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Application of Markov models for analysis of development of psychological characteristics

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Abstract

A technique to study combined influence of environmental and genetic factors on the base of changes in phenotype distributions is presented. Histograms are exploited as base analyzed characteristics. A continuous time, discrete state Markov process with piece-wise constant interstate transition rates is associated with evolution of each histogram. The technique was applied to IQ longitudinal data (6- and 14-year children) and made it possible to draw conclusions concerning development of Russian children before school and during the first stage of school education as well as dependence of environmental and genetic influence on IQ level.

[Link to full text paper pdf \(399KB\)](#)

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