

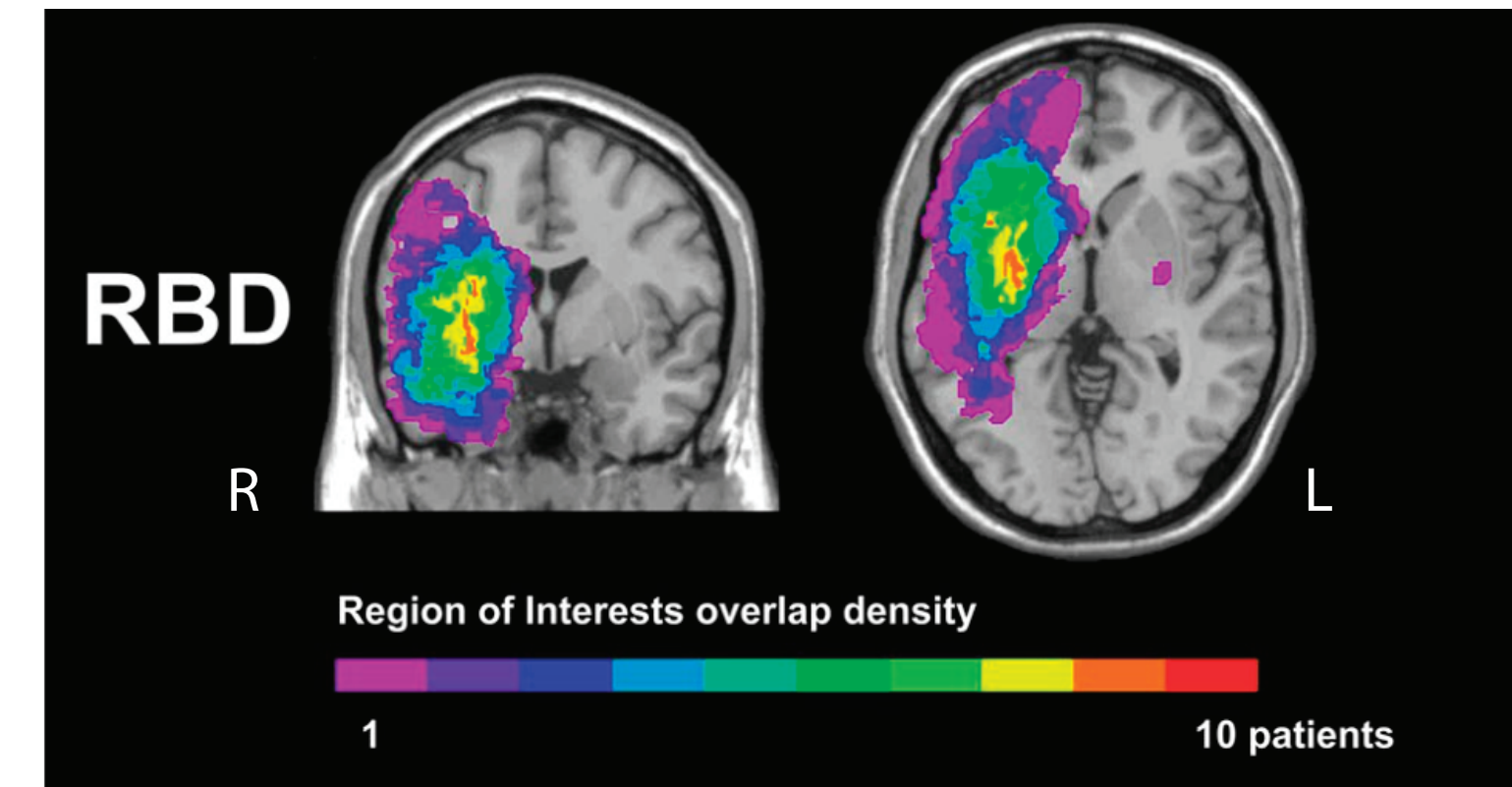
## Do RBD patients explore their environment differently during updating than healthy controls?

Several forms of learning and updating