

**Interdisciplinary Society for Quantitative Research in Music and Medicine
2013 Conference**

Abstracts

**The Effects of Participation in The Alexander Technique on Female Violinists and Violists: A
Mixed Methods Study**

Kristin mozeiko

Abstract

The primary purposes of this mixed-methods study were to (a) determine what effects, if any, participation in 20 AT lessons has on the sample of female violinists' and violists' Pain, Executive Skill Function, Well-being and Awareness, and (b) to describe the experiences of the participants in the study intervention. The secondary purpose of this study was to explore how participation in AT affected the female violinists' self-reported experience of playing.

Due to the prevalence of performance-related injuries in female string players, it was theorized that AT could provide a means for improvement. This study employed a mixed methods design using pretest and posttest questionnaires, observations, and semi-structured interviews. The surveys and interviews were used to explore how participation in AT affects playing experiences.

The 12-week study was performed in a major metropolitan city and participants were female violinists and violists between the ages of 18 and 34 with no previous AT training. Criterion sampling was employed and 51 participants were randomly assigned to either the control group (n = 26) or the treatment group (n = 25). The intervention included AT lessons two times a week over a 10-week period. Six case study participants were selected from the treatment group to participate in the qualitative interview portion of the study.

The quantitative findings demonstrated statistically significant changes in Awareness and Executive Skill Function, while only approaching statistical significance for Pain and Well-being. In the qualitative analysis, themes that were explored included the dependent variables, as well as teaching and learning, AT principles, tools, and applications. The qualitative data provided evidence of improvement in all four *a priori* variables.

Convergence of the quantitative and qualitative data helped corroborate the statistically significant findings for Awareness and Executive Skill Function and provide convincing data that there was improvement in Pain, while data for Well-being improvement was inconclusive. Recommendations for application of these findings and suggestions for further research are included.

The Sound and the Fury: An Historical Analysis of Sound and Music in Traditional Chinese Medical Culture

Steve Jackowicz

Abstract

This paper explores the traditional Chinese view of the relationship between sound, music, health, and spirituality. Traditional Chinese medical culture was based on an understanding of a substrative medium, known as qi, which was considered responsive to sound as well as generative of sound. Chinese medicine charted the sound emanations of healthy organic structures and used them as parameters of diagnosis, as well as venues of treatment and health maintenance. This medical understanding effused Confucianism, Daoism, and Chinese Buddhism leading to unique theories of sound and health, which formed a platform for distinctive music intended to affect the organic structures of the listener and lead to spiritual development. The paper examines the traditional categories and associations of sound, the musical systems which arose in the three aforementioned religions, and the potential platform for future clinical examination of the relevance of this historical model.

SpiritArts, Music Improvisation and Spirituality: Bringing Soul in the Hospital setting

Lynn Miller

Abstract

In most allopathic hospitals the focus is on the physical body. A holistic approach to healing and wellness respects not only the body but includes the mind, and spirit. Music is the language of the soul. Learn about how soul expression is incorporated in the healing process at Roxborough Hospital in Philadelphia, PA. Several case studies will be presented with examples of how music improvisation is used for soul expression. This experiential workshop will include philosophy and concrete experiences to help understand the bridge of music improvisation and spirituality for well-being. Improvising is creating spontaneously. It is dancing in the moment with the unknown. It is inner expression from within. To improvise takes courage to be authentic. Authentic creative expression only comes through in present time. It requires trust. If one gets out of their own way they are guided. When we improvise, we are co-creating with Spirit. Many of the same basic principals of spirituality are parallel to principals in improvisation. The creative process and spirituality teach lessons in giving and receiving, deep listening, trusting, letting go of attachment, surrender, releasing judgment, being in the moment, and coming from love. When we improvise, we face the unknown. This process can help one face their fears, developing courage and trust. Psychological benefits include a sense of community and belonging through this shared endeavor developing balance and well-being. Improvisation skills are essential for being present, supporting, connecting and listening to self and other.

This experiential course will provide a supportive atmosphere for enhancing and developing authentic music making. Through fun improvisation structures, skills will be developed in freeing inhibitions, and broadening expression. There is no need for prior music experience.

