

Abstract

This twin study examined how genetic and environmental factors contribute to Chinese and English learning ability using ACE & ADE model (A = additive genetic effect, C = shared environment effect, D = Dominance; E = unshared environment effect). It included 204 identical (i.e., monozygotic, or MZ) twin pairs and 240 fraternal (i.e., dizygotic, or DZ) twin pairs aged 5 to 11. Children's Chinese and English proficiency were individually tested. Information on parental background and home environment were collected through parent's self-report. Results showed common environmental factor significantly influenced children's language development (66% for Chinese and 83% for English) while genetic factor accounted for 26% (Chinese) and 10% (English) of the variance. Non-shared environmental factor had minor effect on one's language outcome. Further review on common environmental factor indicated frequency of English usage at home, parents' English ability, helper's language and English training involvement had a positive impact on one's English achievement.