

**F279**

**SINGING ABILITIES IN CONGENITAL AMUSIA** *Jean-François*

*Giguère<sup>1</sup>, Simone Dalla Bella<sup>2</sup>, Isabelle Peretz<sup>1</sup>; <sup>1</sup>University of Montreal,*

*<sup>2</sup>University of Finance and Management in Warsaw – Congenital amusia is*

*a developmental music disorder mainly diagnosed on the basis of pitch perception. However, a recent study (Ayotte et al., 2002) showed that*

*amusics' sung performance was qualitatively judged as impaired with respect to controls. In the present study we examined congenital amusics'*

*singing abilities using quantitative methods. To this aim, 8 congenital amusics and 8 matched-controls were asked 1) to sing a well-known*

*familiar tune twice and 2) to hum the same melody twice on "ta ta ta".*

*For each performance, objective measures of pitch and rhythm were obtained using a computer-assisted method. Results showed that all*

*amusics could sing the tune but only half of them were able to hum it.*

*Additionally, performance in both conditions indicated that amusics differed from controls. Pitch measures in singing condition were impaired*

*in all but two amusics as compared with controls. For example, amusics made more pitch errors (M = 4) and contour deviations (M = 11) as compared*

*to controls (M = 1 and 4, respectively). Yet, rhythm measures (i.e. the number of rhythm errors) were impaired in about half of the amusics*

*as compared with controls. Similar results were obtained in the humming condition. These results confirm that congenital amusics' sung production*

*is impaired. Interestingly, the amusics' deficit in sung performance cannot be completely accounted for by their perceptive deficits, as*

*assessed using a standardized diagnostic battery of amusia. This suggests that separable brain mechanisms may be involved in the perception and*

*production of music.*