Course Objectives:

At the completion of the course participants will:

- Gain basic knowledge how improvisation and spirituality are interconnected
- Increase ease in expression through music
- Develop communication and listening skills
- Experience improvisation structures that can be adapted for various populations

Physiological Effects of the Native American Flute

Eric B. Miller

Abstract

This session reviews our article currently submitted for publication to *Psychomusicology* and time permitting allows for a live demonstration of Native American Flute Playing with an HRV display. This pilot study ($N = 15$) explores the physiological effects of playing the Native American flute, an instrument with a reputation for having meditative and healing qualities. Autonomic, EEG, and heart rate variability (HRV) metrics were recorded while subjects played flutes and listened to several styles of music. Flute playing was accompanied by an 84% increase in HRV ($p < .001$). Theta activity increased while playing flutes ($p = .007$) and alpha increased while playing low-pitched flutes ($p = .009$) but not while playing high-pitched flutes. Subject subtypes exhibiting alpha suppression and enhancement were identified. Increase in alpha from baseline to the flute playing conditions strongly correlated with experience playing Native American flutes ($r = +.700$). In novice Native American flutes players, a reduction in beta was seen during playing conditions ($p = .021$) that was not evident in experienced players. Wide-band beta decreased from the silence conditions when listening to solo Native American flute music ($p = .013$). The findings of increased HRV, increasing slow-wave rhythms, and decreased beta support the hypothesis that Native American flutes, particularly those with lower pitches, may have a role in meditative and healing contexts. In conclusion, we suggest that a study of the effects of flute playing on clinical conditions, such as post-traumatic stress disorder (PTSD), asthma, COPD, hypertension, anxiety, fibromyalgia, and major depressive disorder, is warranted.

Bio-Guided Music Therapy: Integrating music & real-time physiological data in treatment

Eric B. Miller and Clint Goss

This course reviews the fundamental concepts of Bio-guided Music Therapy (Miller, 2011, Jessica Kingsley Publishers of London). Focus is on utilizing real-time physiological data-driven music therapy for stress, anxiety, hypertension, ADHD, Raynaud's, & other disorders. In this workshop format, participants gain hands-on experience creating musical environments based on heart rate, skin conductance and EEG brainwaves. Basic concepts relating to music and the brain will be reviewed.

A Review of Current Research of Music and Movement in Pediatrics

Amy Painter

Abstract

This session would be a review of the current literature on theoretical, qualitative, and quantitative research of utilizing music and movement in pediatric patients. The aim would be to critically analyze the published body of knowledge on this subject through summary, classification, and comparison of prior research studies, reviews of literature, and theoretical articles. Literature reviewed would be accessed using CINAHL, PubMed, and OVIDfMedline databases as well as review of any pertinent journals not included in these databases. Search times would include "music" and "pediatric" as well as "movement" and "pediatric". A pediatric patient would be defined as a person less than 21 years of age. The current "state of the art" would be evaluated for the body of knowledge reviewed, particularly highlighting areas or issues pertinent to future study. I would also summarize major contributions of various disciplines including but not limited to music therapy, medicine, nursing, sociology, and anthropology.

The Sacred Scale for Healing

Carla Rose Kelly and Julia MacKinley

Abstract

This workshop introduces participants to the Sacred Scale as a modality for healing with music. The Sacred Scale is 9 specific frequencies, all in tune with the laws of nature, which heal more powerfully than the diatonic scale. I will demonstrate the techniques and effectiveness of the Sacred Scale for healing. Participants will receive handouts describing techniques, worksheets for recording their own experiences and the opportunity to discuss the effectiveness and implementation of this technique. The workshop proceeds in three sections in which I will present our research findings and discuss the history of this type of practice; demonstrate a session of Sacred Scale healing; and discuss the experiences of the group, as well as answer any questions.

Intended audience: Any individual with an interest in the healing power of music, specifically with the Sacred Scale.

Materials provided: Each participant receives a paper copy of (1) detailed handouts to be used during the lecture portions of the workshop, (2) descriptions of the teaching techniques, (3) experience forms to elicit the reactions of workshop attendees

Rough Agenda: Section 1: Present and discuss research findings and history of this type of healing

Time: 15 minutes

Section 2: Group Experience of Sacred Scale Healing Session (lying down to receive/experience the healing effects of the Sacred Scale)

Time: 30 minutes

Section 3: Discuss experiences and opinions as a group
Time: 15 minutes

Audio/Visual and Computer requirements: During the experiential portion of the Sacred Scale Session, the participants will be invited to find a spot on the floor to lie down. It would be best if they brought in their own blanket/yoga mat to lie on for this session, or mats be provided for them. It is not uncommon for participants to fall asleep or into a deep meditative state during this session.