can be impaired following Right Brain Damage (RBD).<sup>1,2,3</sup>

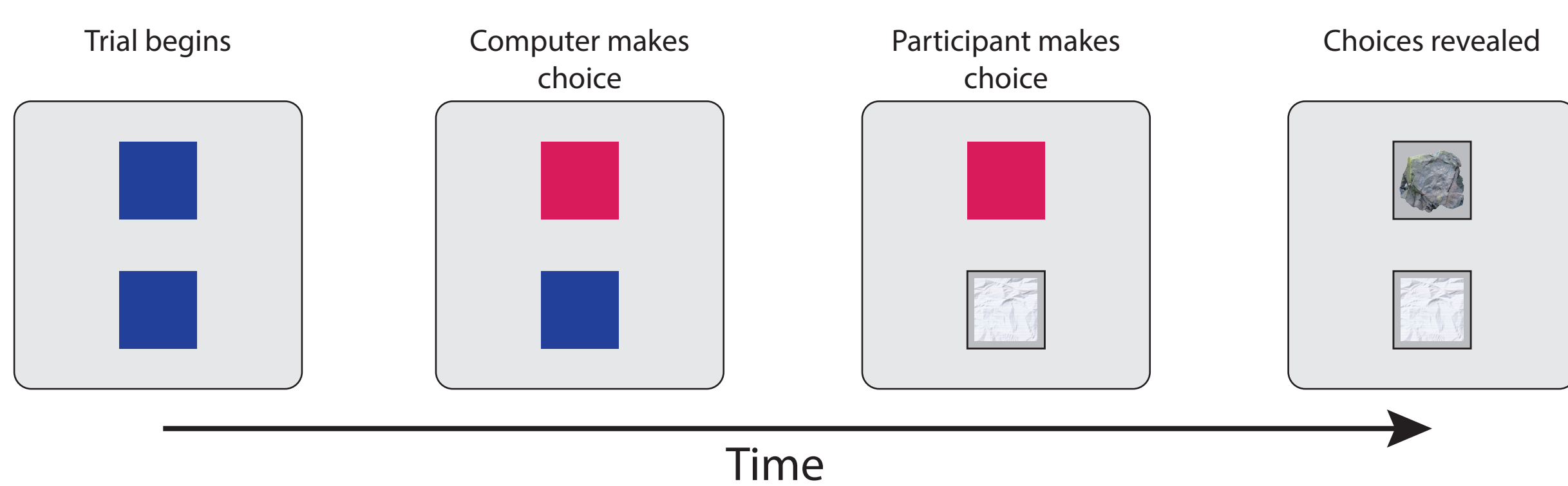
Recent work suggests that these problems could be due to exploration difficulties.