

One world, one sound

June 1 2011

The world is composed of multiple languages, cultures, races and religions, but among this diversity our eyes see, it is possible that the world is more united through our ears.

In fact Mihailo Antovic, a linguist and visiting researcher at Case Western Reserve University, proposes that our musical conceptualization brings together a world of different people.

He found the commonality among [children](#) of distinct [ethnic backgrounds](#) and languages in his home of Serbia, and he's now testing whether the same can be found among English-speaking, Serbian-speaking and seeing-impaired children in the U.S.

Antovic is currently conducting the study at Case Western Reserve with graduate student Austin Bennet.

"It will be interesting to compare the Serbian kids' results here in America to the results of those back in Serbia, as they have experienced different cultures," Antovic said.

He's also interested in how the results from the seeing-impaired children compare to the rest. "Seeing-children's responses are strongly based on the visual modality, which means their verbal responses seem to utilize some sort of reference to visual/spatial information."

Previously, in 2009, Antovic worked with native Serbian and Romani children (Gypsies, stereotyped as musical people) back home in Serbia,

where he observed their ability to comprehend musical tones.

He compared three distinctly different types of people: children who were attending music school, [native speakers](#) of Serbian with no formal musical education, and native speakers of Romani with no formal musical education.

In the study, the subjects were exposed to "short musical sequences, which contain two strikingly opposing musical elements - a high and low tone, a soft and loud tone, a quick and slow succession of pitches, an ascending and descending scale, and a major and minor chord," Antovic said.

He then analyzed the ability of the children to verbally describe what they had comprehended about the two elements.

For example, "Let us say the subject just heard a low tone followed by a high tone, the subject might respond saying, "The first one sounded rough, the second kind of softer and high pitched," Antovic said.

Whether the children understood the tones or not was determined by whether their verbal responses contained antonym pairs. In other words, whether they realized that the two elements heard were in fact opposites.

The final results showed that though there were some small discrepancies, the research subjects demonstrated some type of natural subconscious notion in understanding the tones they were exposed to. The children could not understand why they could tell apart loud and soft tones, they just did.

He hopes to prove that these conclusions are not unique to his native Serbia, but in fact a common phenomenon of each member of the world, regardless of gender, nationality, or disability.

Antovic's current work includes English-speaking children who have no musical education, Serbian children within the United States whose native language is Serbian and who have no musical education, and seeing impaired children with no previous musical education.

He plans to broaden the study when he returns to Serbia next year, testing ethnic groups in the Balkans, including Hungarians, Albanians and Bulgarians. He'll also continue collaborating from Serbia at the University of Niš with his colleagues at Case Western Reserve. Their next focus will be on Native Americans.

It is Antovic's hope that these findings are a bridge between science and the social world.

Could his research in fact be more than a breakthrough in cognitive science?

"If human beings have essentially identical 'musical concepts,' further research can study whether other segments of our abstract thought can be based on ultimately identical principles," Antovic has said. "This might help remind us all that we are still a single species."

Antovic's results will be published next year. His earlier work can be found published in the journals *Metaphor and Symbol* and Serbian journal *Facta Universitatis series Linguistics and Literature*.

Provided by Case Western Reserve University

Citation: One world, one sound (2011, June 1) retrieved 26 April 2024 from <https://phys.org/news/2011-06-world.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private

study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.