

>> Welcome to another season of music and the brain podcasts from the Library of Congress. I'm Steve Mencher and I'm speaking with Alicia Clair, professor music education and music therapy at the University of Kansas. She's also a former president of the American Music Therapy Association, which has honored her with its Lifetime Achievement Award. Thanks for joining us.

>> I'm very pleased to have the opportunity to be here, thank you.

>> I often like to start these conversations by having our guests tell me about some of their earliest music experiences so please tell me about yours.

>> Well, some I don't remember because my mother tells me that I played melodies on the piano when I was 2, which seems a little farfetched, she might have exaggerated a bit but she was a piano teacher and encouraged it. I sang a lot and so it was just a natural kind of thing to follow up with studying piano and voice.

>> Wow, so you studied piano and voice, encouraged by your parents. And do you have a sense, again, sort of looking back from the wisdom of having been a music therapist and being involved in music all these years of what it might have contributed to your growing up?

>> I think music is such a critical part of development and we know more and more about that all the time but I think for me, it was a matter of being in the middle of the heartland, where there was very little population --

>> This was Kansas or --

>> That's right, on a homesteaded wheat farm. I went to a school that had two rooms, I mean it's kind of one of those stories you never hear anymore but I think for me, it was my way to be who I was and to be individualized as a person, as a performer but mostly for myself in terms of expression and using music for my own enrichment. I believe that was critical to me, as a person.

>> Wow, since we don't have that much time to talk today, I wanted to zero in on two aspects of your work, one being music therapy with older populations and particularly those with Alzheimer's disease and also music therapy with veterans, and especially those coming home from wars in Afghanistan and Iraq with traumatic brain injury but let's start with the veterans and I was very interested to hear you say in one of the interviews that I either read or listened to that music therapy in this country got a real boost in the 1940s when it was used as a successful treatment for some of the problems of veterans coming home from World War II, can you tell me a little bit more about that history?

>> That is exactly correct; music was a central part of what treatment regimens were about in Topeka, Kansas, where there was a close affiliation with the Miniger Foundation and because of that affiliation, soldiers who had problems with shellshock, various kinds of disabilities according to the stressors that they were under at the time and we

understand more about that today, were brought into the hospital and we had, at that point in time, full-fledged music programs where there were orchestral instruments and band instruments and choirs and patients and staff people interacted together. I don't believe they really understood why it was important but everybody really understood that it somehow improved the situation. It relieved the stress, at least for a moment, and provided opportunity for people to come together in community to belong somewhere.

>> Wow, I mean that's fascinating and I would love to see a full length documentary on that sort of thing but again, looking back from hindsight, what were some of the things that were actually going do you think the brains of those returning veterans with what we would today probably call posttraumatic stress disorder; what was happening to them and how was the music helping?

>> It seems that very often as we study the posttraumatic stress disorder and we see that it's involved a lot with stress and distress that what happens first and foremost when people hear music, it just automatically dampens the autonomic nervous system so we have a response where the breathing might deepen and slow and the heart rate might slow and we get a reaction with maybe even a physical relaxation with release of muscle tension. And with that, we find that there's a beginning of an opportunity to let go and to somehow find a comfortable place where there doesn't have to be a need for vigilance and anxiety; that's probably one of the first things that we know happens. The other thing that I think is so important is that as we work with people who have had traumatic injuries, including brain injuries from having blasts, we know that we have to go back and do a lot of perhaps remapping. We might have physical therapy where we use music to entrain rhythm to facilitate motor movement but we also might do some things that involve tension control training, executive function training and it's very interesting how much can be applied in those ways.

>> Let me work backwards to some of the things that you've said that I may not understand; executive function training, what would that be?

>> Executive function training deals with a higher order of decision making and putting information together and drawing conclusions and making decisions that are essential for lifetime work, I mean day to day kinds of things. It also involves the opportunity to be able to make reasonable judgments about decisions just in the activities of daily living. Also important are the ability to control impulses, which is a cognitive function so we find that people who have traumatic brain injury very often react in ways that though they have physically rehabbed may still not have the cognitive function necessary to go back to work or go back to a job or they may have some problems within the family as well in terms of behaviors.