<sup>1,4</sup>



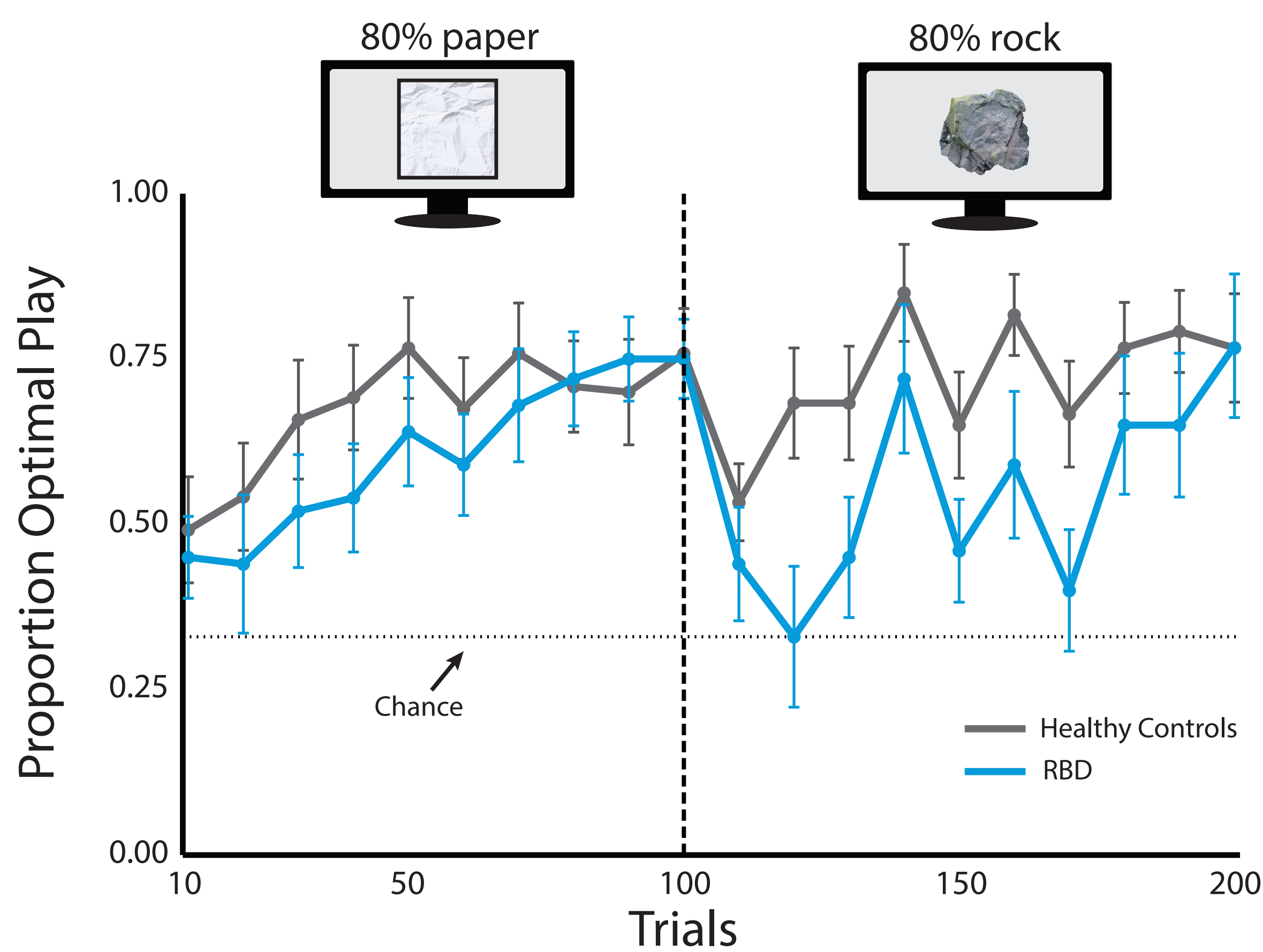
## We measured exploratory behaviour in RBD patients performing updating tasks.



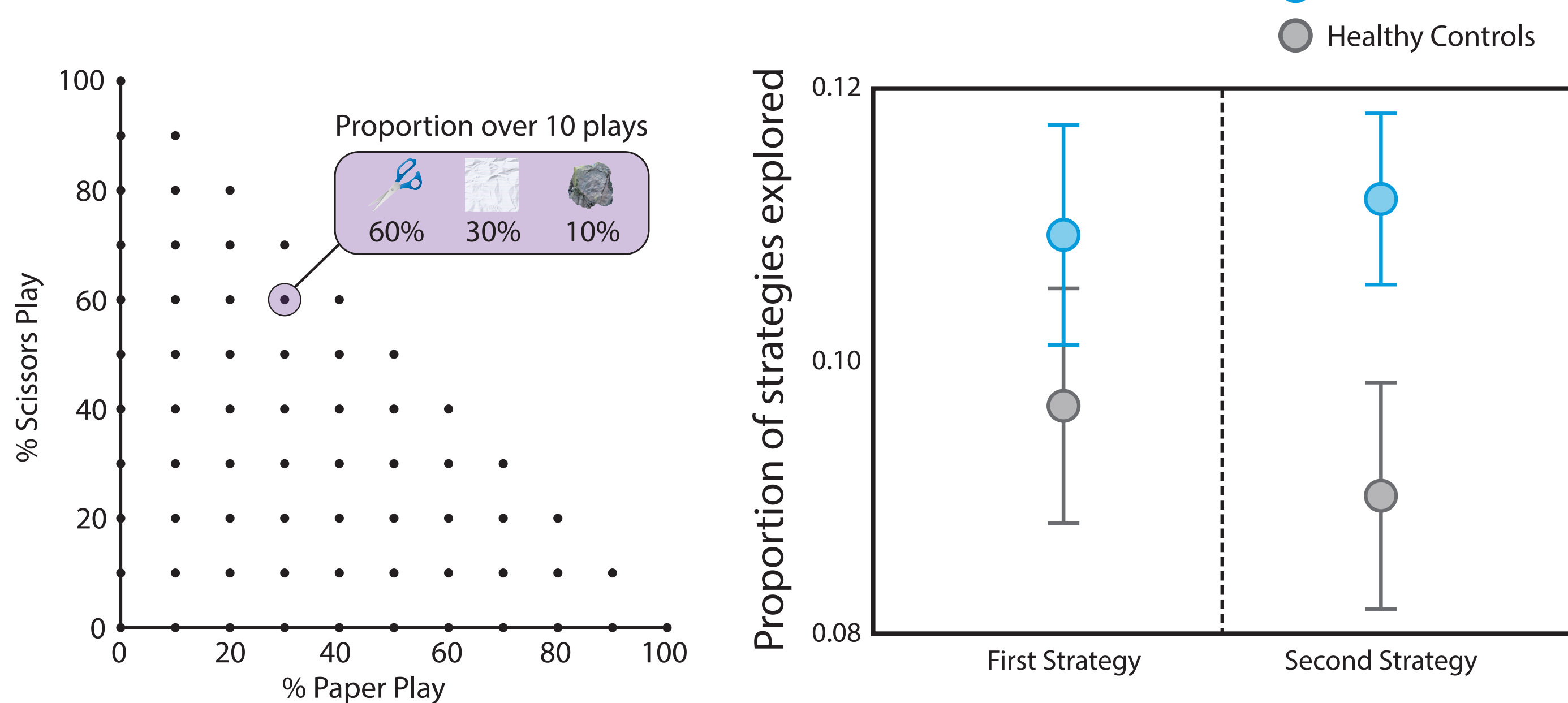