I would require a small table for my musical instruments made with the Sacred Scale. I thank-you.

Space and Enrollment restrictions: The space/size of the room for the workshop will determine the number of participants. A large room would be wonderful to accommodate the group lying down. Just an open spaced room (no chairs) with a table at one end for my instruments would be great. Everyone could join me on their mats or blankets on the floor for the presentation as well as experiential portion.

Other critical information: Preliminary research studies are underway on the use of the sacred scale in the alleviation of depression, anxiety and pain symptoms. Preliminary analysis have revealed that 24 hours after a session there is already alleviation of depression, anxiety and pain. Immediately after a session, many participants report feeling a decrease in pain and anxiety and a feeling of relaxation. Groups are currently being followed over a 3 week period or longer with more complicated conditions and final results will be presented at the time of the conference.

The influence of piano training on neural and cognitive functioning in older adults

Anna Thorne, Dr.Lisa M. Renzi, Scott Smith, Billy R. Hammond, Jr., and Dr. Pete Jutras.

Abstract

Introduction: Evidence suggests that the brain is sensitive to remodeling in response to musical tasks and that these changes may have implications for cognitive functioning. For example, neuroplastic changes associated with eight sessions of piano training were observed in young adults via enhancement of the mismatch negativity response, a component of the auditory event related potential (Lappe et al., 2008). In addition to neuroplastic changes in young adults, a study conducted by Bugos and colleagues (2007) evaluated six months of individualized piano instruction in healthy older adults and found that participants in the piano instruction group had increased scores in executive functioning and working memory domains. However, no studies were found which evaluated potential cognitive effects of piano training interventions in a population at risk for cognitive impairment. The proposed investigation seeks to address this question through examining the effects of a six month piano training intervention on neuroplasticity and cognitive functioning in individuals with mild cognitive impairment (MCI). We hypothesize that a complex multisensory intervention (i.e. piano

training) will have a greater influence on neural plasticity and behavioral outcomes versus single modal auditory training.

Method: 20 older adults (age 65-85) with mild cognitive impairment (MCI) who have no prior musical experience will be recruited for this study. Participants will either be randomized into an experimental group where they will undergo six months of piano training or into a music listening control group. In order to evaluate the effects of music at the behavioral level, cognitive function will be assessed before and after training via CNS Vital Signs (CNS Vital Signs, Inc: Morrisville, NC), and the Advanced Measures of Music Audiation will be used to assess musical aptitude. In addition, the MMN will be measured using electroencephalography (EEG).

Implications: Incidence of cognitive decline is anticipated to rise as the world's population ages. The purpose of this study is to determine whether a challenging, multisensory task such as piano training can improve cognitive and neural health. Results of this study will help researchers further understand the capacities of older adult neuroplastic changes and how these changes may be associated with behavioral outcomes. Furthermore, if piano training is related to improved cognitive functioning, evidence from this study may influence policies of residential facilities and organizations regarding music programs for older adults.

Music and Health: A Phenomenological Approach

Steven Cornelius

Abstract

Music's positive impact on human health is well documented. Much of our data, however, only peripherally addresses listener perception and experience. This paper argues that music's relationship to health will be best understood, and music's curative potential more fully realized, by embracing a phenomenological approach focused on the dynamic and ever-shifting experience of active listening and musical embodiment. I advocate developing modes of scholarly inquiry and therapeutic practice that are artistic and individually focused, while also being empirically rich and replicable. In conceiving this approach, I draw from a range of sources, including: Goethe's nature studies, William T. Powers' Perceptual Control Theory, current thinking in health psychology, and my own experience using music in stroke recovery.

Performing African Music and Dance

Steven Cornelius

Abstract

This workshop explores the transformative power of African music and dance. The session is divided into three parts. We begin by focusing on the conceptual and emotional possibilities inherent within West African polymeter. Next, participants create and perform interlocking melodies, an exercise that highlights the ideals of social responsibility and individual freedom. Finally, we combine these various components by learning to sing, drum, and dance a traditional composition from southern Ghana.

