

SOUND-COLOR SYNESTHESIA IN A SCHOOL AGED COHORT

M.J. Todman, D.H. Todman

School of Medicine, The University of Queensland, Brisbane, Australia

Objective: This study analyzed sound-color synesthesia in a school aged cohort amongst different age groups and levels of musical training.

Background: Synesthesia is a neurological phenomenon pertaining to the concept of cross-sensory experience. The study of synesthesia has provided novel insights into brain function including neural plasticity after stroke. Whilst once considered a lifelong trait synesthesia has sometimes been found to be lost in possessors around the age of puberty. There is controversy related to the relative importance of genetics and environment (musical training) in the development of this condition.

Design Methods: 75 school students were sampled in three groups based on scholastic education level; Grade 1 (average age 6 years) Grade 7 (average age 12 years) and Grade 12 (average age 17 years). The testing required participants to listen to sections from two pieces of music – Clair de Lune by Claude Debussy and Firebird Suite by Igor Stravinsky. For each piece students selected one coloured pencil from a box of ten that they believed described the music and drew visuals associated with the music. Results were correlated with levels of musical training.

Results and Conclusions: Cytowic's definitional criteria for synesthesia were used to observe synesthetic experiences in test subjects. Using established criteria there was evidence for synesthesia in 3 of 75 students. Although the role of musical training was examined in this study no conclusive evidence can be drawn due to sample size of test subjects. The study provides some new insights in the expanding field of synesthesia research.