

TRANSCRIPT

Spirituality & Health's Essential Conversations

Dance Psychologist Peter Lovatt

Rabbi Rami: From *Spirituality and Health Magazine*, I'm Rabbi Rami, and this is Essential Conversations. Our guest today, Dr. Peter Lovatt is a dance psychologist, founder of Dance Psychology Lab, which is part of Movement in Practice Academy. He's also a teacher at the Royal Ballet school, where he really explores, I guess, also in his work with The Movement in Practice Academy, he explores the interface between movement neuro computation and experimental cognitive psychology. One of the things he's going to have to do for us is explain what all that means. His new book is called *The Dance Cure: The Surprising Science to Being Smarter, Stronger, Happier*. A review of the book is in the March, April edition of *Spirituality and Health Magazine*. Dr. Lovatt, welcome to Essential Conversations.

Dr. Peter Lovatt: Thank you very much. Thank you for having me.

Rabbi Rami: Our pleasure. Your book opens with a proclamation that I found personally in congress, and you wrote, "We are born to dance". I am born to sit the dance out. I'm an exception to your rule. What's the evolutionary advantage of the human capacity to dance?

Dr. Lovatt: Dancing, I do believe that every single human being is born to dance. If you choose to sit the dance out, then that's a lifestyle choice, but you're going against what you're fundamentally born to do. The evidence for the fact that we're born to dance is that dancing is a universal activity. People have been dancing since the beginning of human time. We know that there's no culture anywhere in the world where people don't have an urge to move and synchronize their movements to other things, to other music or to other people. We know the benefits of dancing are extraordinary. What we know is that when people dance together or move together, it changes them in four ways. All these four ways are fundamental to human society.

Firstly, it changes people's social relationships. We know that people bond together when they move together in synchrony, I'll go into more of that detail, the front about that. The second thing is that it changes the way that we think and solve problems. The third area, is that from an emotional perspective, we know that movement helps us to express emotion. What's extraordinary is that other people's brains are set up so that they can recognize emotions in our movements.

Fourthly, movement changes us physically and dancing changes us physically, not just our heart and our lungs or our muscles, but our hormones and our neurochemicals. We know when we combine all those four things together, there's a social element of dancing, the thinking aspect of dancing, the emotional element of dancing and the physical aspect of dancing and all of those are really important evolutionary functions. That's why we think dancing has persisted despite many people not wishing to dance. In fact, some societies try to stop people dancing.

Rabbi Rami: Oh, that's true. Some religious societies consider dancing satanic.

Dr. Lovatt: Absolutely. There are people who have been banned for dancing. People have been beheaded for dancing. Recently, beheaded for dancing. It's an extraordinary thing that-- Now some of that speaks to the power of dance. We know that when people move their body, they move their body in a way which is related to their hormone levels and that their testosterone and their genes. We know that a person's hormones influences how they move their body. We also know that when people watch somebody else dance, they pick up signals about their fertility levels and about their hormone levels, which is even more extraordinary. You can understand why some people thought there was satanic reasons why we were dancing, because we were communicating something that was really fundamental about who we are. When you get societies who try to repress a society, then of course something like dancing is bound to be repressed, because it's so wonderfully gooey and expressive of who we really, really are.

Rabbi Rami: Dancing, you see it in other primates?

Dr. Lovatt: You do see movement. You do see in some primates and also in birds. We're not the only species that dance. You certainly see that something like sensory motor coupling, the idea of moving in response to certain stimuli, you see that in birds, and you see it in some primates, but humans, even with two day old babies can perceive rhythms. We know just from five or six months of age, when you play musical rhythms to young children and babies, they start shaking their body in response to it, and they smile. All the babies do this, it is extraordinary. It really is an innate activity.

Rabbi Rami: Do you think the rhythm is because they were, while in the mother's womb, they were listening to the heartbeat?

Dr. Lovatt: Yes. Absolutely. When people tell me that they've got two left feet or that they're not rhythmic, I always know that they're just making that up, it can't be true, because our hearts beat in rhythm, our brains, the synchronization of our neuronal functioning happens in synchrony. We walk generally in time, our arms swing in time, when we walk naturally. We are fundamentally rhythmic beings. Of course, a baby, when we talk about two day old babies recognizing rhythm, of course, these aren't two day old babies. They were born two days ago, but they'd been living inside the womb a long time. They've been hearing the rhythm of their mother's heartbeat for months and months and months, and moving in response to their mother's movement.

There's some really interesting studies looking at the differences between babies born of dancing moms versus babies born of non-dancing moms. There are all kinds of habits in later life. We know that the children of dancing moms needs to be rocked to sleep more than the babies of non dancing moms. We know they're more likely to pick up musical instruments and play them. There's a lot that's happening in the womb and before the child is born.

