Fitting Models for the Iowa Gambling Task with R

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Keywords: learning models, Iowa gambling task, mixed-effects

The Iowa gambling task (IGT) is a procedure to diagnose decision-making deficits in people with neurological problems(Bechara, Damasio, Damasio, & Anderson, 1994). Several learning models have been proposed to account for subject's sequential choices during the task. Recently, Ahn, Busemeyer, Wagenmakers & Stout (2008) considered a list of eight such decision-learning models for performance in the IGT. This paper presents a general framework for these IGT models and provides a mixed-effects formulation in fitting models to data using R. In addition to estimating model parameters from individual performance in IGT, our R package can also fit data of individuals from different populations simultaneously by incorporating possible random effects. A number of diagnostic indices are implemented in the routine to facilitate model comparisons and to check model adequecy.

References

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