### Studying updating using Rock-Paper-Scissors



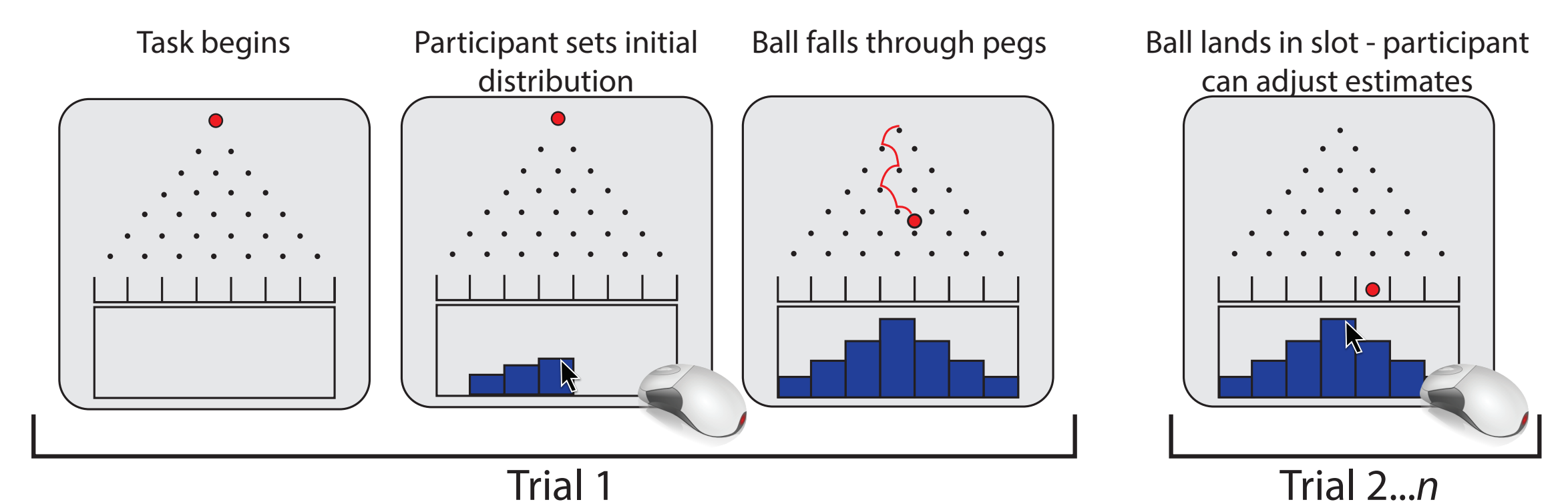
RBD patients had more difficulty updating to switches in computer strategy.



