words.

### **The Final Session: Drumming the Trauma Narrative**

The fifth and final session seemed to be the most powerful session for most participants, where they were invited to name and create rhythms for various points along their healing journey related to trauma. This allowed them to be their own storytellers using rhythm. Most participants chose three or four different stages, some representing themselves before, during, and after trauma. Others chose one specific element, such as their relationships, and traveled through the ways that trauma impacted how they saw themselves in relation to others. Participants were also invited to utilize the therapist to play along with a sound representing another person or element in their trauma or recovery. This was an important and necessary component to consider, as interpersonal violence happens in the context of relationships, as does healing. Many participants stated that this was the most powerful exercise out of the five sessions, where they were able to share parts of themselves that they had never been able to share with anyone else. Additionally, this exercise gave participants an opportunity to reach a sense of closure with the sessions, as many brought in rhythms or revisited instruments they experimented

with in the previous sessions. For example, some returned to the rhythm they created to represent their safe place from session 1. Others revisited what was explored when putting their different polyvagal states to sound, exploring what their states of ventral vagal (connection and safety), sympathetic (fight or flight), or dorsal vagal (shutdown) might sound like. In many ways the sessions seemed to build on each other, culminating in the final session where they were the conductors of their own musical piece.

### **Case Study of Final Session**

The final session's impact can be more understood by giving an in-depth look at one participant's experience. In this session, Penelope developed three distinct "stages" along her trauma and healing journey. The first stage she titled "Broken Infrastructure," which represented moments in her tumultuous childhood where items were literally being broken in front of her. She recalled her mother's mental instability and her child self's desire for a sense of normalcy. To represent this phase of her life through sound, Penelope had me using the thunder tube instrument to represent her mother. She chose to play on a small frog instrument resembling how a small frog sounds, which she stated represented her smallness and innocence. Hearing the tiny frog's croaks being drowned out by the boisterous thunder tube was indeed a powerful representation of Penelope's relationship to her mother, and she likened this present experience with being "berated for croaking" as a child.

Penelope titled her second stage "The Incident," representing the period of her life immediately following a rape in her early 20's. She described this as a time of instability with rapid and significant changes in her life, not knowing who she was. To represent this period, she chose a small round drum with different tonal chimes, which, in this exercise, represented her own internal chaos, and that some things she thought were useful ultimately did not bring her

joy. She chose a larger frog instrument for me to play intermittently while she was playing, which she said represented the distractions she used in an attempt to feel alive after the rape.

Finally, Penelope titled her third session “Symphony.” She discussed this as representing her life presently where she continues to have some symptoms related to her trauma, while also recognizing that she approaches her life with a different mindset now due to tools she has learned throughout therapy. She also acknowledged that this current period involves actively coming to terms with her trauma and the ways that facing that has been difficult. Interestingly, she chose the same tonal chime drum she used in the second stage when representing chaos. However, this time she played much more intentionally, considering each note’s different tone, and making melodies on her own. It should be noted here that this was the one time that I decided to take a risk and join in playing with Penelope in that moment, without her initiating that decision. One value that I personally held throughout this project was client’s self-determination in making decisions about what and how to play, as well as what they wanted me to play. However, in that moment I took a therapeutic risk and joined with playing what I had coined the “ocean drum,” a small frame drum that, when moved slowly, resembled the sound of rolling ocean waves. I had recalled that Penelope had previously chosen this instrument in the first session to represent her emotional safe place, and seeing the small beads rolling around reminded her that she can sometimes feel stuck, but can also return to her life’s rhythm. Remembering this instrument’s significance to her, I chose to gently start playing this instrument along with her “Symphony.” Immediately, Penelope began softly crying and stated that was exactly what she needed to hear. What is also important to mention is that Penelope and I had already established a therapeutic relationship spanning several years. Had our relationship been newer, I may not have been as in tune with her needs. In our interview as Penelope was recalling this stage of the final session, she

stated, *“The fact that you came back in with the ocean drum after I had forgotten about it and just happened to pick it up because I could ... well, I liked it just in general and I could make a story out of it. But, for you to bring it back and validate these observations I had made about it and bringing that in when I'm coming to terms with something positive being a stage in my life. Yeah, that was really overwhelming and comforting. When I say it made me cry, it was a good thing.”* Penelope additionally brought up the power that this final session held even when the project was over, particularly with how validated she felt when I remembered details about her drumming journey, and the feeling of how the project felt like it had come “full circle” for her through that final session. Again, this sense of connection she experienced was likely enhanced by our existing therapeutic relationship and her level of trust in me as her therapist to take risks.