The effects of group music making on salivary cortisol, secretory immunoglobulin-A, and positive affect

Christine Carucci

Abstract

The purpose of this study was to examine the effects of group music making on selected salivary analytes, as well as self-reported psychological benefits in a small sample of adult recreational musicians. Specifically, this study examined two indicators of immune functioning: Salivary cortisol and secretory immunoglobulin-A (S-IgA). Salivary cortisol is a biomarker indicative of the body's response to stress, while S-IgA is an antibody that is key in protecting the oral cavity, lungs and intestines from invading pathogens. A psychological measure of positive affect was also examined.

To answer the question, "Do adult recreational musicians experience changes in positive affect, salivary cortisol, or S-IgA as a result of group music making?" a repeated measure design was used. Days 1 and 3 used a group music making treatment, while days 2 and 4 used a non-music making control. Subjects (N=9) completed a pre and post-test for each data collection point, which consisted of a "Group Music Making Questionnaire," and the "Positive and Negative Affect Schedule." In addition, subjects collected pre and post-test saliva samples using the passive drool method of collection.

Salivary analytes were assayed in duplicate, and mean scores were examined using paired t-tests. Results indicated that subjects experienced an increase in S-IgA [$t(17) = .99, p=.33$], salivary cortisol [$t(17) = .74, p=.46$], positive affect [$t(17) = 1.42, p=.16$], and negative affect [$t(17) = 1.03, p=.30$]. No results were statistically significant, though a larger sample size would allow more statistical power. The surprising increase in cortisol and negative affect as a result of group music making warrants additional research, particularly given that the subjects of this study were involved in music making as a recreational activity.

Successful Strategies of Individuals with Dyslexia in the Field of Music: A Comparative Case Study

Kent Nelson

Abstract

Many of the traits of dyslexia, such as decoding written symbols, phonological awareness, rhythmic processing, physical coordination, and poor handwriting may adversely affect learning music. Despite these issues, some individuals with dyslexia succeed in making a living in the field of music. This study used a hermeneutics perspective in qualitative research case studies to examine the lives of six respected members of the music profession who have dyslexia. The purpose of this study was to answer the following research questions: what strategies and coping skills did these musicians use to succeed despite their learning difficulties? What special talents and traits have these musicians brought to the music profession? And what implications may be drawn from this study for school and private music educators, parents, and students to help better understand how individuals with dyslexia learn music? This study's findings included support for: multisensory learning and teaching, individual and/or small group instruction, the use of technology as an aid, and the learning of jazz and popular music. Most of the six participants also thought their dyslexia enhanced certain aspects of their musicianship. The participants offered advice on finding private teachers for dyslexic children and recommended personal acceptance and disclosure of their dyslexia to others, including teachers and other adults who can serve as their advocates.

Music, Mind and Brain: A systematic review of Literature on Psychomusicology

David O. Akombo

Abstract

There are many reasons why there is a lack of codified science called Psychomusicology. Musical structures are known to emanate from mental processes. But the science of psychomusicology is still in its stage of infancy while musicology is not. This paper presentation focuses on a systematic review of published literature on the subject matter of psychomusicology. The areas of presentation in this paper will include studies on musicological cues for autonomic song segmentation and sensorimotor synchronization. The other aspects of the literature will focus on musical and linguistic syntactic incongruities and congenital and early blindness with Cross-Domain Mappings in music. The final segment of this literature will entail identification of absolute pitch processors without using a note-naming task and psychology of music with focus on sound and significance. Overall, the paper will focus on psychology of music behavior and cognition with ancillary topics on music perception, memory, and learning and their relation to the sensory, formal, and expressive properties of music.

Understanding students with especial needs in a musical experience – A Research-Action with procedures that took place in the Workshop Space – Therapeutic and Educational Space in Uberlândia – MG-Brazil.

Thaís Vieira do Nascimento & Eliane Leão

Abstract

This research deals with musical experience and practice, observation and analysis of Students with Special Educational Needs, performed by a musical educator, in turn supported by a multidisciplinary team. It is a result of the research assembled for tending to the requisites of the Music Masters Program, of the School of Music and Scenic Arts, of the Federal University of Goiás. Its objective was to comprehend these students' musical experiences. It comprises a research of qualitative proportions, with procedures that took place in the Workshop Space – Therapeutic and Educational Space in Uberlândia – MG, by means of a methodological proposal of Research-Action. It began with an Outlined Project, in which 15 lessons were ministered. Furthermore, after the lessons' planning (PAREJO, 2011; LOURO, 2006; SWAMWICK, 2002; FONTERRADA and MATEIRO, 2011), 23 music lessons were taught, with a duration of 30 minutes for each class (classes A and B).