Rabbi Rami: Wow, that is fascinating. While you were talking, I flashed on something that I was involved with years and years ago. I don't remember exactly

when. I was part of this conference in Prague, in the Czech Republic, and the meeting was not going well.

These were all adults from a variety of countries and it wasn't going well. Then unbeknownst to me, someone decided that I should fix that, the convener said, "Rami, do something to help us get through this impasse." Without having a clue, what to do, I just instinctively asked everyone to come together in a huddle. I asked each person to put their hand on their chest and find their heartbeat and tap on their chest to the rhythm of their heart, and within a few moments, even though I imagine everyone's heartbeat was a little bit different, we were all tapping in sync, in rhythm.

Then, we started doing this chanting and there was a Hindu guy there who took it into Sanskrit, and people began to move together, chant together, and drum together using their chests as the drum all in sync. It absolutely changed the dynamic in the room. The conversation went much more smoothly thereafter. Is that an example of what you're talking about when you talk about these four things? It seems to me that was an expression of social bonding. It ultimately seemed to change the way we were doing the problem solving we were engaged in. I don't know about emotion or the physiological changes in the neurochemistry, but I imagine all four things were engaged in that example. Am I on the right track?

Dr. Lovatt: Absolutely. I mean, that example is just really perfect because it shows about that synchronization when we have-- Wouldn't it be wonderful for starters, if we could do that in the broader society all the time to bring societies together. Wouldn't that just be wonderful if we could feel our own heartbeat and then express that through our movement and coordinate that with other people's heartbeats is what happens sometimes in dance cultures going to nightclubs and things. What was happening right there was that we know from the scientific studies, laboratory-based studies of synchronized movements that were very similar to that, we know that when people synchronize their movements, even complete strangers afterwards, they report liking each other more. They report trusting each other more. They report being more similar psychologically in terms of their values so that their values and their goals seem to be more aligned.

The fourth thing, which is truly amazing is that people are more likely to show pro social behavior, helpful behavior towards other people when they'd be moving with them in synchrony. Now this pro social behavior has even been shown in seven month old infants. When you move a seven month old infant in time with somebody, it displays more pro-social behavior. We know this happens in teenagers and in adults and in older adults too. That coming together, that experience you had there in that room is extraordinarily powerful.

Now, when people say they don't dance, the reason I pushed back on that is that you might not do ballet or ballroom or hip hop dancing, but that you just described there, was a perfect example of group dancing, because it's all about moving together in synchrony and being each other's rhythms, finding each other's rhythms and moving together. That's why we think dancing is so important for bonding societies together.

Rabbi Rami: Certainly in spiritual circles, that was an inadvertent pun, but there's a lot of circle dancing. I'm thinking of Hasidic Jews dancing circles, Sufi Zikr, which is

done in a circle, often a slowly moving circle. You see the sort of the dancing that erupts with Hare Krishna devotees. What's the connection if it isn't really, because what you just said, is there a documented connection between spirituality and dance?

Dr. Lovatt: We know that people enter into a trance-like state when they move and certainly the case of things like circle dancing, where people can-- There's a repetitive nature to it, then there's a certain predictability about the movements once you get into those movements and it's also a structured movement, people then report an altered state of consciousness. They report getting into either a flow-like state or they lose track of time or they think differently.

Then during those experiences, many people then report being closer to something other than what's present in the room. It seems to be opening their minds and allowing them to connect on a different level with something else.

Rabbi Rami: I'm wondering, and this is obviously pure speculation on my part and perhaps completely irrelevant, but I'm wondering if in the area of the neurochemical changes that dancing triggers, if those are similar to things that might happen to people in meditation or prayer or even those worship services that are physically energetic like Pentecostal or something like that, is there any corollary there that this is a way to get to altered-- what you might get through a drug or you might get through pranayama breathing exercises that somehow this kind of dance that you're talking about or maybe just dance, in general, can lead to these spiritual moments of spiritual awakening?

Dr. Lovatt: I can't speak of what happens in the brain during meditation and prayer, but I do know that when people are dancing, then there's a change in opioid production. Also, we have these other happy hormones being released, of course, endorphins, of course-- the opioid system is really important. Now, of course, we get that too in breathing exercises too, when we get synchronized breathing and with that we can lead to the same neurochemical changes.

It does seem to be that there is some similarity certainly between what's happening in the brain while you're dancing and what's happening in some of these breathing exercises. We know that when people are dancing, there's a wide range of activation in different areas of the brain. For instance, the putamen becomes active and there are several different regions depending on the style of dancing we're doing.

