

# **The temporal dynamics of base rate neglect: People may not be intuitive statisticians after all**

**Eoin Travers**

Institute of Philosophy, University of London

**Jonathan J. Rolison**

Department of Psychology, University of Essex

**Aidan Feeney**

School of Psychology, Queen's University Belfast

**Abstract:** According to a classic view of reasoning, intuition is fast but fallible, while reflection is slow but reliable. Biases, therefore, emerge when a reasoner's intuitions are wrong and they fail to notice. Recent evidence, however, suggests that people may be aware when their intuitions are incorrect. A possible explanation reason for this is that both correct and incorrect responses are cued in parallel, but the strongly-cued incorrect response is given unless people can inhibit it. We tested this explanation using base rate neglect problems, and recorded participants' mouse cursor movements as they chose between possible answers under time pressure. Descriptions affected both participants' early movements and ultimate responses, and interfered with their use of the base rates, while base rates rarely interfered with participants' use of descriptions, and then only at a later point in time. Thus, despite suggestive findings elsewhere, our results support the classic of view reasoning.