The instruments of data collection were the class videos, the protocols, the pre-test and post-test questionnaires, which were answered by the responsible professionals and the Space's multidisciplinary team. Following the bibliographical revisions based on the field of expertise's literature (FREIRE, CAVAZOTTI, 2007; SILVA, 2011; BONA, 2011; and MARIANI, 2011), the Criteria for Analysis were proposed. Moreover, from these criteria, sections of the videos were analyzed using the action sequences that stood out the most. These sections were submitted to

an evaluation of a board of judges formed by field experts and all were incorporated to the data. The research analysis was based on the phenomenological perspective. From the analyses of the data, it became possible to indicate that the Outlined Project, as it was idealized and implemented, contributed for the very best elaboration of the classes that would be experienced by the group and by the researching professor in the Final Project; thus making modifications possible regarding the best possible service for the subjects, in dealing with the technical aspects, such as video recordings and photographs.

Therefore, it's important to point out that, since this is a Research-Action, the music classes were structurally modified throughout the process, using more diversified activities, resulting in a speckled musical repertoire and a greater participation by the researcher in the interdisciplinary activities with the group; there was a larger involvement by the subjects in the classroom; and the researcher's better understanding of the musical experiences with the special subjects was also noted. In the course of the student-teacher interaction, one could observe the development of the students' affectionate bonds, body and facial expressions; aside from the aspects of cognitive functions, such as memory, attention span, perception and conscience within the musical experience.

In conclusion, the musical experience influenced the subjects as to their learning in participating, socializing, and interacting; it promoted the cognition, musical involvement, development in exploring instruments. In conclusion, the musical experience influenced the subjects as to their learning in participating, socializing, and interacting; it promoted the cognition, musical involvement, development in exploring instruments, the expression and body movement; the higher acceptance to touching, the tolerance to sounds and the anxiety control. As a surprise element in the analysis results, the professor that works with such subjects of the research at hand – the ANEEs – can finally be profiled.

Keywords:

Music education, students with special educational needs (ANEEs), action research, teacher-student interaction and interpersonal relationships.

The Effects of Music on the Quality of Life of the Well Elderly

Nae Jeong Suh, Roy Kennedy, & Amanda Scott

Quality of life issues for the "well elderly" population, are related to many variables, which may include self-esteem and depression. With the increased number of "well elderly" people in the United States, there has been a growing concern about their health issues and the creation of interventions that support the quality of life of elderly people through nursing care, social services, medicine, continuing education and arts activities. Since the loss of overall quality of life in the elderly population may lead to increased emotional stress and decreased social activities, empirical research studies have emphasized the importance of psychological well being, exercise activities, healthy relationships with others, and social activities. Thus, it is

important to identify interventions to maintain physiological, psychological, and social functioning and to establish programs, which may affect the quality of life of the elderly by involving them in activities such as continuing education, physical exercise, and social interactions that provide healthy emotional outlets.

In the professions of music therapy, music education, and general education, research involving music participation with a variety of approaches for older adults has become more prevalent in the last two decades. In particular, such approaches have been used as interventions to improve the quality of life for the healthy elderly by having them participate in activities such as cross-generational choral activities, instrument playing and movement to music activities. Involvement in music therapy activities may also serve as a method by which to evaluate the quality of life of the elderly population by measuring their level of engagement in active and passive activities, which may assist them in coping with stress, adapting to change, and enhancing their self-esteem. In addition, the involvement of the “well elderly” population in music therapy activities may help build or improve the participants’ self-identity and social interactions and assist them in maintaining feelings related to the quality of life.

This study will investigate the effects of three different types of group music activities on of the “quality of life” of the well elderly. The experimental conditions will include a choral singing group, a music appreciation class, and music therapy activities which will include singing, playing simple percussion instruments, and movement to music activities. The dependent variables in this study will be the following: questionnaires that evaluate the overall quality of life, self-esteem, and depression of the well elderly. However, a secondary emphasis of this research study will be to compare the effects of active versus passive activities on the quality of life of the well elderly population. The researchers anticipate that the results of this study may indicate appropriate strategies upon which to base music therapy and music education programs in the long-term service of the “well elderly” population.

