Verbal fluency tests: Normative data for Spanish-speaking pediatric population

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OBJECTIVE: To generate normative data for the phonological and semantic verbal fluency tests (VFT) in Spanish-speaking pediatric populations. METHOD: The sample consisted of 4,373 healthy children from nine countries in Latin America (Chile, Cuba, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Peru, and Puerto Rico) and Spain. Each participant was administered the VFT as part of a larger neuropsychological battery. Scores for letters F, A, S, and animals and fruit categories were

normed using multiple linear regressions and standard deviations of residual values. Age, age 2, sex, and mean level of parental education (MLPE) were included as predictors in the analyses. RESULTS: The final multiple linear regression models showed main effects for age on all scores, such that scores increased linearly as a function of age. Age 2 had a significant effect in Chile (animals), Cuba (A letter, fruits), Ecuador (animals, fruits), Honduras (F letter), Mexico (animals, fruits), Peru (fruits), and Spain (S letters, animals, fruits). Models showed an effect for MLPE in Chile (A letters, animals, fruits), Ecuador (S letter, animals, fruits), Guatelama (F, S letter, animals), Honduras (animals), Mexico (F, A, S letters, animals, fruits), Puerto Rico (A, letters, animals), and Spain (all scores). Sex scores were found significant in Chile (animals), Ecuador (A letter, fruits), Mexico (F letter, fruits), Paraguay (F, A, S letters, fruits), Puerto Rico (F letter, animals, fruits), and Spain (F letter, fruits). CONCLUSIONS: This is the largest multi-national Spanish speaking-pediatric normative study in the world, and as such it will allow neuropsychologists from these countries to have a more accurate way to interpret the phonological and semantic VFT in pediatric populations.

pediatric population

Spanish-speaking populations

Verbal fluency test neuropsychology

child

Chile

Cuba

Ecuador

education

fruit

Honduras

human

major clinical study

Mexico

multicenter study

multiple linear regression analysis

neuropsychology

Paraguay

Peru

Puerto Rico

Spain

speech

language

language test

South and Central America

standards

Child

Humans

Language

Language Tests

Latin America

Spain