

Choral Singing Creates an Environment for Healing

Written by Dr. Angelia Williams

Introduction

Choral singing is a powerful and effective tool for providing comfort and healing to individuals that have experienced traumatic events. Cabedo-Mas, Arriaga-Sanz & Moliner-Miravet (2021) claim that participation in a musical activity is shown to reduce anxiety levels and increase subjective well-being in humans. Community that is established through music touches the human soul and promotes higher levels of well-being in the overall human experience. The term “touch” not only a physical act, but an intentional psychological act as well. Music can “touch” the very soul of human beings, and transcend the barriers and parameters of distance, cultural practices, language, or even understanding. Psychologically, music is a powerful vehicle that can create an environment conducive to the healing of the body, mind, and spirit within human beings. During the COVID-19 pandemic, the entire world found itself subjected to the confines of their homes, and the world will continue to deal with the mental ramifications of the pandemic for years to come. The negative impact of this vicious virus has been felt all over the globe, and now there is a need for a concerted effort to heal the masses of mental health distress. Not only creating music but creating music with others is a strong tool and promotes healing, lowers stress, creates friendships, and establishes long-lasting relationships.

Positive Psychology

Positive Psychology by Seligman & Csikszentmihalyi (2000) is about valued experiences that lead to happiness and mental well-being even in times when life seems meaningless and

void. This empirical framework has been heavily inspired by leaders of the humanist movement such as Carl Rogers and Abraham Maslow and seeks to educate human beings on how they can thrive even when the world seems to be crumbling around them. In times past, the field of Psychology has been heavily focused on mental health illness, and psychologists had very little knowledge concerning what makes life worth living within the human perspective and experience (Seligman & Csikszentmihalyi, 2000). Researchers have sought to understand resilience in times of adversity; however, resilience and thriving have very different characteristics. When trouble arises, resilient individuals may have the inner strength and grit needed to maintain, but still may deal with a lack of truly being able to see past a situation. However, there are individuals that not only have a resilient spirit but also can continue to thrive in seasons of great challenge and adversity. The ability to endure strong misfortune is a powerful illustration of a strong human spirit, and studies demonstrate that the presence of certain tools helps us to ascertain a higher level of mental propensity and happiness.

Choral singing brings beauty to the human experience and can create spaces of time that are memorable and healing. The synchrony of a choir is not only healing to the mind but also the body and spirit. Studies reveal wonderful episodes of transcendence achieved by choristers, and two key elements that emerge are the capacity to mentally transcend adversity and the ability to find a sense of meaning in human suffering (Moss, 2019). According to Seligman & Csikszentmihalyi (2000), the implementation of certain measures that incite happiness and fulfillment at the group level are responsibility, altruism, and work ethic; participation in a choir creates a perfect harmony of them all.

Unfortunately, the COVID-19 pandemic has shaken the foundation and mental health of the entire globe. Faith in the ability to care for self and family, faith in the motives and preparedness of governments, the inner propensity to believe in a higher power, and the strength to navigate through very difficult times have all become strenuous for many. Unlike other crisis that have taken place in contemporary times, COVID-19 was not a demographically contained event and has no definite end. This global outbreak has brought greater levels of stress, anxiety, depressive symptoms, anger, denial, and fear on an unprecedented scale (Torales, O'Higgins, Castaldelli-Maia, & Ventriglio, 2020). Studies show the convergence of Positive Psychology and choral singing are inseparable, and there is a feasible effect on the health and well-being of participants. The community choral experience enhances health and well-being through inclusion, diversity, and acceptance (Forbes & Bartlett, 2020). In times of crisis a feeling of community and oneness is vital to healing. Also, boundaries such as race, gender, age, and ethnicity can be superseded with the cultivation of a choral community. Mental and emotional healing comes through the continuity of body, mind, and spirit; and the intermixing of Positive Psychology and group singing brings a cross perspective of these two therapeutic interventions.