>> Well, this has been very helpful and getting back then to jump back to my other question just before you said about the executive function, which was the remapping. How would music help in the so-called remapping and what is remapping in this context?

>> As far as the physical disability, which is the area which I've worked in most of all, it is a matter of understanding that the brain has a great deal of plasticity so it has the potential to change and if we have an injury in one area of the brain, we can actually shift to another area but it takes a great deal of work. It's not magic by any means, it's very difficult in terms of trying to train new behaviors. For instance, motor behaviors that might involve walking or moving the arms or the body torso or speech and it's a matter of working then with therapists in a team, a multidisciplinary team, where everybody pulls together to have the best outcomes possible. Music probably has the greatest facility in assisting in these efforts because the rhythm that impacts really the motor center of the brain, more than any place else and doesn't require cognitive recognition for it to actually work. We can try our very best to facilitate motor movement but when we put in a rhythmic context with a structure and a beat, we find that it's greatly facilitated and there's a great deal of lab science that supports that.

>> What kind of music do you use in these cases and how do you find it and how do you choose it and how's it related to the specific person?

>> Typically there is a grave concern that associations with music that is familiar with a person's background and whether they like it or dislike it, may actually cause some disruption so very often a music therapist will improvise or compose music that's used explicitly for a certain tempo for a certain movement, for a certain outcome so if we're dealing with physical rehab, we definitely will use live music or we will use music that's specifically designed with back beats that we might record; for instance, if we need to send someone home to practice or if they want to practice when we're not there. So I guess the answer to the question is, it's an individualized process very much so. There's some things that we can talk about in generalities, yes probably the most successful music is the music of the young adult years. We don't really know why but that typically is the music that people will prefer over other types of music but they may have had a background as a young person with western art music and that will reach them. For me, it's music -- the rock and roll of the 1960s and for others, it will be whatever time in which they were between the ages of probably 15 to approximately 22, 23-years-old. Now that carries all kinds of associations with it, which are visual and olfactory and auditory and emotional kinds of things that trigger so that may be something that will get in the way if we're really trying to work on an outcome that we would prefer to have no previous experience.

>> I see. That seems like an interesting contradiction that some of the times you need to connect with people based on the music of their adolescents or whatever we'll call it, other times you need to get those emotional associations out of the way and connect with them purely on the basis of rhythm or the other characteristics of music.

>> That is quite correct.

>> All right, let's move along then to your other area of expertise and the thing that you've written about for so many decades and this is the

use of music in older populations and especially with Alzheimer's disease.

>> That's right.

>> Have you found that music therapy is helpful here and does it actually slow the progress of the disease? Does it make people more comfortable? How does it work? What does it do?

>> I think those are still mysteries but there are some beginnings of research that indicate that when people are actively engaged in music that there might be perhaps a slowing. I'm very puzzled by that because when we have person, for instance, who has a diagnosis of Alzheimer's type, we have a very clear trajectory of that disease process. We know exactly the stages in which the person will progress with the disease. We cannot predict, however, the amount of time they will spend in certain areas and so I'm very concerned about whether or not we can prolong but I think that we probably will be investigating those kinds of things, probably more through the lab science than through the clinical applications. My area specifically has been in the very late stages and the whole purpose there is to continue to use music to engage people. I think that if we go on the basis that people are social beings and they tend to prefer to be with other people, if given the opportunity, not all the time but frequently, and they've lost that opportunity to engage because they have a dementia that doesn't enable them to have verbal conversations, we can do many things that involve, for instance, ballroom dancing with spouses and holding one another. We can do some things with children and parents that involve touching and basically moving to music or singing with music so my whole area has been to really look at the live quality issues that are a part of that process where people begin to not have the opportunity to hook up with people they love and for the family members as well, who also feel very frustrated in visits when they come and the person gets up and walks away and doesn't recognize them and doesn't know who they are. So I guess that's a very long answer to your question but I think that it's, right now, about life quality, it's really about how do we stay connected, how do we stay family, how do we stay engaged in community.

>> Tell me and help me to pull some lessons from this for families who are grappling with this. Is the lesson gosh, in your community, find a music therapist and get a prescription for certain kinds of music and do this in a community or can someone in fact, even if they're a little isolated and in a caregiving role, use music in a helpful way using the research and the things that you've discovered that music can help with?