The Effect of Instrumental Rehearsal on Blood Glucose Levels of Five Low Brass Players

Derrick Alan Crow

Abstract

Health issues among professional and student musicians has become an increasing challenge, and educators and authors alike have voiced concerns about the reported health problems. Among these are the effects of instrumental performance on the body’s chemistry. The session will focus on one facet of the musician’s biochemical state, blood glucose. Blood glucose is the sugar within the bloodstream, which is directly influenced by physical activity, stress, food, and other stimuli. The presentation will explore the relationship between instrumental rehearsal and blood glucose movement.

The presentation will be an in depth examination of five low brass musicians, and will discuss multiple confounding variables, and possible relationships between measured variables. The participants were five low brass students from a midwestern university, from the ages of XX-33, and were members of a university ensemble. They checked their glucose levels before and after

rehearsals recording the results, and responded to an author created tool, which gathered descriptive and participant perceptions on two distinct variables. The data was gathered over a three-month period during the course of an average college performance cycle.

The presentation will conclude with a discussion of the results covering all data points. In descriptive data, an observed difference is seen between rehearsal and non-rehearsal days (rehearsal days: range -110—44, mean -11.09, non-rehearsal days: range -48—16, mean 7.57). While there was an obvious difference between the rehearsal and non-rehearsal days, a significant relationship was seen between perceived anxiety and ,increased blood glucose, but a large number of variables prevented a definitive answer to the null hypothesis. The study presented many possible trends, and has increased the understanding of the biochemical changes that occur during instrumental performance. Future modifications to the study will increase the understanding this physical change in musicians, and possibly lead to a causal relationship.

The Effects of Live, Bedside Music on Observed Patient Conditions

Abstract

Background

The Music for Healing & Transition Program, Inc.TM (MHTP) professionally trains and certifies musicians to provide live therapeutic music at the bedside to create a healing environment. MHTP collaborates with healthcare facilities and community organizations to educate about, and promote research in, the effectiveness of therapeutic music in the healing process and the life/death transition.

Methodology

A CMP typically spends twenty minutes with a patient during a session, following a specific process that involves assessing the patient before the session, and then playing specific types of music in response to the patient condition. The CMP may change the music in response to changes in the patient's condition. The goal of the session is not to cure but to foster healing and well-being. The effect of a session may present as a patient with dementia being able to speak more coherently after the session, or a patient with an irregular heart rate stabilizing due to entrainment with the live music, which the CMP uses to meet and stabilize the heart rate.

MHTP has guidelines that are specific to different patient conditions, and the CMP will play to the patient and adjust the music in response to patient changes. In some situations, a health care provider may request a CMP to address a specific patient condition, including, for instance, pain management, anxiety, depression, or disorientation. CMPs are also brought in to play for patients who are actively dying, to reduce apprehension and related discomfort.

Before the session, the CMP records the following data into a form developed by MHTP:

- The session date and time
- The gender of the patient
- If the patient is over or under 18 years of age, if known
- The type of location of the session (for example, hospital or hospice)
- The diagnosis, if known (for example, cancer, dementia, cardiac, psychological)
- Observed conditions (for example, awake, disoriented, restless)
- Measurable conditions (for example, blood pressure, heart rate, oxygen saturation, and respiration)

Results

Data from this study demonstrates that live bedside music that addresses and changes in response to the patient's condition has a stabilizing effect on the patient's physical and emotional well-being, as evidenced by changes in observed conditions, including agitation, restlessness, and disorientation, and in measured effects, as evidenced by the patient's lower blood pressure post-music. Areas of opportunity for MHTP to support CMPs in responding to patient conditions is to include ways in which to document effects on pain.