The PERMA Model

The PERMA model is the lens through which we will conduct this discussion and derives out of the Positive Psychology movement. According to Seligman (2018) Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment (PERMA) are five elements that are measurable for overall well-being in the human experience. Music in a choral setting can facilitate these needs and raise mental health to positive levels within the participants. In many cultures and throughout times, music has been understood to have a significant impact on health

that is beneficial (Livesey, Morrison, Clift & Camic, 2012). Group singing has a multi-faceted effect on the human psyche and offers a positive enhancement in the lives of the choristers. Choral singers reap the benefits of the entire PERMA spectrum (Positive Emotion, Engagement, Relationship, Meaning, and Accomplishment), and this increases overall happiness and well-being in their lives. Music has immense functionality at all levels of human existence; including but not limited to physiological, psychological, sociocultural, and spiritual levels (Moss, 2019). Moss (2019) investigated this theory with a mixed-method study utilizing a sample of 1779 choristers from 14 countries. The study included 28 qualitative statements that explored physical, social, psychological, and spiritual domains. Descriptive statistics were thematically analyzed, and comparisons were made within subgroups. The responses of the choristers were overwhelmingly positive, and the perception of choral benefits included better overall health and well-being. The six themes that emerged from the qualitative analysis were social connectedness, psychological and physiological benefit, better mental health, cognitive stimulation, enjoyment and fulfillment, and transcendence (Moss, 2019). Overall, members of the various choirs were happier which is imperative to optimal mental health outcomes. According to the PERMA model, choral singing is all-inclusive with necessary components for positive and heightened emotions, human connectedness and engagement, interpersonal relationship building, deeper life meaning, and the exhilaration of accomplishment. COVID-19 has made an immeasurable negative impact on mental health, and choral singing is a therapeutic intervention that is feasible and highly impactful to its participants.

Positive Emotions Through Choral Music

Modern-day psychology is now focused on not only mental illnesses but also the mental health issues that arise from trauma and environmental stressors (Seligman & Csikszentmihalyi, 2000). The COVID-19 pandemic has created an environment where the globe is in fear of the unknown daily. Instability is now commonplace and the security of the future seems bleak for many people. This tragic turn of events has adversely affected the emotional center of millions, and the globe needs purposeful mental and emotional healing. Positive emotions are a component of good health and well-being (Livesey, Morrison, Clift & Camic, 2012). While singing in a choral setting, the human body is utilized to produce a synchronized sound of oneness (Livesey, Morrison, Clift & Camic, 2012). Synchrony is linked to an atmosphere that is strongly charged with positive emotions and physiologically places the singers in tune with each other's vibration. This collective state transcends individualism and moves the participants into a powerful state of collective energy. The level of mindfulness achieved is influential and can be emotionally and mentally healing for the individuals that participate. Synchrony that happens during choral singing brings about positive emotions, an optimistic outlook, and a sense of a greater purpose to participants.

The "Coming Home Project" is one that allows soldiers returning to civilian life the opportunity to employ the performing arts in their daily lives. Within this conglomerate is also the Coming Home Choir that is made up of veterans, family members of veterans, and various members of the community. Organizers of the group have received tremendous feedback, and veterans feel positive emotions that many of them have not felt in years such as trust, a strong sense of community, and reconnection (O'Connor, 2017). The trauma of war and the PTSD that

haunts participating soldiers often lead to a path of mental health despair and disorders. Many times, we see soldiers return home with stoic faces and in need of intense therapy, but many either do not seek help or do not have the financial means to pay for it. Trauma can be compounded in soldiers that have experienced negative childhood experiences, and/or dealt with poor treatment from higher-ranking officials and other soldiers during their time of sharing living quarters. There is a far-reaching history of soldiers that return from war and utilize the arts to tell their stories (O'Connor, 2017). This is a way of emptying the pain and facing the horrors that they have faced in a positive and therapeutic way.

Positivity is a consistent mental state of being and healing with positive mental health outcomes. Individuals that cultivate and maintain a positive outlook also dispel negative self-fulfilling prophecies that can destroy healthy relationships before they even begin. Considering this, choral singing is physically and mentally healing for human beings, and the achievement of synchrony is a fulfilling experience. Trauma is a phenomenon that goes unaddressed often, and group singing is a positive approach to dismantle that fact. Many do not seek therapeutic interventions in times of trauma due to negative stigmatism; however, choral singing provides regeneration of positive emotions in a warm and less intimidating environment.