>> I believe people must be enabled to use music with their loved ones, with their care receivers if they're professional caregivers. I do a lot of training workshops around the country and my whole idea is that there are many ways that we can use music to engage. It doesn't require a music therapist to do so. If we have very serious problems and there is no way to make the inroads into a relationship, there's no way to hook that person back into a relationship, then we likely need the advice of a music therapist or a contact with one but I think so many of us are very invested in just improving life quality and trying to go to people to

understand and give them confidence to try things that they think might make sense and later on today, we'll be talking about some of those opportunities. I think it's really important to kind of use your best judgment. Many of us are available for consultation if there's a need but I think don't not try.

>> Don't not try.

>> Don't not try.

>> All right, give us a little bit of a preview in terms of, you know, concrete steps that folks can take.

>> Well, I think first of all, there are ways that we want to try to decrease the stress reactions that people who begin to lose their memory and their cognitive function have. They are disturbed whenever they are shifted in their environment, whenever there's a change in their environment. There's some research in nursing that indicates if music that's preferred is played a half hour before a transition point, then it is likely that the person will have less of a stress reaction. What we know is that if the stress reaction can be avoided, then the person will engage in procedural memory; for instance, how to put on a pair of pants, how to put on a shirt, how to actually comb hair and brush teeth, all of those kinds of purposeful things that we take for granted each day that becomes sort of automatic in our frame of reference. So the procedural memory is that aspect of just being able to engage in those old habits that just come to the fore when there's not a reaction to a trauma or what's perceived as a trauma by the person who's in distress. So using music to dampen the autonomic nervous system prior to the opportunity to give very simple directions or gestures or modeled kinds of instruction through just modeling what is needed to have happen, we find that people can pursue that and have a very much less difficult day, not only for the care receiver but also for the caregiver.

>> Let's bring that down just a little bit to the actual physical things that are happening. You walk into the room, perhaps your loved one is in a facility of some sort, you want them to get dressed because you're going to be taking them out to lunch with the rest of the family so instead of a command to get dressed, we're waiting, the car's outside, can't you -- don't you remember how to put on your pants, you say come a half hour before, put on the preferred music, the music that you and your loved one perhaps have shared and use that music to get the breathing right, to get the relaxation happening and then ease into the what you're calling the transitional period, am I getting this right?

>> You are right spot on. I think what happens so many times is we, in our very hairy days, will rush from one thing to another and we take a lot for granted that a person can absorb and follow when they really have difficulty. First of all, they're going to pick up all of the un-verbal -- the nonverbal kinds of communication, that energy, that agitation, that hurry, hurry kind of response and that gives them the signal right from the beginning that this is a difficult situation, I can't cope with it. I don't understand what's going on and of course it probably doesn't reflect in their mind that way but if the person does use the music, be

sure to allow plenty of time, enough time to process, enough to move, enough time to assist with getting the clothes on if that's the issue, going to the restroom before we go to the restaurant; those kinds of things are very important considerations.

>> Now, are there other specific things that you've come to talk to the audience at the Library of Congress about today that you'd like to share briefly with me that we haven't yet touched on?

>> I think the most important thing is that music is something that's a very important part of everyone's life. One of the things that I am so frustrated by all the time is that people will say well I can't use music with my loved one because I'm not a musician and I don't understand and essentially I'll simply say to them, you know, just go ahead and try. The most difficult is the singing, one of the things that I think is so soothing is when a caregiver can sing to a care receiver. Sometimes I sing instructions if I'm trying to work with someone who's having difficulty understanding. It seems like the melody helps carry the information, as well as the verbal, in fact it's more efficient and more effective, I believe. And someone will say to me but I can't sing, I don't have a good voice, well yes you can sing and even if you feel very self-conscious, try it anyway because it's going to be the most endearing and close connection opportunity, I believe, that caregivers can have with care receivers.

>> Well, I'm afraid we've run out of time. We could talk about this all day but thank so much. I've been talking with Alicia Clair, professor of music education and music therapy at the University of Kansas. Alicia, thanks for spending time and joining us today.

>> It has been my delight. Thank you so much for inviting me.

>> Thanks. This has been another music and the brain podcast from the Library of Congress. I'm Steve Mencher.