### **Additional Findings**

Although no participants expressed that the sessions were emotionally harmful, varying degrees and types of benefit were discussed among participants. This may be due to personal preference or level of comfort with musical instruments going into the sessions. Several participants voiced some level of discomfort at times, but made it clear that this was not necessarily a bad thing, and could even be necessary for growth. Matthew discussed the importance of discomfort while reflecting on the session related to boundaries: *“I think all the sessions left an impact on me and how I act and what I do. And I think that session still helped because of the fact that I'm setting boundaries. I am still incredibly uncomfortable doing it, and it makes me uneasy. I still would be very timid about setting them, but I will set them even if I'm uneasy...And I remember how much I disliked the feeling. But one really important thing or lesson I took away from it was to just kind of stop myself. If something was upsetting me, someone was doing something, just taking a step back and resetting. That was a really valuable*

*skill I learned from that. It's probably one of my least favorite sessions, but I would say it's probably also one of the most important ones.*” Matthew was able to recognize the therapeutic value of some discomfort; even if it was his least favorite session, he recognized the importance for him in learning to set boundaries.

Overall, the session that seemed to be the least impactful was the session on strengths. One exercise that was done in this session was adapted from a similar exercise from the Rhythm 2 Recovery model (Faulkner, 2017). In this session, participants were given a list of “strengths” words and were asked to choose 3 that they identified with or wanted to reinforce, and choose 3 words that had been used against them or others had taken advantage of in some way. In the exercise, the participants drummed “I am” statements with each of the words they chose, while the therapist echoed each strength back to them, keeping their same rhythm but speaking back “You are” followed by their strength word. While this exercise had been conducted previously in a group setting, it did not seem to have the same impact when done individually. Therefore, if future studies are conducted, this exercise would likely be taken out or replaced.

Another concern that came up within the sessions and during the interviews was the issue surrounding choices with instruments. Some participants felt overwhelmed by having too many choices with different instruments, while others wanted even more variety of instruments to choose from. This further reinforces the importance of having some individuality depending on what each participant needs. While it may not be feasible to get more instruments once the sessions have started, participants who want more choices could be shown other ways of playing the same instrument to produce different sounds. Alternatively, those who feel overwhelmed by too many instruments could choose just a few that interest them at the start of the session, and the other instruments could be put away.

Finally, another issue that several participants brought up was feeling that some sessions needed more time to fully explore and develop. In hindsight, the first session exploring safety and polyvagal theory might be more useful if extended through two different sessions, especially as participants are also getting used to all the different instruments at that time. Katie echoed this thought when she stated: *“The first session I felt could go into two just because, getting used to everything...it was a little strange at first.”* Penelope shared a similar view regarding potential benefits of some extended time: *“I think it could be beneficial to have a preliminary thing, session, or have an extra 30 minutes...Something to where you're not having to figure this stuff out yet...But something to explore it and just exploring the instruments and not having the pressure to attribute it to something so soon.”* Although there may be limitations on time due to agency or other restrictions, further studies might consider extending the length of each session from 50 to 90 minutes, in order to have more time for reflection of the exercises.

## **Discussion**

Within the discussion section, I will first provide an overview of the project's results, giving meaning to the findings. I will then connect this project and its findings to previous research discussed in the literature review, as well as the findings' connection to polyvagal theory. Next, I will discuss a few practical challenges that were faced throughout the project, as well as several research limitations. I will then provide some of my own personal reflections as a therapist engaging with this project. Finally, implications for future research and applications to clinical social work will be discussed.