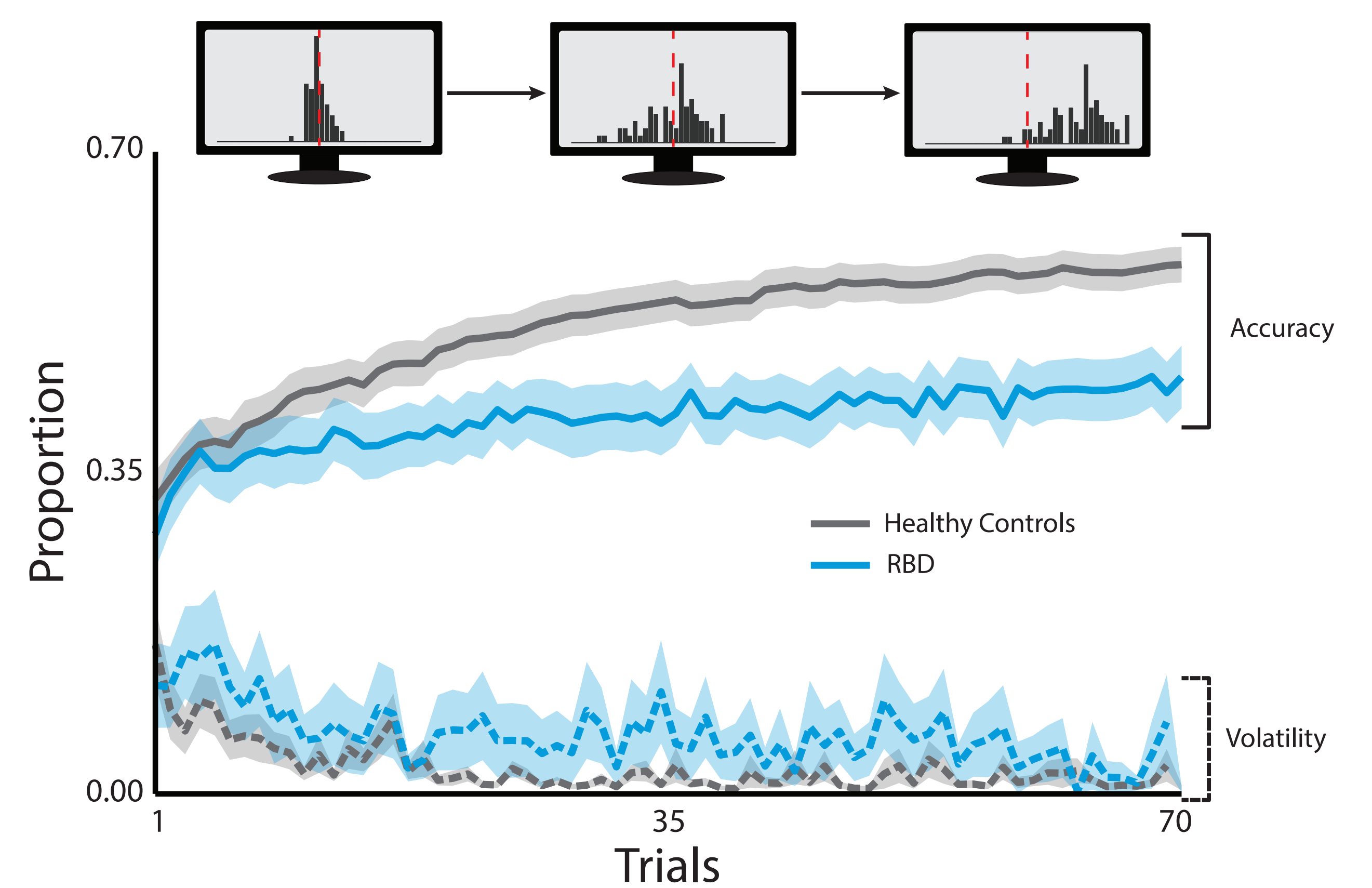
RBD patients explored strategies less efficiently when the computer's strategy shifted.