Successful strategies of individuals with dyslexia in the field of music: A comparative case study

Kent Nelson

Abstract

Many of the symptoms of dyslexia – such as difficulties with: decoding written symbols, phonemic awareness, rhythmic processing, physical coordination, and readable handwriting – may adversely affect music learning. Despite these challenges, some individuals with dyslexia succeed in the field of music. This study examined the lives of six respected members of the music profession who have dyslexia. The purpose of this research was to study the perceptions of six professional musicians living with dyslexia as to how they learn and perform music. The research questions were: What strategies have six professional musicians with dyslexia used to overcome challenges in learning and succeeding in music? What abilities do the study's participants believe they have brought to their musical careers because of their dyslexia? And what implications may be drawn from this study in order to assist students with dyslexia who are enrolled in school music programs. This study's findings included support for: multisensory learning and teaching, individual and/or small group instruction, the use of technology as an aid, and the learning of jazz and popular music. Most of the six participants also thought their dyslexia contributed certain aspects to their musicianship. The participants offered advice on personal acceptance of their musical strengths and weaknesses and whether to disclose dyslexia to music teachers

Understanding the Science of Music as an Rx for Stress

Arthur W. Harvey

Abstract

The impact stress has on our physical, psychological and cognitive health is significant. Health Science researchers project that over 85% of visits to doctor's offices, emergency rooms and hospitals are the result of Stress and it's effect on our brains, and subsequently our body systems. Quantifying the complexity and diversity of the effects of stress is essential for establishing the credibility of music as an accepted rehabilitative as well as a preventive intervention for managing stress. Examining the elements of music, and clarifying their individual and collective impact upon individuals physiologically and psychologically, assists in selecting as well as developing music for prescriptive applications in managing stress. The template from the medical field of Psychoneuroimmunology can serve as a model for constructing musical parameters in the development of recordings specifically created for the management of stress. Through multi-media, demonstrations and discussion, participants will develop a framework for understanding the necessity of managing stress, and the universal power music wields in stress management. We will listen to, examine, and define the criteria used in several recordings that I developed for stress management: (1) in health care environments (*Music for Health and Wellness*); (2) in Alzheimer's care units (*Island Sounds-Healing Heart*); and (3) for a hospice application (*Euphonium for Euphemia*).

Cross- Cultural Sound and Music: A Novel Rhythmic Approach for Improving Brain Function

Alex Doman

Abstract

The integration of acoustic elements: frequency, amplitude, time and spatiality, forms the basis for how sound affects us. Since ancient times, sound has been used with great purpose to affect man. More recently, in the last seventy years, ongoing technological and scientific advances have enabled the development of sound-based programs for applications ranging from brain injury rehabilitation to wellness, and peak mental performance. Beginning with its release of The Listening Program® in 1999, Advanced Brain Technologies, a leader in applied psychoacoustics and music cognition, has been combining artistry, musicianship, research, and interdisciplinary collaboration with technological innovations to record and produce music-based methods specifically created to improve and support brain function in children and adults. The next generation of sound/music for brain fitness begins at the 2013 ISQRMM Conference. This presentation will unveil the newest development in The Listening Program, comprised entirely of original music which highlights and connects acoustic elements through a distinctive integration of rhythmic cross-cultural sounds. This dynamic session will include the worldwide debut of this originally composed music through live and recorded performance, and audience participation. The history, rationale, and applications of this ground-breaking program will be presented by its creators.

Asperger Syndrome within Music Education in Puerto Rico

Emma Rodríguez Suárez & Marianyelí Aponte Ramírez

Abstract

There has been a significant rise in the number of Asperger Syndrome cases reported in Puerto Rico in the last decades. Lacking exact figures being calculated by any governmental department in Puerto Rico, as they follow US statistics, the Department of Education shows a dramatic increase of students registered under the Autism spectrum-a growth of 159% between the years of 2002 and 2003 alone- (Irizarry, 2009, p. 2). This increase impacts the music education classroom and the way teachers must accommodate an inclusive group of students. This presentation shares information at the local level (Puerto Rico) as an example of the global needs that the music educators are experiencing. Furthermore, this presentation is based on a study of the perception music teachers have of the behavior and motivation of a student with Asperger Syndrome after eight weeks of individual weekly-one hour per week-guitar lessons. Using a qualitative, case study approach, three interviews were conducted (two of the teacher pre- and post- treatment, and one of the parents), and eight observations annotated and videotaped for later review. Themes were developed, analyzed, and suggestions for futures educators and the music education system were developed as a starting place within a community lacking sources, materials, and reach. These findings, as well as, data and background on the education system for special education students in Puerto Rico will be discussed.