Engagement Through Choral Music

Participation in activities that are enjoyable and bring personal joy is fulfilling and mentally stimulating. The challenge of becoming better at any skill modifies human focus and reaching new levels can be satisfying. Choral singing requires an all-encompassing effort of physiological exertion, memory retention, psychological awareness, and emotion management. This level of activity entralls the complete person, and when humans are fully engaged in any

activity optimal level of flow can occur. According to Turaga (2018), flow is a state of mind that evokes focus, complete involvement, and enjoyment during the completion of the task. Based on the degree of immersion needed for group singing, flow is often inevitable. Arts-based groups also provide engagement through shared experiences, and this creates the opportunity for emotion regulation in participants (Dingle, Williams, Jetten & Welch, 2017). This level of energy causes participants involved to become immersed and engaged in the activity. Almost in a trance-like state, the participants leave negative emotions, trauma, and anything that would be a barrier to happiness behind. Through uninhibited engagement, a state of flow and euphoria present themselves and can be a healing experience. These experiences happen on a consistent basis when singing is a group effort through rehearsals, sectionals, and live/virtual performances. Choral singing challenges the participants to focus and become one, whether it is in unison of voice or a perfect and consonant chord. Perfect synchronization of harmony creates an overtone that causes an actual buzz in the human body and mind. Seligman (2018) believes that true engagement causes time to stop, and the music becomes one with the person. A mindful loss of consciousness allows time away from painful thoughts and cycles of PTSD that can become mentally plaguing. Diving into these experiences consistently causes an ascension of mental attentiveness that is calming to the mind, body, and spirit. Encountering a heightened state of awareness through an emotional connection with others through music is empowering and healing for participants and the audience as well. In addition, the ability to engage not only with other participants but also with lyrical content provides the powerful substance that one may depend on in challenging circumstances. Communal engagement of music with positive lyrical content is an affirmation of the ability to overcome obstacles and it generates a conquering

attitude and belief system. Communal singing and engagement also build self-efficacy and self-esteem in participants.

Relationships Through the Choral Experience

Human relationships are the staple that helps us maintain our sanity through hard times. The fabric of what the human experience is can become torn and withered through challenging events. Long periods of isolation are damaging to the human psyche, and the mind can begin to build schematics to compensate for a lack of human interaction. Landis-Shack, Heinz & Bonn-Miller (2017) claim that music can address emotion dysregulation that derives from invasive memories and leave a person feeling triggered, stressed, and full of fear. Choral singing is an atmosphere where quality relationships can bloom due to collective goals. Also known as lifelines, these bonds can be healing in nature and are much needed in times of intense crisis. Many times, choral singers form bonds that are meaningful and long lasting. The choral experience is one that can build social capital and expand lifelines during difficult times in the lives of individuals. According to Dingle, Brander, Ballantyne & Baker (2013) opportunities such as singing in a choral ensemble presents meaningful activities and social connectedness that is desperately needed in the human experience. Communal relationships that derive from choirs have the depth of family interactions and entails healthy conversations and strong boundaries (Forbes & Bartlett, 2020). Individuals that may have little social capital are reinforced by a sense of belonging and importance, and these are emotions needed for healing. In many cases, the choral function is not exclusively for self-expression but for establishing significant relationships. The sense of being undergirded by multiple individuals warrants a fortified outlook during/after a taxing event. Having a circle of other participants is not only inspirational

but helps to acquire team-building skills within the realm of different personalities. This expansion of worldview can also help in establishing relationships through the dissemination of bias and prejudice against certain groups. In times of global tragedy, it is vital to have a view of fellow citizenship for cooperative measures to be effective. Choral singing outlines the need for a collaborative effort regardless of race, ethnicity, gender, or age. Dismantling of differences during group singing outlines the realness of existing within humans and removes the importance of how someone worships, physically appears, or culturally stands. The comradery that is developed in a choral setting improves social bonding and team-building skills that reach beyond biases; therefore, there is a strong sense of belonging and relatedness. An interweaving of self into a welcoming community causes existential transcendence and improves acceptance of others that are different. Cooperation and desire of a goal in group singing create relationships to sprout among these barriers, and often unexpected friendships can occur. Music sheds light on the beauty of the human spirit and can forgo any preconceived notion; in choral singing, there is a common goal that has the power to bring people together.