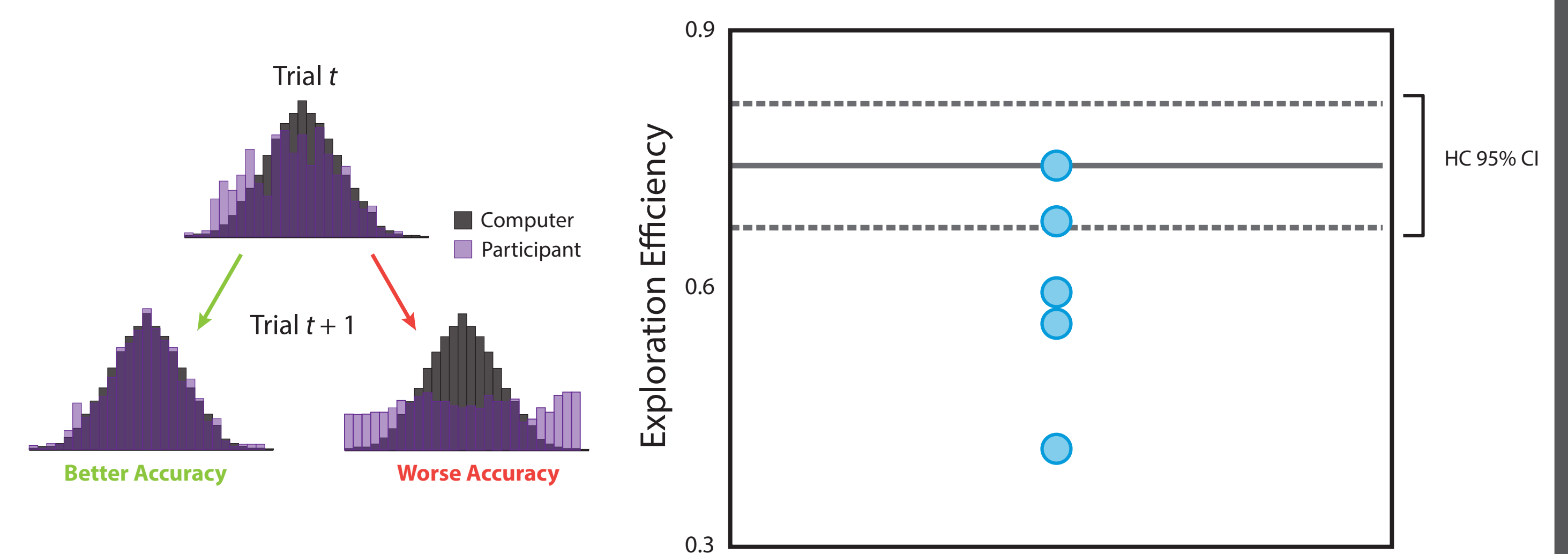
### Studying updating using Plinko



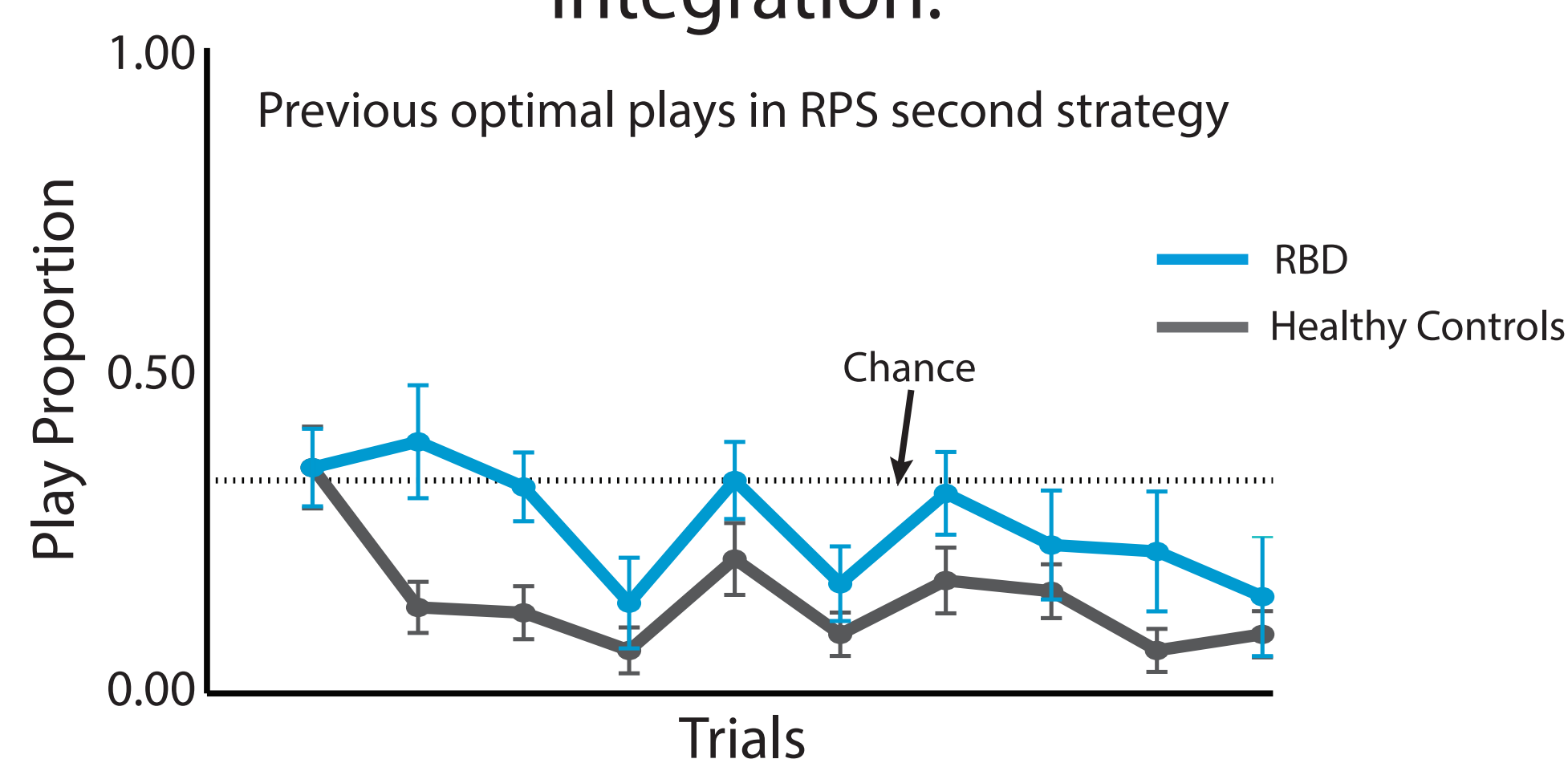
RBD patients had more difficulty learning and updating to changes in ball distributions.