Of course, one of the problems with dance is that people think that dance is one thing. They say, "Oh, yes, I do dance," or, "No, I don't dance," because they think dancing is one thing, whatever they think it is, but actually dancing, it's almost like a meaningless term in some sense because dancing can mean so many different things, so many different types of movements and those different types of movement will have different impacts.

For instance, we know that whether people do structured dancing like the circle dancing you were talking about earlier on or whether they do improvised dancing, spontaneous moving, creating movements on the spur of the moment without any pre-planning, those two different types of movements have different consequences on human thinking and problem-solving. We know that when people engage in very

structured movement, they become much faster thinkers. Their thinking speeds up, they're much more able to find answers to converge and to problem-solving puzzles. A convergent problem-solving puzzle is a puzzle where there's one correct answer, but you have to take multiple cognitive steps to find that one correct answer.

Whereas when people move their body in an improvized way, they become much more creative in terms of their creative thinking, in terms of their divergent thinking. Divergent thinking is the thinking where there's not just one right answer to a problem, there are thousands potentially of correct answers to a problem. The different type of movement will have people thinking in different ways.

I should imagine that when people are meditating or in prayer, then also that would change their thinking as well in different ways. I'm wondering whether by chanting a prayer, it becomes comes very convergent thinking because it requires the repetitive nature perhaps. Whereas in other types of meditation, maybe that idea of getting rid of some of the clutter might enable you to be more creative in your thinking. It might be the case that different types of dancing correlate with different types of prayer or meditation or breathing exercises.

Rabbi Rami: It would be interesting to know if there was a correlation, then if you had a certain kind of problem, you could, "Oh, wait, it's time to waltz." [laughs]

Dr. Lovatt: That's true. You can do that at the moment, which is great. If you've got that kind of problem where you've got a stuck problem in your head, there's certainly prescriptions for types of movements you can do. What's fantastic about dancing, it's like meeting a room full of people who are completely unique and each person you meet has a completely different personality and character. Dancing is the same, every type of dancing that you're engaged with has a different personality and character and it's going to influence you in different ways. It really is the case that if you want to solve a problem, there will be a dance that when you do that dance, it will help you unlock some of the stuck thinking that is preventing you from finding the solution.

Rabbi Rami: Is this the kind of thing that you're promoting? It just seems to me this would be something that we should learn in school as part of our problem-solving toolbox.

Dr. Lovatt: Yes, yes, yes. We should be learning this in school. We should be knowing about movement. School can be an awful environment because we sit people down, we say to them, "Sit still, don't fidget, don't move. You open your head and learn all this content," which we know is the wrong way to learn. We need to get people moving around and having some relationship with their body, feeling confident with their body. We know that because when you move your body, it changes your mood.

Even in hospitals, where people have been admitted for low mood and depression, then when people get up and dance, then their mood and depression levels change, their depression is reduced. Also, their thinking and problem-solving skills are improved. Now, of course, we've done some work with people with Parkinson's disease. Parkinson's disease is a neurodegenerative disorder which causes not only

movement-related problems but a whole range of other problems, problem-solving, chewing, eating, social interaction, a whole range of things.

What we found is that when we have people with Parkinson's engage in dance activities then some of their problem-solving help them. For instance, if you've got a tremor in your right hand, imagine your hand trembling, now imagine trying to drink a glass of water with that hand, you might spill it all over you. This becomes a creative thinking problem of how can I drink with a trembling hand and not spill it over myself. If you've got problem with chewing and swallowing and you've spent 50 years knowing exactly what to eat and drink at mealtimes and suddenly you can't chew and swallow that food, it's a creative problem-solving task to come up with a whole new set of menus of things that you can eat and enjoy eating.

Thirdly, imagine you're laying in bed and you can't get comfortable and you get bed sores because you can't move in bed anymore, finding new positions and ways of moving your body, again, becomes a creative problem-solving task. We know that when we carried out these studies of people with Parkinson's disease and we had them doing some improvised movements, those are the types of things which improved. Real-life activities.

Now in schools, we know that children can learn differently if they move. Interpersonal relationships are different when people move. We know that physically, nearly 10% of deaths are caused by inactivity and the wealthier the country, the higher that number is. Inactivity is a killer. People are so intimidated by movement that we need to get more and more people moving. It will save lives, it will bond societies and it will make people healthier and happier.

Rabbi Rami: It just seems obvious when you say it. I hope everyone is thinking to themselves, "What can I start doing a little bit more dance into my life?" But not all the dances are positive, I'm not sure that's the right word. I was fascinated in your book about-- There's a section called power and feeling empowered. You talk about a dance that is associated that expresses you right, a means of expressing aggression and intimidation. It's linked to rugby.

Dr. Lovatt: Yes.