### **Discussion of Project Findings**

In taking a phenomenological approach, I wanted to be able to use the themes found to tell the story of the participants' experience. Even with only 8 participants, they all discussed

ways in which adding drums and rhythm in the therapeutic space was a beneficial tool within talk therapy. As mentioned in the results section, several participants spoke to the ways that they found the medium of rhythm to be more helpful than talk therapy alone in creating a safe space to process trauma. This finding is supported by previous research indicating that talk therapy on its own may not be sufficient in addressing deep trauma wounds due to trauma being stored in non-verbal areas of the brain (van der Kolk, 2014). While each participant had different comfort levels and experiences with music, even those with little or no prior experience mentioned the benefits of trying something new, getting out of their comfort zone, and allowing themselves to be creative. A few participants who seemed somewhat hesitant in the beginning and unsure of how or what to play, were able to “tap in” to their creative selves throughout the course of the sessions. Several participants spoke to this element of creativity, which supports Amir’s (2004) previous findings on improvisational music therapy and its ability to assist survivors of childhood trauma in processing unresolved memories. In one interview, Georgia discussed this aspect of creativity, along with the freedom that it brings: *“I think I’ve talked about being a very... I’m a creative person in the sense that I can create knitting or crochet or something like that, but it feels less artistic. But this is a thing that I thought would be very artistic, that ended up being whatever I wanted it to be. So being able to have the physical thing, and kind of think of the tether of, this is knitting, or this is crocheting, the physical aspect of... I can put myself into the instrument. It was very cool, to channel the emotions.”*

Another aspect of importance within the intervention was the sense of “lightening” that it brought to therapy. Talking about one’s deep traumas can be tremendously difficult and takes incredible vulnerability, courage, and bravery. Having the instruments in the room served as a metaphorical and physical vessel for holding heavy and dark memories and emotions. In fact,

one exercise in the intervention invited participants to use the drums as a container for their fears related to their trauma, and imagining themselves placing their fears into the drum with every beat. Having a physical space to hold intense feelings could be a very useful and important addition within trauma therapy. Additionally, this lightening was seen throughout the sessions in the form of play. As reflected in the sub-theme of “Freedom to experiment,” participants recognized that there was no right or wrong way to play, which took some pressure off of their musical abilities. This degree of expression and freedom may not otherwise exist in traditional talk therapy. This also gives room to explore intense memories and emotions in a way that feels less threatening or dangerous. Talk therapy, especially when trauma enters the room, can often be thought of as heavy and serious. This project demonstrated that it does not necessarily have to be either of those in order to make progress.

### **Relationship to Previous Research**

Several of the themes and sub-themes that were found in this project share similarities to previous studies mentioned in the literature review. Most notably, Simon Faulkner’s (2017) Rhythm2Recovery model stresses the component of emotional safety when engaging in rhythm exercises, as well as rhythm’s ability to encourage difficult discussion and communication without words. This model’s ability to facilitate participant comfort in sharing intense memories and feelings is also echoed in this project.

The theme of social connection is also supported by previous research. MacIntosh’s (2003) “music and healing workshops” facilitated increased connection and empathy among participants in group drumming circles. Several other researchers have studied drumming circles among various populations and their ability to encourage connection and decrease participants’ sense of isolation (Bensimon, Amir & Wolf, 2008; Mungas & Silverman, 2014; Perkins et. al.,

2016). Although this project used an individual rather than a group therapy approach, several participants reflected on improvements they noticed within their personal relationships, as well as their connection with the therapist.

The impact of rhythm in therapy has also been seen in methods other than music. Therapist and researcher Amber Gray (2017) incorporated dance and movement into therapy, while also taking a polyvagal-informed approach. She highlighted the importance of activating the body's social engagement system and creating spaces of safety in order to allow her client's to more freely navigate their bodies away from a state of hyper-arousal. In fact, Gray's case study involving a client "mapping" and creating movements for her various states helped to inform the final session for this intervention, which was discussed in more detail in the case study portion of the results section.