Meaning Through the Choral Experience

Meaning and purpose give a much-needed balance to humans in life, and the discovery of them can bring hope and healing. The existential inquiry into why human beings were created and what should humans bring to the planet is answered for many through the power of music. When there is an awareness of purpose, there is a feeling of happiness and wholeness in the human experience. Music gives shape and purpose to the meaning of lives; therefore, can be used for the edification of a higher consciousness. Working with a group to achieve a goal helps the human experience to ascend surface significance. Choral singing provides a reliable,

collective effort towards coherent cultural expression (Camlin, Daffern & Zeserson, 2020). The unified goal of delivering a message to the world through song establishes a strong sense of purpose and belonging. The ability to be part of something worthwhile builds self-esteem, self-efficacy, and optimism. Although during the COVID-19, crisis isolation was necessary, it also comes with psychological ramifications. Being isolated from others encourages feelings of loneliness, despair, and depression; and a sense of meaning is lost when an individual is all alone. The Temporal Need-Threat Model suggests when individuals are kept apart from others for a prolonged period; they enter stages of psychological resignation (Pancani, Marinucci, Aureli, & Riva, 2021). This heightened stage of social exclusion is characterized by feelings of depression, unworthiness, and helplessness (Pancani, Marinucci, Aureli & Riva, 2021). Although human beings have an individual identity and path, there is also a collective energy that is needed within the human experience for true fulfillment. Being forced into isolation has vast implications on mental health, and the choral environment can address gaps created by COVID-19 in the participants' sense of purpose and meaning. When human beings sing collectively, the natural human desire to be a part of a team brings feelings of belonging, achievement, and meaning.

Accomplishment Through the Choral Experience

The feeling of competence is satisfied when a goal is completed or when mastery of a certain skill is obtained (Lonsdale & Day, 2020). According to the Self-determination theory (SDT), human beings need to feel a sense of autonomy, relatedness, and competence in their daily lives. The need to be self-governing over self and family was dissolved due to government rulings, loss of finances, closure of schools, etc. Losing control of basic decision-making

abilities daily challenges self-efficacy and raises the question of capabilities in the human psyche. Intrinsic/extrinsic motivation is an important component in daily functioning and has been altered due to COVID-19. Unfortunately, the mass feeling of helplessness and despair has left many feeling a lack of healthy drive and motivation. The world has experienced (and is still experiencing) an extensive period with repeated negative announcements reinforced by the healthcare sector, government, and media. Although many activities are now available, there is still an unsettling notion that things will never be the same in the world. A fractured belief in self and the world is damaging and interferes with mental health, happiness, and overall well-being; however, strong feelings of accomplishment can help to facilitate the healing process. A collective feeling of accomplishment is an even greater feeling because it is founded in community and a sense of oneness. The more a person can accomplish, the stronger their level of self-efficacy becomes. A task that is successfully completed (such as a flawless execution of a choral piece) builds self-efficacy and confidence not only in the individual but also in the entire collective. This positive atmosphere creates a healthier mental state within the participants and shapes a feeling of accomplishment and worthiness. The work that is required to execute any choral piece is comprehensive and involves continuity of the physical body, cognitive processes, and emotion management from the group. Successful alignment of all these processes can create tones of perfect unison or harmony that are synchronistic in wavelength and the feeling of this overtone leaves participants feeling complete. A satisfying journey of self-improvement and accomplishment was discovered in choral participants through self-realization (Shim & Sim, 2020). Choral singing can begin the restoration of autonomy and rebuild the brokenness that many have been left with due to a pandemic that no one could control. As the world begins to reopen and seek normalcy many adults lack work-life balance and that is now coupled with

layers of trauma. Studies show that choral singing helps to maintain physical, mental, and emotional balance. Feelings of natural balance and consistent accomplishment can also prove beneficial in emotional regulation during/after tragic life events.