Rabbi Rami: I don't know if I'm pretty-- It's H-A-K-A. Is that haka or--

Dr. Lovatt: The haka. Now, this started originally and it wasn't originally a rugby dance. It was a war dance. Societies would use these war dances before going into battle. The armies would face each other and they would stand. You might have 100 people on one side and 100 people on the other side, they'd have spears and they'd have shields. Then they would do this war dance facing each other. One group would do it facing-- the idea was to bond that group of people together, but then instill fear and intimidate their opposition. We're communicating this emotion.

Now, of course, then the New Zealand rugby team took this on as something that they did at the beginning of every rugby match. They would stand in the rugby pitch and they would do this dance in front of their opponents, of course, to try to instill fear in the others and to bond for themselves together. War dances have been used for thousands and thousands of years, and yes, you can communicate aggression.

We've done some work in prisons. In prisons, we did this in male prisons, there's a lot of very frustrated men who have pent-up emotions and angry and aggressive, and they're feeling all kinds of emotions. Using movement with those people as a way of allowing them to express their emotion, to get out some of their pent-up tensions is fantastic. You can see the energy coming through those guys because it's a way of helping them release that emotion, which typically, we're not allowed to do.

Rabbi Rami: The two warring parties are dancing at each other. It's a shame that dancing at the same time didn't produce a sense of dancing with each other, and they would say, "Oh, let's just have a dance-off rather than attack each other with our spears."

Dr. Lovatt: That will be so lovely, wouldn't it? If we could dance together, then that would be lovely things too.

Rabbi Rami: It brings me to my last question. Near the very end of your book, I mean the last couple of pages, you referenced the film *Jojo Rabbit*. I'm just going to read the paragraph to you and then ask you this question and that'll be the way we go out. You say, "Dancing makes us happy." It's as simple as that. In the 2019 film *Jojo Rabbit*, which tells the story of Johannes "Jojo" Betzler, a devoted Hitler Youth member who finds out his mother is hiding a Jewish girl in their attic.

There is a wonderful moment when Jojo asks the girl what is the first thing she will do when she gets her freedom, her answer is immediate, dance. Then you close the book out. I'm not going to end it there, I want to ask you a question. The first thing she wants to do to express her freedom is to dance.

I saw the movie, and it fits the movie, I get it. After reading your book, her answer seems far more profound than when I first heard it in the movie. I have a sense that when we are all free, free from fear, free from illusion, free from what Albert Einstein called the optical delusion of being separate from one another and from nature, when we're free from all of that, we will dance, just natural.

Of course, dance is natural. But that will be the first thing we do when we're liberated from fear and illusion, and this false sense of separation. My question is this, how optimistic are you about human liberation and our capacity to reach that moment like in the movie where we're free and the first thing we do as humanity is dance?

Dr. Lovatt: I'm hopefully optimistic. I've been in a very fortunate position where I've stood in front of very large groups of people, some very small groups, some very large groups. Sometimes up to 10 or 11,000 people in a room where they're all dancing. The joy and the peace that comes from that dance and the naturalness that comes from the movement, you really see--

Some people said that dancing is a window into the human soul, because you see the real human being, the essence of the human being, the fire burning bright that comes out when they dance. Knowing that exists and knowing that that exists even in situations, terrible, terrible, terrible situations where people are really close to the edge where all kinds of atrocities are happening, then to know that that spark, that flame inside of someone's human soul is still present is a mark of hope.

I think that is what we live for, isn't it? That sense of hope. People in Syria going through a war, terrible, terrible war, where people's livelihoods are being destroyed completely. Everything is being destroyed- physically, emotionally societally, everything is being destroyed. People there are saying, "We long for the time where we can dance, we just want to dance," because that represents normal life. That represents the thing that we need for the expression of our human soul. That's what dancing does. It allows us to express our human soul. I'm hopeful, we can get to that point.

Rabbi Rami: I'm going to rest on your hope because I think you're right. I think that not just in Syria, but around the globe and especially in this time of pandemic, the need to dance is crucial. Our guest today, Dr. Peter Lovatt is a dance psychologist and author of *The Dance Cure: The Surprising Science to Being Smarter, Stronger, Happier*. A review of the book is in the March, April issue of *Spirituality & Health Magazine*. You can learn more about his work on his website, peterlovatt.com. Dr. Lovatt, thank you so much for talking with us on Essential Conversations.

Dr. Lovatt: Thank you so much. I've really enjoyed this time. I hope we have the opportunity to chat again one day.

Rabbi Rami: Write another book.

[laughter]

Dr. Lovatt: I will, and then maybe we can dance.

Rabbi Rami: Oh, that would be great. [chuckles] Thank you.

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