### **Connection to Polyvagal Theory**

In addition to the aspect of social connection, this project supported other aspects of polyvagal theory. As previously mentioned in the findings section, most participants discussed some aspect of safety within the project, both with being free to experiment and play with the instruments without the fear of being "wrong," as well as safety in sharing and processing deep trauma wounds. This element of safety is a central component of polyvagal theory. The social engagement system allows humans to connect and thrive as a species, and this system can only be engaged within the context of safety (Porges, 2018). When any type of danger is detected, whether real or perceived, feeling safe becomes much more difficult, particularly in the therapy room when vulnerability is often required. Several polyvagal-informed therapists have discussed the use of other creative modalities to re-establish a sense of safety in traumatized individuals, including dance, yoga, and tapping (Gray, 2018; Ogden, 2018). As this intervention shows,

rhythm may be another intervention that can facilitate a sense of safety and connection.

### **Practical Challenges**

Conducting this study in the midst of the COVID-19 pandemic resulted in several challenges with project implementation. COVID-19 related protocols directed by the University of Alabama and the federal government had to be maintained. Additionally, the overall safety of the researcher and participants also had to be considered when implementing the project. This resulted in the therapist and all participants wearing face masks while engaging in the project. The biggest concern with this was the lack of being able to see the other person's full face, putting some limitations on the ability to fully read facial expressions. This holds particular relevance as it relates to polyvagal theory, which discusses the "face-heart connection" to communicate safety through muscles in the face (Porges, 2018). To combat this limitation, the researcher discussed this challenge with all participants before starting the first session, and emphasized other ways of recognizing non-verbal cues, such as eye-contact, head nodding, and even eyebrow placement.

Another challenge that had to be considered was the issue of sound. This project took place in an agency which houses several other therapists, and also shares a building with other agencies conducting therapy at the same time the sessions were being conducted. Several "test runs" were conducted before beginning the sessions, and a designated "drumming office" was set up specifically for this project, strategically situated away from any adjacent offices occupied by other therapists. However, it was soon discovered that some of the drumming could be heard by several therapists in an adjoining agency because of the interconnectedness of the building ventilation system. In an effort to not disrupt other therapy sessions, another office was chosen to conduct the drumming sessions. Other efforts to assist with sound management included the use

of white noise machines, and communicating with the other therapists to alert them when the drumming sessions would take place. While this project was relatively short-term and these issues were able to be worked through, a more permanent solution would likely be needed for any future or longer-term studies.

### **Limitations**

One limitation related to the research was that the researcher in charge of project design and data analysis was also the therapist conducting the actual project implementation with participants. Therefore, the risk of researcher bias was present due to the potential to only seek “favorable” results. Attempts were made in taking a phenomenological approach, including an effort at “bracketing,” to have participants voices come through, rather than the researcher’s own thoughts or opinions. Additionally, as an initial feasibility study, the research questions were more open-ended as a way of seeking what was useful and helpful about the study. A further related limitation was that the researcher was the sole individual who analyzed the transcribed interviews for coding. Due to time constraints as well as the efforts required to train additional people on the project, efforts to recruit additional researchers for this task were foregone. However, further studies may be strengthened by having at least two individuals code results, which could then be compared and/or contrasted.

### **Researcher Reflections**

As a therapist experienced in treating trauma, all the participants in this study were already established clients of mine, some of whom I had worked with for several years before engaging in the project. Therefore, a level of trust and rapport had already been built with clients before they agreed to participate in this project. Due to the level of trust required for trauma survivors to try something brand new in therapy, this project may not have worked as well if it

was conducted with clients who did not have a therapeutic relationship already established with the therapist. Additionally, because the clients had already engaged in some type of trauma therapy before starting the research project, they had various lengths of time to pass since their trauma occurred. This study may have yielded different results if done with clients who were brand new to any type of therapy, or whose trauma was very recent.

