Modified Wisconsin Card Sorting Test (M-WCST): Normative data for Spanish-speaking pediatric population

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OBJECTIVE: To generate normative data for the Modified Wisconsin Card Sorting Test (M-WCST) 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 M-WCST as

part of a larger neuropsychological battery. Number of categories, perseverative errors, and total error scores 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 indicated main effects for age on all scores, such that the number of categories correct increased and total number of perseverative errors and total number of errors decrease linearly as a function of age. Age 2 had a significant effect in Chile, Cuba, Ecuador, and Spain for numbers of categories; a significant effect for number of perseverative errors in Chile, Cuba, Mexico, and Spain; and a significant effect for number of total errors in Chile, Cuba, Peru, and Spain. Models showed an effect for MLPE in Cuba (total errors), Ecuador (categories and total errors), Mexico (all scores), Paraguay (perseverative errors and total error), and Spain (categories and total errors). Sex affected number of total errors for Ecuador. CONCLUSIONS: This is the largest Spanish-speaking pediatric normative study in the world, and it will allow neuropsychologists from these countries to have a more accurate way to interpret the M-WCST with pediatric populations.

Modified Wisconsin Card Sorting Test

neuropsychology

pediatric population

Spanish-speaking populations

child

Chile

Cuba

Ecuador

education

error

human

major clinical study

Mexico

multiple linear regression analysis

neuropsychology

Paraguay

Peru

Spain

speech

Wisconsin Card Sorting Test

language

neuropsychological test

South and Central America

standards

statistical model

Child

Humans

Language

Latin America

Linear Models

Neuropsychological Tests