



Western
The Brain and
Mind Institute

Visiting Speaker

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Beat affects sound processing at birth

Regularly timed, alternating strong and weak pulses form the basis of the simplest rhythm, which is arguably already automatically processed at birth. Rhythm perception is necessary for synchronizing movements, taking part in music or conversation. In the current experiment we have tested whether newborn infants use contextual cues inferred from the stress pattern to modify processing of different types of deviant stimuli.

Event-related potentials were recorded from sleeping infants 2-4 days after birth while they were presented with 15-27 elements long trains of alternating piano (S1) and a harpsichord (S2) tones that had the same pitch and were delivered at the constant 225 ms inter onset intervals.

The train started with either the S1 or S2 sound (50-50% probability). As the first sound of a sequence are more accented (strong) this manipulation makes the S1 sound either accented (starting on S1) or unaccented (starting on S2) throughout the short train, establishing context.

S1 tones were infrequently replaced by frequency deviants (D) and S2 tones by stimulus omissions (O). The ERP responses to standard as well as deviant tones differed between the two contexts. This suggests that the newborns brain differentiates between strong and weak beats based on minimal contextual manipulation. This result provides new insights into the role of attention and gives some support for automatic system in beat perception.

Date: Monday, Dec 5, 2016

Time: 2:30 pm

**Location: Room 9420,
Social Science Centre**

If you require information in an alternate format or if any other arrangements can make this event accessible to you, please contact Denise Soanes at dsoanes4@uwo.ca