The accidental academic

‘Dance psychologist’ Peter Lovatt (University of Hertfordshire) talks to Gail Kinman

In a former life, you were a professional dancer and actor. Why the move into psychology? What got you interested?

Essentially, I learned to read. I was rubbish at school as I could not engage with the written word. I wasn't formally diagnosed with a learning disability; I was just seen as stupid. Unsurprisingly, I hated school and left unable to read and write properly. I then went off to study theatre and creative arts and subsequently got a place at the Guildhall School of Drama.

Although I didn't have the required paper qualifications, I passed on audition. After completing the course, I worked in professional theatre, but still lacked confidence in my academic skills. When I was working in panto, it occurred to me that people learn to dance without writing anything down. Actors have a script and a prompt, musicians have the dots in front of them and the conductor to follow, but dancers have to watch the choreographer, learn the dance and remember. It struck me that it was an incredible cognitive task to hold on to that much information without any prompts.

How did you overcome your academic difficulties?

I taught myself to read when I was 20. I realised that if I could learn complicated dance routines, I could learn other types of facts and maybe I could get a qualification in something.

There were disadvantages to a theatrical career. I was seeing lots of my colleagues in their early thirties who were brilliant dancers spending more time waiting tables than they were dancing. So I thought I would become a drama or dance therapist as an escape route. I managed to scrape a pass at A-level Psychology and was eventually given a place at Roehampton. I got really hooked on the science. My third-year project was on acquired dysgraphia (writing-based problems following brain injury). I was then offered a scholarship at Stirling University to study for an MSc in Neural Computation and worked in a multidisciplinary centre trying to build models of the hippocampus. After my MSc, I was offered a PhD studentship at Essex in cognitive neuropsychology. Following my PhD, I got a job at the University of Cambridge.

What brought you back to dance?

When I got to the end of my journey, I had a bit of a midlife crisis and wondered what to do next. People spend their entire life at Cambridge – the attitude is, you got here, why would you want to leave? I felt like an accidental academic. My passion is dance and I wanted to go back to it in some way. By then I had left Cambridge and was working at the University of Hertfordshire doing experimental cognitive psychology. I went to see my head of department, Ben Fletcher, to let him know that I was going to leave academia and go back to the theatre. Ben was fantastic; he gave me two years and all of the resources I needed to set up the Dance Psychology Lab at Hertfordshire.

What do you do in the dance lab?

There are four main strands – dance and thinking; dance and health; dance and hormones; and dance and emotions. We conduct theoretical, laboratory-based research on problem solving and have found that structured dancing can enhance convergent problem-solving abilities, whereas improvised dance can develop divergent-thinking skills and creativity. This work has also informed our research on the effects of dancing for people with Parkinson’s disease (PD).

Previous research had found evidence that dancing could improve PD symptoms, but only certain types of dance. Reflecting the findings of our problem-solving research, we learned that attending an improvisation dance class enhanced divergent-thinking skills, which is a particular problem for people with PD. We also found benefits for PD symptoms and mood.

You have done some very exciting research on the role played by dance in the mate-selection process. Tell us more about this.

This research was inspired by research findings emerging from evolutionary psychology suggesting that the way we move our body is part of a mate-selection process. We found that people literally ‘dance their hormones’, in that they communicate their hormonal and genetic makeup through dance and the watcher is sensitive to these signals. For example, our research shows that a woman prefers to watch a high-testosterone man than a low-testosterone man dancing. Women also typically rate more symmetrical men (who have higher levels of prenatal testosterone) as better dancers. Moreover, a man would rather watch a highly fertile woman dance without awareness of the stage of her menstrual cycle.

Isn’t it something to do with hip movement?

Indeed it is. At the most fertile stage of...
their cycle, women move their hips more in relation to their other body parts when they are dancing. Our research using eye-tracking techniques shows that men spend more time looking at women’s pelvic area during their most fertile stage. Women dancers still move their hips outside their fertile period, but they also move their other body parts in relation to this. During infertile times, men’s eyes are drawn to the entire female body, not just the pelvic region. Research conducted by Geoffrey Miller has found that women lap dancers earn more tips during their fertile period. He initially put this down to pheromones and soft tissue change, which may make women more attractive during their most fertile stage. This undoubtedly plays a part, but our findings suggest that women are dancing differently – they are communicating their fertility through the way they are moving their body.