An additional reflection takes into account that this intervention, as with any type of therapy, is not a panacea and may not be suitable for some clients. Clients' own mental stability should be considered in regards to their ability to engage in the project. During the second session with one participant who started the study, it was mutually agreed upon that it would not be in her best interest to continue the project due to a change in mental health needs that overshadowed the importance of completing the project. Therefore, ethical issues may arise with participants' needs, and their mental and emotional well-being must trump any desire the researcher may have to continue the study with all participants who started the intervention.

### **Implications for Future Research**

As a feasibility study, this project laid a solid foundation for future, more rigorous studies. Strategies to strengthen future studies could include engaging in member checking after the interviews are coded to ensure their responses were accurately reflected in the results. Utilizing a mixed-methods approach would be useful in gathering more data to analyze, such as adding a short questionnaire or existing standardized scale at various points in the intervention. One approach could specifically focus on monitoring heart rate at various points throughout the intervention, such as measuring differences in heart rate before, during, and after a session. Polyvagal Theory discusses the importance of the "vagal brake" in regulating the nervous system, highlighting the importance of heart rate variability to return to a sense of safety after a

threat is experienced (Porges, 1995). One study involving college women showed that participants who had experienced childhood abuse had more difficulty regulating their heart rate than those with no abuse histories (Dale et al., 2018). Therefore, it may be of interest to see if this intervention had any impact on participants' heart rate.

As discussed in the "Additional Findings" section, a few adjustments within the sessions could enhance participants' experiences. These include adjusting or substituting the "strengths" exercise, modifying the number of instruments based on participant comfort level, and allotting more time for each session to allow for more discussion. Additionally, this study focused on victims of interpersonal violence who were all college students at one university. Expanding the study to other universities or to other populations outside of college could help to generalize findings across settings. The positive results of this small study should not stop here, as many more victims of trauma could experience the power of rhythm with further research. Drumming as a therapeutic intervention for survivors of trauma can serve to be an important addition to other polyvagal-informed modalities.

### **Clinical Applications**

Clinical social workers should be continuously looking for ways to enhance their practice and skillset. Therapy clients may have an interest in integrating creative and alternative modalities as a way of expressing themselves, particularly as it relates to exploring trauma, and drumming may have a place here. Additionally, the techniques presented through this project have the potential to contribute to aspects of social engagement between the therapist and client. The therapeutic relationship is arguably the most important element of therapy; even the most advanced clinical skills and methods may be ineffective without a strong therapeutic alliance. Findings from this study can be used to enhance the field of social work by giving therapists

more options to explore with clients that take a mind-body integrated approach. These types of modalities can ultimately serve to address some of the limitations of talk therapy by focusing on the trauma's impact on the body.

### **Conclusion**

This paper described the importance of integrating body-focused interventions into therapy for victims of interpersonal violence. This therapeutic drumming feasibility study provides some foundational evidence for its usefulness among interpersonal trauma survivors, particularly as it relates to their ability to feel more connected to their bodies and to other humans. The drumming sessions provided a safe, creative environment for participants to express deep wounds even without using words. Given that trauma memories are often “held in the body” rather than encoded in language, drumming provides for a “way in” not available through the use of talk therapy. Integrating such visceral experiences into therapy may not currently be commonplace, but research is pointing to an increased justification of its importance in the therapy room. Conducting further, more robust studies will serve to further strengthen the argument that involving the body in trauma therapy should be the standard, rather than the exception.

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## Appendix A

### Session Overview Given to Potential Participants During Informed Consent

#### **Session 1: Introduction/Safety**

**Goals:** Familiarize clients to drums and other rhythm instruments; introduce concepts related to polyvagal theory including the different states

**Purpose:** Establish rapport between client and therapist; Have the client become comfortable around drums and other instruments; Increase client self-awareness of polyvagal states

#### **Session 2: Boundaries**

**Goals:** Use rhythm to explore boundary violations that occurred as a result of trauma, as well as ways to enforce one's own boundaries or establish a sense of agency.