The Positive Effects of Choral Singing from a Neuroscientific Perspective

Psychologist Mihaly Csikszentmihalyi described flow as a holistic sensation that is felt when humans are completely immersed in any action or skill (Csikszentmihalyi, 1997). The theory of flow lives within the Positive Psychology framework and outlines the human capacity to become unequivocally immersed in an activity. This phenomenon has been investigated in many domains including but not exclusive to sports, the performing arts, organizational leadership, workplace performance, etc. Empirical studies have investigated the holistic benefits of choral singing, and it has been shown to have substantial effects that are positive physiologically and psychologically due to the flow phenomenon. According to research, listening to music can be a beneficial coping mechanism for emotional and mental distress, but leaves room for reflection and contemplation; however, the actual participation in music causes the phenomenon of flow to occur (Ritivoiu, 2020). Antonio Damasio, professor of Neuroscience, Psychology, and Philosophy explains the mind-body connection that occurs during singing as a mutually interactive biochemical effect. This effect includes 1) neural, endocrine, and autonomic neural components 2) is comprised of the body and brain working together as one organism in response to the environment and are dissociable during the process and 3) encompasses physiological processes that we call the mind and derive from both structural and functional components that create a mental phenomenon (Ritivoiu, 2020). The

mind-body connection is strong during choral singing and can have long-lasting effects that are positive and highly valuable.

Studies show the improvement of glucocorticoids during choral singing, which is a stress responding hormone in the human body and induces feelings of trust, empathy, and kindness (Ritivoiu, 2020). Kang & Jiang (2018) study that the glucocorticoid hormone is a section of the hypothalamic-pituitary-adrenal (HPA Axis) and these essential hormones are involved in maintaining excitement and arousal. Situations that are unwelcomed and painful cause not only physical isolation but mental isolation as well. Long after tragic events subside, the mental damage still lingers in the human mind. The transcendent feeling of choral singing can help facilitate the maintenance of excitement that all human beings desire. Rehearsals and performances are events that raise anticipation and provide an outlet that is artistically, psychologically, and physiologically rewarding. When stress is reduced in the body, the benefits are physiologically and psychologically apparent, and allows a state of relaxation that welcomes openness, focus, and drive.

Secretory Immunoglobulin A (S-IgA) is a strong indicator of immune health in the clinical setting, and singing has been shown to cause a significant upregulation of S-IgA (Kang & Jiang, 2018). In cases of higher upregulation of S-IgA, people are shown to be more positive and relaxed in mood, outlook, and attitude (Kang & Jiang, 2018). Healing and stable mental health states require a positive outlook and attitude. Experiencing traumatic events such as COVID-19 can alter the perspective and attitude and create an array of bleak mental and physical health outcomes. Increased levels of stress cause the immune system to become compromised and raise the possibility of infection. This well-known fact is alarming during a global pandemic and

created a constant state of fear. Higher levels of S-IgA strengthen the immune system and can build an added defense against infection. Sienkiewicz's (2020) data indicates that choral singing increases resistance to infection due to an increase of S-IgA. The upregulation of S-IgA that happens during choral singing is not only an individual experience, but also a corporate involvement that adds a stronger sense of positivity and humanity.

Endorphins are released in the brain during choral singing and have a sedative effect on maladaptive behaviors such as aggression and addiction (Kang & Jiang, 2018). Symptoms such as depression and anxiety are also addressed by this opioid peptide (Kang & Jiang, 2018). Optimal human functioning is supported by ideal physical health, emotion management, and sustainable mental health and well-being. Music facilitates the release of endorphins to the brain, hence the boosting of positive emotions and feelings with the lowering of fear and sadness (Landis-Shack, Heinz & Bonn-Miller, 2017). The production of endorphins helps in depression management that is real-time or lingering from a past event, and high anxiety levels often established due to trauma can also be better managed by higher endorphin concentrations in the body. The release of endorphins in the brain gives a sense of relief from painful thoughts and induces feelings of pleasure and satisfaction. Healing and restoration of human wholeness is a spherical event and studies show that choral singing addresses physical, psychological, and spiritual needs. Choral singing also increases the peptide hormone Oxytocin that is a neurotransmitter in the human brain referred to as the “love hormone” (Sienkiwicz, 2020). In human beings, oxytocin has been shown to develop trust, lead to greater social bonding, and are found in greater levels after singing.

