Myths debunked in mission to explain science validation

December 13 2013, by Kerry Faulkner

The Mozart music and intelligence study is an example of how one scientific study does not make a final conclusion. Credit: Jackson Latka

Sugar is not the cause of hyperactivity in children, nor does classical music make babies smarter but some scientific evidence does exist supporting the popular notions that mobile phones, tight underwear and bike riding really could reduce sperm health.

These are the 'verdicts' prominent WA autism researcher and UWA Winthrop Professor Andrew Whitehouse reaches in his new book Will Mozart Make My Baby Smart.

In it Prof Whitehouse has taken some of the world's most common myths around pregnancy and childbirth and tested their validity using

worldwide scientific research around them.

And while some of the myths have a basis in science, Prof Whitehouse warns one scientific study does not make a conclusion.

"It is entirely possible that a research team may design the most rigorous study that includes all the necessary checks and control, and the result is still a fluke," he says.

"Replication of the study findings is just as important as the initial result."

The Mozart music and intelligence study is an example. A 1993 study of 33 college students at the University of California found Mozart's music had made the students smarter; each participant's IQ was eight to nine points higher after listening to the classical music than when measured after students had sat in silence or listened to a relaxation tape instead.

Prof Whitehouse says the finding amazed the world but proved very difficult to replicate. A review of all the studies into the field was conducted in 2010 which found country and western and rock music also led to a small boost in IQ.

The review found the key was not Mozart's music but the ability of some music to grab the listeners' attention; the increased levels of attention and arousal lead to better performance in certain tasks.

Prof Whitehouse says science is a marvellous thing, allowing people to make sense of the world. Most importantly he says, when conducted properly science is blind.

He says he was compelled to write the book to show non-scientists the sheer beauty that science can shine on the world.

"I am one of those people who believes telling people about science is just as important as conducting the science in the first place," he says.

"Science doesn't care about the trends of the day, common lore, or what your best friend swears in correct after their third pint of beer.

"Science is the ultimate killjoy and the supreme validator wrapped into one. Frustrating maddening exhilarating."

Provided by Science Network WA

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