**Purpose:** Strengthen client's confidence and ability to set and enforce boundaries

#### **Session 3: Exploring Fear and Anger**

**Goals:** Use drums and other rhythm instruments to hold and contain intense emotions; Use rhythm to explore and resolve fear and anger.

**Purpose:** Use rhythm to facilitate discussion and resolution of fear and anger, which may often be difficult to express in words.

#### **Session 4: Strengths/Resilience**

**Goals:** Create rhythms for strengths that clients would like to highlight, including strengths that others have discounted or used against them; Explore ways client has had to adapt to adversity after trauma.

**Purpose:** Identification of client strengths and reclaiming strengths that others have discounted that need to be reinforced. Explore concepts of post-traumatic growth and resilience after trauma.

#### **Session 5: Drumming Your Trauma Story/Closing**

**Goals:** Development of rhythm story reflecting the client's healing journey

**Purpose:** Integrate different polyvagal states into a story representing client's trauma and healing, including where they want to envision themselves in the future. Clients are invited to be the storyteller of their journey and use rhythm as a tool in the journey.

## Appendix B

### Description of Drumming Session Protocol

#### Session 1: Introduction/Safety

**Goals:** Familiarize clients to drums and other rhythm instruments; introduce concepts related to polyvagal theory including the different states

**Purpose:** Establish rapport between client and therapist; Have the client become comfortable around drums and other instruments; Increase client self-awareness of polyvagal states

**Activities:** “Say it and play it” to introduce drumming beats, Safe Place drumming exercise, Using rhythm to map polyvagal states, Close with Call and Response exercise

#### Part 1- Introduction

Begin by introducing client to the drum and other rhythm instruments in order to increase client’s comfort level with drumming

“If you can play it, you can say it”- Introduce simple beats

(Capital=bass, lowercase=tone)

I-LOVE-ap-ple-pie

I-LOVE-to-play-my-drum

MASHED-po-tat-oes

HOT-choc-olate

WON’T-you-COME-with-ME-on-va-CA-tion

All-i-ga-tors-don’t-WALK-WELL-on-LEASH-es

Heartbeat rhythm

#### Part 2- Emotional Safety in Drumming and Safe Place Exercise

Discuss emotional safety throughout drumming exercises and experiences

Use of drum as a container for emotions

Ask client about a place (real or imagined) that reinforces feelings of safety

Allow client to represent their safe space through rhythm (sounds associated with that place)

Use of heartbeat rhythm as a steady “anchor” when you need to return to safety or if feeling lost

### Part 3- Introduction of Polyvagal Theory and State Mapping Exercise

Introduce basics of polyvagal theory and states (dorsal vagal, sympathetic, ventral vagal)

Give handout on mapping the states (from Dana, 2019, p. 47).

Discuss handout with client, allowing them to label their states

Discuss the following for each state: “I am \_\_\_\_\_”, “The world is \_\_\_\_\_”.

Discuss experiences where each state could be felt

Allow client to create a rhythm representing each state, as well as how they would transition between the states

Client can choose different instruments for different states

Consider volume, tone, speed, how long each state lasts, etc.

Reflect on experiencing states as sounds/rhythms- What caused you to choose the instrument(s) you did? What feelings/physiological sensations came up for you within each state?

### Part 4- Closing Exercise

End with Call and Response exercise (reinforcing connection)

Therapist starts out playing a simple beat, client echoes with the same beat

If client chooses, they can switch and client can lead with a beat, and therapist echoes

## **Session 2: Boundaries**

**Goals:** Use rhythm to explore boundary violations that occurred as a result of trauma, as well as ways to enforce one's own boundaries or establish a sense of agency

**Purpose:** Strengthen client's confidence and ability to set and enforce

**Activities:** Boundary disruption exercise, Finding a rhythm of regaining control, Close with grounding heartbeat rhythm

### Part 1- Discussion of boundaries

Introduce concept of boundaries

What role do boundaries play in your life?

What makes it difficult to enforce boundaries?

What areas might you need to set boundaries in (relationships, time, energy, etc)?

