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SINGING IN TUNE: PERCEPTUAL DETERMINANTS OF ACCURACY *Simone Dalla Bella[1], Jean-Francois Giguere[2], Isabelle Peretz[2]; [1]University of Finance and Management, Warsaw, Poland, [2]University of Montreal, Montreal, Canada* – When we listen to somebody singing we can easily assess if the song is well performed or not (i.e. if the singer is in tune). Which perceptual characteristics underlie this judgment? It is likely that pitch errors are more relevant for judging accuracy than rhythm errors. In order to test this hypothesis, two Experiments were carried out. A well-known familiar melody was sung by non-musicians and recorded in an ecological setting (n = 42, Exp. 1) and in the laboratory (n = 20, Exp. 2). The sung performance was assessed by 10 non-musicians with regard to accuracy. For each performance, objective measures of pitch (e.g. number of pitch errors) and rhythm (e.g. temporal variability) were calculated. To this aim, we used a new software created in our laboratory to analyze pitch and rhythm properties from songs' recordings. The results confirm that accuracy of singing is mainly related to pitch variables rather than to rhythm. In addition, mostly pitch but also rhythm properties of sung performance are remarkably consistent across renditions from the same singer. These results indicate that singing is a stable behavior even in non-musicians. The norms for sung performance in non-musicians obtained in our study are presently being used to assess sung performance in non-musicians with brain damage and with developmental music disorders.