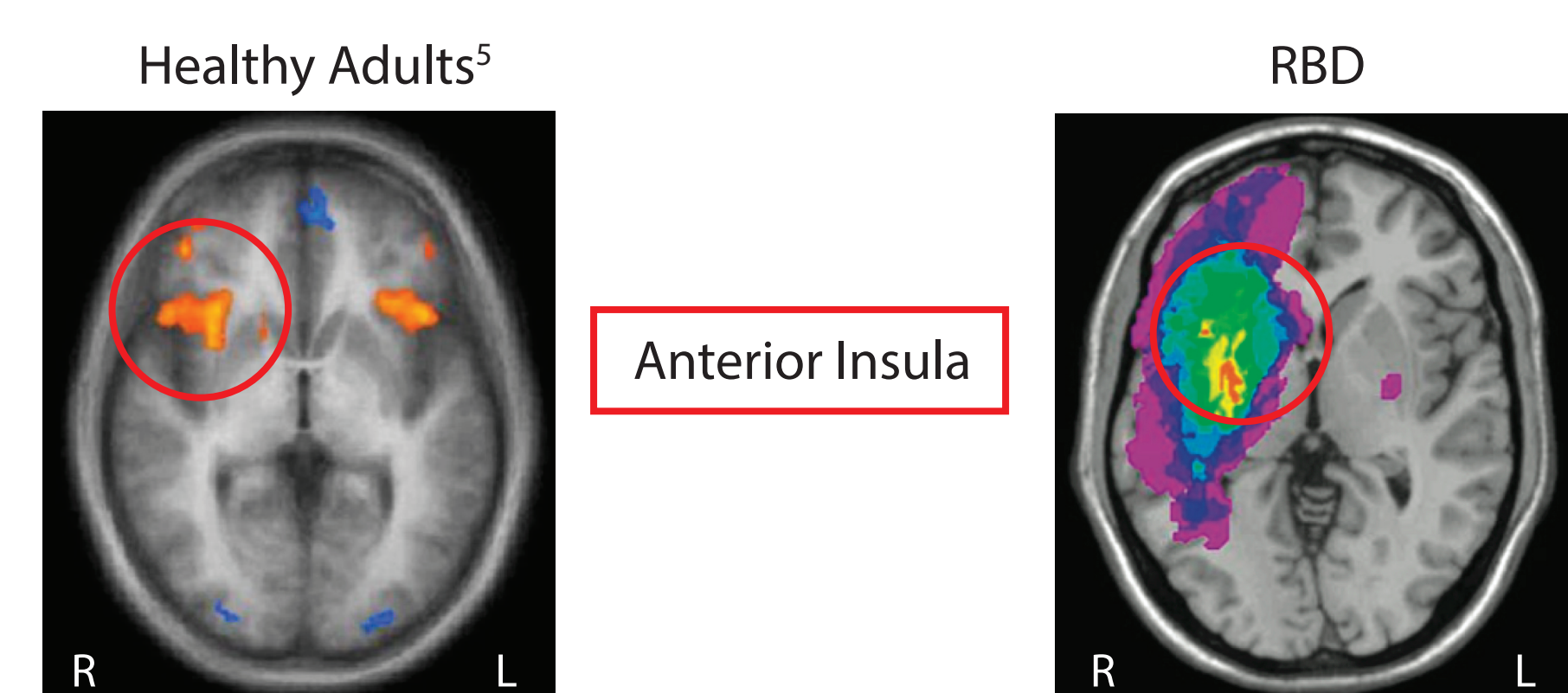
RBD patients explored the environment less efficiently than healthy controls.



## RBD problems could be related to impaired feedback integration.



## Overlaps in brain damage point to regions responsible for exploration in learning and updating.



References:  
 1. Danckert, J., Stöttinger, E., Quehl, N., & Anderson, B. (2012). Right hemisphere brain damage impairs strategy updating. *Cerebral Cortex*, 22(12), 2745-2760.  
 2. Stöttinger, E., Filipowicz, A., Marandi, E., Quehl, N., Danckert, J., & Anderson, B. (2014). Statistical and perceptual updating: correlated impairments in right brain injury. *Experimental brain research*, 232(6), 1971-1987.  
 3. Shaqiri, A., & Anderson, B. (2012). Spatial probability cuing and right hemisphere damage. *Brain and cognition*, 80(3), 352-360.  
 4. Sepahvand, N. M., Stöttinger, E., Danckert, J., & Anderson, B. (2014). Sequential Decisions: A Computational Comparison of Observational and Reinforcement Accounts. *PLoS one*, 9(4), e94308.  
 5. Stöttinger, E., Filipowicz, A., Valadao, D., Culham, J., Goodale, M., Anderson, B., & Danckert, J. (in prep) A cortical network that marks the moment when conscious representations are updated.

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