### Part 2- Boundary disruption exercise

Have the client discuss a time where their boundaries were violated

Create a rhythm reflecting life before the boundary violation, a rhythm representing the boundary disruption, and a rhythm representing the boundary enforcement or resolution

Therapist can act as the "disruptor" if the client chooses, especially if the disruption involved another person/relationship

If clients have difficulty thinking about the boundary resolution or if it is still ongoing, this can be framed as what helped them survive, or what they hope the resolution to look like

### Part 3- Regaining control exercise

Have clients play a rhythm to represent regaining a sense of agency after a boundary violation

Have client chose instrument, as well as what role (if any) they want therapist to play  
(representing connection to others)

#### Part 4- Discussion and Reflection

Reflect on what different states emerged for the client

Revisit the rhythms they chose for each state and if those showed up during the exercise

How did it feel when your boundaries were disrupted? When they were respected?

End with connection to heartbeat rhythm

### **Session 3: Exploring Fear and Anger**

**Goals:** Use drums and other rhythm instruments to hold and contain intense emotions; Use rhythm to explore and resolve fear and anger

**Purpose:** Use rhythm to facilitate discussion and resolution of fear and anger, which may often be difficult to express in words.

**Activities:** Shadow drumming exercise to express fears, Drumming out the rage

#### Part 1- Shadow Drumming exercise (Exploring Fear)

Shadow drumming exercise- have client choose and connect with a fear they want to express through the drum. Discuss putting that fear and emotion into the drum, and using the drum (or other chosen instrument) as a container for that emotion. The therapist matches the client's rhythm (going into the shadows with them). After exploring one's fear through rhythm, a second round adds a resolution to that rhythm-how would it sound to work through and come out of that fear, back into safety and connection.

In what state does your fear reside?

What was it like to have the therapist as an equal participant within that fear?

What did you notice as part of your resolution to fear? Did the state change?

#### Part 2- "Drumming out the rage" exercise

Introduce with discussion

Are there are times it is difficult for you to express anger?

What have been some expectations set by others/society/self about expressing anger?

Discuss anger as a secondary emotion-what may be beneath your anger?

(shame, fear, guilt, etc.)

Allow client to use whatever instruments necessary to release anger into the drum

Visualize bringing the secondary emotion to the surface, so it can be worked with

How would it sound to resolve that secondary emotion? What would you need to hear from a compassionate other regarding that feeling? (client can choose instrument for themselves, as well as what they want to hear played by therapist)

Conclude with heartbeat rhythm to re-establish sense of safety

### Part 3- Reflection/Discussion

Discuss and reflect on experience of anger, what other emotions it may be used to protect us from feeling, and what it felt like to experience and work through that emotion

Did you have a process in working through your anger and its related primary emotion?

#### **Session 4: Strengths/Resilience**

**Goals:** Create rhythms for strengths that clients would like to highlight, including strengths that others have discounted or used against them; Explore ways client has had to adapt to adversity after trauma

**Purpose:** Identification of client strengths and reclaiming strengths that others have discounted that need to be reinforced. Explore concepts of post-traumatic growth and resilience after trauma.

**Activities:** Strengths rhythm, Losing your Foundation exercise

Part 1- Exploring strengths through rhythm

Give client handout of strengths list

Have client choose 3 strengths they currently identify with

Have client choose 3 strengths that others have used against them or tried to discount (i.e. saying they are too emotional when they have empathy, they should not be assertive as a woman, etc.)

Have the client choose a strength they want to highlight through rhythm

First round: use first list of strengths they identify with

Second round: use second list of strengths that have been discounted by others

Make a beat for each syllable of your strength word

I-am-(*strength word*)

Therapist adds in by echoing client's strength

You-are-(*strength word*)

Can begin to add in other strength words/beats with therapist echoing each time

Client can choose different instruments based on how they want that strength to sound

Discussion:

In what ways did your first set of strengths feel/sound different than your second?

How did the strengths you identified impact your identity/sense of self?

How have your strengths been impacted by trauma?