Therapeutic Intervention for Emotion Management and Psychological Well-Being

Mindfulness is a therapeutic intervention that promotes full awareness of the current moment. The lack of judgment felt within the moment has been shown to have the power to remove adverse feelings such as fear, doubt, pain, and low self-esteem. During activities that increase mindful thinking, there is a departure of painful memories and a creation of flow. In the flow state, there is an effervescence of harmony that brings synchrony to the mind and body, which is fulfilling and healing. Choral singing invites flow and mindfulness to the participants and creates optimal conditions for negative emotions to be alleviated (Livesey, Morrison, Clift & Camic, 2012). The mental redirection and improvement of mood can have long-lasting benefits regarding both physical and psychological health and wellness. The absence of negative thoughts and energy allows moments of transcendence and self-realization that are soothing to the human mind. Repeated choral rehearsals act as a mental rewiring and trains participants to think in a positive and collective fashion. Attainment of a collective goal such as lyric memorization, building of harmony, and proper vocal balance requires focus from each singer. Therefore, all choristers must be willing to be mentally present during all rehearsals and performances. Empirical studies show that mindfulness induces a feeling that is surreal and healing for participants (Livesey, Morrison, Clift & Camic, 2012).

There are numerous therapeutic interventions available for stress, lack of self-esteem, anxiety, depression, and PTSD. However, some obstacles stand in the way of some populations and these interventions. The uninsured, poor, and individuals that reside in remote areas may not have interventions such as cognitive behavioral therapy, hypnotherapy, psychodynamic therapy, etc. available to them. The stigma of therapy is also a mental roadblock for many, and denial is

often a coping mechanism for dealing with unattended trauma. The ill mental health effects of COVID-19 in many cases will go unnoticed and practical outlets and therapeutic options are needed. Studies have discovered group singing to be a successful approach to positive mental health outcomes among many subgroups.

Using choral singing for therapeutic interventions regarding mental healing and well-being should be expanded due to demonstrated success. Studies show that choral singing has a positive effect that is physiological and psychological as well. Więch, Sałacińska, Walat, Kózka & Bazaliński (2020) carried out a cross-sectional study that investigated 100 choristers that were ages 19-70. It indicated that singing in choral organizations may contribute to a longer and healthier life span, improve overall perception, and have a positive impact on the entire psychological well-being (Więch, Sałacińska, Walat, Kózka & Bazaliński, 2020). The COVID-19 pandemic has resulted in isolation and higher levels of anxiety on a global scale, and mental health interventions must be traditional and non-traditional to address such an enormous matter. The power of solo singing is healing, and flow can be achieved; however, choral singing brings a stronger feeling of existentialism. The act of becoming one with other participants brings a sense of illumination and can be a freeing experience. Fernández-Herranz, Ferreras-Mencia, S., Arribas-Marín, & Corraliza (2021) focused on creative, communicative, psychological dimensions of achievement within choral singing experience. When the CAPBES instrument was developed for this study, its theoretical framework was reviewed and constructed around the choral experience (Fernández-Herranz, Ferreras-Mencia, S., Arribas-Marín, & Corraliza, 2021). Analysis of data illustrates the key dimensions of satisfaction, ability, group engagement, belonging, and optimism from participants (Fernández-Herranz, Ferreras-Mencia, S., Arribas-Marín, & Corraliza, 2021). This study, along with many other empirical studies demonstrate the

positive effects that choral singing has on mental health and well-being. I posit that utilization of the choral setting is a viable therapeutic intervention for the negative mental health effects of the COVID-19.

