A STUDY ON THE STABILITY OF EQUIPROBABILITY BIAS IN 10-14 YEAR-OLD CHILDREN

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Lecoutre (1985) describes the equiprobability bias as a tendency for individuals to think of random events as "equiprobable" by nature, and to judge as equally likely outcomes than occur with different probabilities. This bias has been found in University students with different background by Lecoutre (1985) and in secondary students after formal instruction in probability by Batanero et al. (1996). Fischbein and Schnarch (1997) analyse the stability of different heuristics and biases in students from 10 to 18 years of age, finding that, whilst some biases actually fall with age, others, are stabilised or even strengthened.

In this article, we study the equiprobability bias on two samples of children aged between 10 and 14 years (n_1=251 and n_2=143), using two items taken from Green (1982). In each item, the percentage of pupils who reasoned according to the equiprobability bias was about 25%. Our results show that this bias falls with age, though very slowly, as there are still 18% of 14 year-old pupils with incorrect responses to the questionnaire. When classifying the students according to their mathematics performance in previous academic years, we did not observe any differences in the proportion of equiprobability bias between pupils with low and medium levels of mathematical performance and only a slight difference between the latter and those with a high level of mathematical performance.

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REFERENCES

Batanero, C., Serrano. L., and Garfield, J. B. (1996). Heuristics and biases in secondary school students' reasoning about probability. In L. Puig, and A. Gutiérrez (Ed.), *Proceedings of the 20th Conference on the International Group for the Psychology of Mathematics Education* (v.2, pp. 51-59). University of Valencia.

Fischbein, E., and Schnarch, D. (1997). The evolution with age of probabilistic, intuitively based misconceptions. *Journal for Research in Mathematics Education, 28(1),* 96-105.

Green, D. R. (1982). *Probability concepts in schoolpupils aged11-16 years.* Ph. Dissertation, University of Loughborough.

Lecoutre, M. P. (1985). Effect d'informations de nature combinatoire et de nature fréquentielle sur les judgements probabilistes. *Recherches en Didactique des Mathématiques, 6,* 193- 213.