What impacts your ability to believe your own strengths? (Times it was less or more difficult to believe in those)

What may be some resources you can use or things you can do to maximize your strengths, especially the ones that others use against you or are harder to believe? (Supportive others, connecting to values, doing things that help you feel alive/safe/your authentic self)

## Part 2- Resilience

Have client discuss/define resilience

“Losing your foundation” exercise

Client and therapist pick a rhythm and start playing in unison together. At some point, the therapist begins to play off-beat, disrupting the rhythm (representing trauma).

In the first round, the client tries to keep the original rhythm with the disruption of the other beat in the background.

In a second round, challenge the client to try to find a new rhythm.

In a third round, invite the client to transition to a new instrument that they want to represent growth and resilience for them.

Discussion:

Which round was more difficult for you and why?

What helped you reconnect to a new rhythm?

In what ways has trauma disrupted your life that you have had to find ways to adapt?

(Consider relationships, sense of self, views of the world, etc.)

What ways have you found to reconnect/adapt after trauma?

### **Session 5: Drumming Your Trauma Narrative/Closing**

**Goals:** Development of rhythm story reflecting the client's healing journey

**Purpose:** Integrate different polyvagal states into a story representing client's trauma and healing, including where they want to envision themselves in the future. Clients are invited to be the storyteller of their journey and use rhythm as a tool in the journey.

**Activities:** Rhythm of trauma story

Begin by reviewing/reflecting on the client's rhythms for their states from session 1

What "story" do you want to tell about your trauma and healing journey?

Even if the client is not where they want to be, that is ok. Encourage them to consider what they want that path to look like.

Where do your states/rhythms from session 1 fit into your story?

Have the client put a name to 3 or 4 different steps along their journey. This can be the same or different from their state names.

(They could consider where they were, where they are, and where they want to be- past, present, and future. Or Life before trauma, during trauma, and after trauma/resolution)

Remind client that there is no "right" or "wrong"-this is their journey and they are the storyteller.

What/who does the client want the therapist to represent? (Some aspect of their trauma, a person from their past, someone or something that helped them along the way, etc.)

Work with client on creating rhythms within their journey, having them take the lead on the beats, instruments, pace, etc.

Allow open discussion, reflecting on each step in their story.

## **Appendix C**

### **Interview Guide**

What did you find useful about the drumming sessions overall?

What were some challenges or barriers about the sessions?

What stood out to you in session 1 (Introduction/Safety)?

Prompt with activities- Safe Place exercise, Poyvagal Theory and State Mapping exercise, Closing (call and response)

What stood out to you in session 2 (Boundaries)?

Prompt with activities- Boundary Disruption, Regaining Control, Heartbeat Rhythm

What stood out to you in session 3 (Exploring Fear and Anger)?

Prompt with activities- Shadow Drumming, Drumming Out the Rage

What stood out to you in session 4 (Strengths/Resilience)?

Prompt with activities- Strengths Words Through Rhythm, Losing Your Foundation

What stood out to you in session 5 (Drumming your Trauma Story)?

Prompt with activities- Rhythm of Trauma Story

What informed your decisions about which instruments to choose?

Would there be anything you would change to help inform future studies?

What else should I know that I did not ask?

## Appendix D

### IRB Approval Letter

THE UNIVERSITY OF  
ALABAMA

Office of the Vice President for  
**Research & Economic Development**  
Office for Research Compliance

August 6, 2021

Jessica Hogle  
School of Social Work  
The University of Alabama  
Box 870314

Re: IRB # 21-04-4612-A: "Polyvagal Theory-Informed Therapeutic Drumming for Victims of Interpersonal Violence: A Feasibility Study"

Dear Dr. Hogle:

The University of Alabama Institutional Review Board has reviewed the revision to your previously approved expedited protocol. The board has approved the change in your protocol.

Please remember that your protocol will expire on June 15, 2022.

Should you need to submit any further correspondence regarding this proposal, please include the assigned IRB application number. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants.

Good luck with your research.

Sincerely,



Carpantato T. Myles, MSM, CIM, CIP  
Director & Research Compliance Officer

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