COVID-19 and PTSD

The consequences of PTSD are plentiful and include symptoms such as reliving a painful event continuously, intrusive thoughts surrounding an event, trauma-related stimuli involving an event, triggers that serve as internal/external reminders of an event, shifts in mood or cognitions that are negative in nature, and overactive responses (Landis-Shack, Heinz, & Bonn-Miller, 2017). COVID-19 has caused immense damage to the mental health of the entire globe and needs to be addressed in a fashion that is available to all. Many therapeutic options for PTSD (such as behavioral therapy or cognitive therapy) are unavailable to many in the public because of socioeconomic status or the lack of availability of qualified clinicians. Group singing is a very low-cost, practical, and feasible avenue to achieve positive outcomes that can heal the masses. Group singing also creates safe spaces for individuals to reconnect in a productive and creative manner (Landis-Shack, Heinz & Bonn-Miller, 2017). Vulnerable populations have a higher risk of experiencing severe PTSD that may build on trauma from past experiences. A two-way ANOVA collected data on the intensity of previously traumatized ex-POWs and discovered that the level of vulnerability to PTSD was significantly higher during the current COVID-19 pandemic than combat veterans (captivity versus combat) (Solomon, Mikulincer, Ohry, & Ginzburg, 2021). According to Solomon, Mikulincer, Ohry, and Ginzburg (2021), these findings illustrate a stronger trajectory of PTSD due to COVID-19 in people who are dealing with PTSD due to past events. This discovery blankets many vulnerable populations such as (but not limited

to) war veterans, the elderly, children that have experienced/witnessed abuse, African Americans (due to mental constrictions of slavery, consistent police brutality, and racism), underserved populations (families that are poor, homeless, etc.), and many more. Exacerbation of current trauma is evident in populations that have endured past traumatic events. A heightened sense of awareness that is negative sheds light on current trauma and past trauma is revisited in the psyche of the victim. Populations that have had stressful life events (individually or collectively) will likely suffer from long-term PTSD due to the new layer of trauma from the COVID-19 pandemic (Solomon, Mikulincer, Ohry, & Ginzburg, 2021). Choral singing is a form of music therapy and is a less invasive and more accessible therapeutic option than other avenues for PTSD (Landis-Shack, Heinz & Bonn-Miller, 2017). The choral environment is a safe space to address current/past stressors, manage anxiety, foster resilience, and build relationships for individuals that are wrestling with the consequences of PTSD (Landis-Shack, Heinz & Bonn-Miller, 2017).

Conclusion

Choral groups are ancient entities that span across innumerable areas such as churches, corporate entities, non-profit organizations, production houses, community settings, and a host of other arenas. The concept of correlation between choral singing and mental health is not a new understanding; however, there is now empirical evidence that contributes to this theory. In modern times, psychologists have begun to search for ways to bring happiness and purpose into the lives of human beings. Although tragedy is trauma inducing, it is also an opportunity for healing and introspective review. The exploration of self during choral singing has been shown to have monumental benefits, and there is a growing body of empirical studies that demonstrate

the healing effects that choral singing can have on mental health and wellness. The impact of the COVID-19 virus has not only been a physical catastrophe but a mental one as well. The restoration of hope can facilitate outcomes that are conducive to mental stability and choral singing is one way to achieve this.

The PERMA model illustrates how happiness and mental euphoria can be achieved, and all aspects are addressed in choral singing. Bartolome (2013) identified six dimensions of meaning that are related to choir membership which are achievement, spiritual, artistic, communicative, psychological, and integrative. Under the auspice of fun-filled activity, choral singing is therapeutic and lowers stress, builds self-esteem, and sets an atmosphere for long-lasting and meaningful relationships. Endorphins and oxytocin are feel-good chemicals that are released in the brain during group singing and replace fear and anxiety with positive emotions of pleasure. Engagement for members prevents boredom and a mundane lifestyle that can lead to significant weight gain, depressions, anxiety, and other poor mental health outcomes. Within the human experience, individuals need something that brings character and meaning into their lives, especially after traumatic events. Restoration to better emotional and mental states can be achieved seamlessly through a weekly choral activity. Rehearsals are translated as meaningful interactions that deliver clarity and a level of vulnerability to choristers. The vulnerability that is established within the circle of a choir establishes relationships through commitment and trust that are meaningful and long-lasting. Consistently working towards a common goal creates bonds, and a strong sense of achievement is elevated in a group setting.

A choir is a community of voices that work to become one synchronized voice; this heightened awareness for the community working together creates a healing environment.

Important hormones and chemicals that facilitate emotion management, bring feelings of pleasure, and regulate maladaptive behaviors/symptoms are released in the brain during choral singing and can be life changing and therapeutic for participants that indulge consistently. Present studies indicate a high sense of well-being in participants in choral settings (Steward & Lonsdale, 2016). Choral singing entails the entire PERMA model to evoke healing and a loving environment for the participants.