What about dance and emotion? Research in the field of psychophysics has explored the ways in which we communicate emotion through body movement. This is a very reductionist approach in that they distil movements right down to their fundamental essence: for example, here is a movement profile that represents happiness or anger. Three types of information communicate these emotions – kinematic, dynamic, information and form information. I generated a list of 96 emotion-related words (half with a positive valence and half with a negative valence) and put out a call to choreographers to represent one of these emotions through a three-minute piece of dance. I received over 100 submissions from different choreographers and selected 23 dances representing different emotions. The choreographers seemed to have a better understanding of emotions than scientists. They found it very difficult to represent discrete emotion states and recognised that emotions bleed into each other. They were saying, for example, ‘how can you convey happiness without guilt that other people are not happy’. Based on this work, I put on a show for 23 nights where I talked about the science of emotion recognition and then invited a different choreographer to come on stage to demonstrate their dance. Afterwards we asked the audience to describe the emotions they thought were being conveyed in the dance. The findings were astounding. The audience always got it right, even for the most complex emotional states.

You put on a show every year that blends psychology with dance. Every year I work with psychologists and choreographers to put on a show. We have brought psychological studies in areas such as memory, obedience and bystander apathy to life through dance. I initially gave the choreographers a lecture on the different studies and the science behind them, and they then created a dance. In the show, I described the studies to the audience, and then the dancers danced them.

Many people are self-conscious when they dance. Given that it is so good for us, how can we help people become overcome this? Small children dance completely freely, but as we get older we become more and more self-conscious. We have conducted two surveys at the dance lab with 14,000 participants with varied demographic characteristics. We found systematic patterns across the lifespan in levels of dance confidence and how people feel about dancing. Generally, people get less confident as they get older. Interestingly, dance confidence for males is generally lower than for females, but men tend to become more confident at 65, whereas women start losing their confidence dramatically at 55. We are not sure why this is the case. It may be that men who are currently 65 years or older come from an era where they used to dance regularly. Alternatively, it may be that when men reach 65 they can start enjoying dancing without the associated pressures of the mating ritual.

What do you think is the reason for the huge increase in popularity of dance? Some of the increase in interest is perhaps due to the exposure of people from different walks of life dancing on popular TV shows, showing that they are highly proficient at it and thoroughly enjoying themselves. I’m thinking of the sportsmen who have taken part in Strictly Come Dancing and the all-male dance groups, such as Diversity, Flawless and the Ballet Boys. These dancers represent dance as masculine, competitive, physically demanding and enjoyable, and this, I think, has helped to change the stereotype of
dance participation that might have been a barrier for some people. There are some interesting academic papers on stereotypes of dancers and male participation in dance. I think there are interesting psychological questions about why men don’t (or won’t) dance and their attitudes towards people who do. A couple of years ago I was working with a rugby league team in Rochdale and I asked the coach what he thought of male ballet dancers. He described them as ‘lesser men’, but once he had seen male ballet dancers train he changed his mind. What I find interesting is how and why such attitudes develop, persist and (potentially) change. I can only speculate that programmes like Strictly, Got to Dance and Britain’s Got Talent are helping to change people’s attitudes about dance and dance participation, but some research on this would be helpful.

You are currently researching diverse applications of dance within the field of psychology. Are there any other ways that dance could be used? What are your priorities for future research? There are many questions to be answered. Does dancing really change people’s behaviour, thinking, mood and self-esteem? If so, what type and how much dancing is necessary? Who does it change and who is resistant to change through dance? How big are the effects and what other factors interact with dance participation to lead to such changes? If the effects are reliable I want to understand how dancing can be applied in the real world. For example, if dancing helps us solve problems and enhances creativity, can we use it as a pedagogical tool to help schoolchildren learn physics, maths and creative writing? If there is something about training as a professional dancer that has a negative impact on self-esteem can we develop an educational toolkit that dance students and teachers can use to help and perhaps reduce some of the negative consequences associated with low self-esteem in adolescents.

Finally, you have a book and a TV series coming out shortly about the benefits of dance. Tell us more about this? The book is called Born to Dance and is made by Channel 4. This covers the science of dance psychology and focuses specifically on how people can use dance to overcome problems. I spent the summer of 2012 working with a rugby team to help them improve their coordination on the pitch. I also worked with a couple who had intimacy issues and a young woman who had problems dancing in public and felt socially excluded.

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