The inner workings that are not seen or heard during choral pieces may be the most important. Empirical studies have demonstrated the elevated amounts of endorphins and oxytocin are released in the brain during group singing, and these chemicals lead to stronger feelings of happiness, satisfaction, and pleasure. Group singing reduces ACTH and cortisol, which are stress-inducing hormones and elevates oxytocin that decreases stress and creates a mindset of social bonding (Keeler, Roth, Neuser, Spitsbergen, Waters & Vianney, 2015).

Choir!Choir!Choir! is a free-for-all choir based in Toronto, Canada. Anyone can join, and the rules are quite simple; you must alert facilitators that you would like to join and listen to the music before you come every Tuesday. This level of autonomy encourages self-determination and requires motivation for lyric and pitch memorization. The group is normally quite large with participation numbers between 1000 to 2000 and has performed at large venues and events such as Carnegie Hall, Radio City Music Hall, and Tedx Toronto (Choir!Choir!Choir!, 2021). This group is a diverse, community-driven collective effort that comes together and Choir!Choir!Choir! leaves everyone “feeling great”. Upon observation, there are obvious outcomes that are positive in the crowd of participants. Singers in the group are smiling, dancing, and thoroughly engaged that gives a strong sense of relatedness needed for

self-determination (Choir!Choir!Choir, 2017). Pieces that are chosen by facilitators contain positive messaging, are iconic and familiar, and arouse positive mental states in participants. In observation of Choir! Choir! Choir! all internal needs according to the PERMA model were evident. Positive emotions were obvious on the faces of participants, all participants were thoroughly engaged, there was evidence of possible relationships due to some participants singing to each other during the piece, the intense emotions during the piece spoke of meaning and feeling, and the participants displayed a celebratory mood at the end with a palpable appreciation of accomplishment. After the piece ends, participants of the experience leave with a feeling of competence, which is mental stimulation and encourages motivation. This is an appropriate prototype for more community choirs, and the spontaneity is non-committal but productive.

Kanye West is an American music producer/rapper that recently began the “Sunday Service” phenomenon. Due to his level of fame when this project began, the growth was enormous and gained notable momentum. This event is non-traditional worship event that to date has been held in various states in America. The first service was held in January 2019 has grown greatly since then. These events are not open to the public but are accessible by invite only. However, the energy level of the choir is captivating, and they have performed in amphitheaters, stadiums, and jails. Observing the footage of the choir is electrifying and addresses the entire PERMA model across the spectrum. Kanye West Sunday Service (2019) illustrates a positive and grateful attitude, engaging energy that testifies of humility, participants turn at different points in the song to sing to each other, facial expressions declare meaning and gratitude, and the end brings a celebratory spirit that is transcendent.

After natural disasters ravage communities, immense cooperation and teamwork are what help to put that community back together again physically and psychologically. Watching first responders, clean-up crews, and members of the community work together brings feelings of overcoming and triumph. In a choral community, the same premise rings true and can help to bring healing and resilience to the nations after the destruction that COVID-19 has left behind. The cooperative force that goes into choral groups is mentally and emotionally healing. Empirical evidence points to the neurological process that soothes the mind and body, and the relationships that are built through choral communities. After long periods of isolation, there is a readjustment needed globally. PTSD causes such fear that can be lifelong; however, choral singing can help to manage those emotions. Positive Psychology's PERMA model encompasses a spectrum of emotions that are healing and encourage happiness overall. The "touch" of choral singing not only addresses the entire spectrum of the model but is transcendent as well. Voices that are in synchrony are privy to the healing overtones that ensue immediately thereafter and can reap the beneficial gifts of social bonding, team building, meaningful relationships, cooperation, and cooperative resilience. Healing from traumatic events requires individuals to have the will and self-determination that is encompassed in the SDT. The PERMA framework and Self-Determination Theory (STD) have components that philosophically intertwine, and both are epistemological in the root. Positive emotions, meaning, accomplishment, and relationships evoke feelings of autonomy, relatedness, and competence that are needed for intrinsic/extrinsic motivation (Deci & Ryan, 2012). To obtain true healing, victims must be active in the process, and choral singing is a gratifying act of that requirement.

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