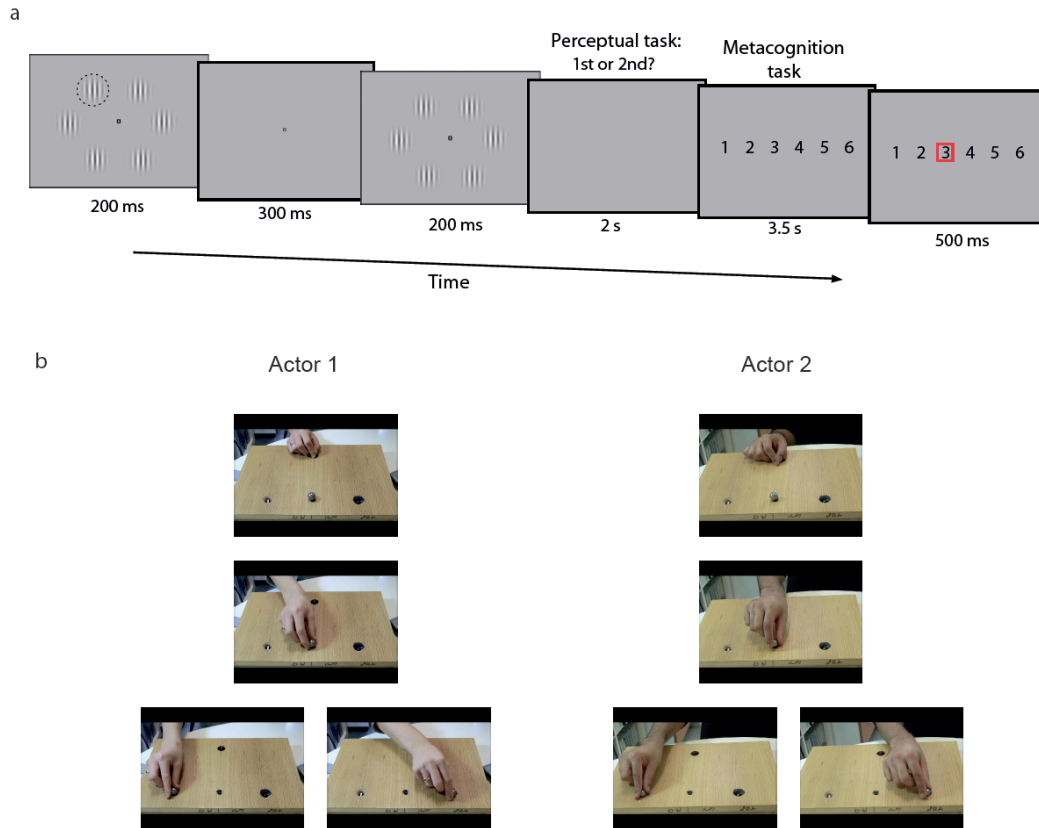


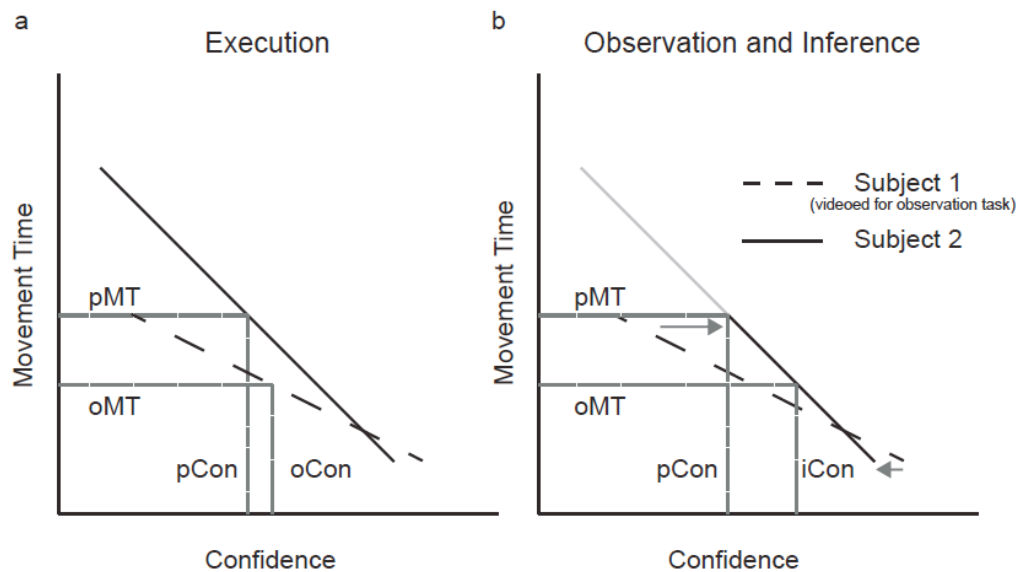
## Supplementary Figures

### Supplementary Figure 1.



**a** shows the time line of the execution task. This task is identical to the one described in [3]. **B)** shows the novel response ‘pad’. Subjects responded by picking up the marble from the central location and placing it in either the left or right hole to indicate their decision. **b** shows stills from representative frames from the two subjects that were videoed performing the task and that were shown to the other subjects during the observation task.

**Supplementary Figure 2.**



Both panels show a schematic to illustrate the motor simulation account of confidence inference. **a)** shows the linear relationship between movement time and confidence during action execution. This is shown for two subjects, the actor who's action was videoed for the observation condition (dashed line) and a subject who performed both the execution and observation tasks (solid line). Both the mean performed movement time (pMT) and mean performed confidence rating (pCon) and mean observed movement time (oMT) and mean observed confidence rating (oCon) are shown. **b)** shows the motor simulation account of confidence inference. When observing the action the observed movement times are mapped via the subject's internal relationship between pMT and pCon (solid black line) to give an inferred confidence level. The mean performed movement times and confidence (pMT and pCon) and the mean observed movement time (oMT) and the mean inferred confidence (iCon) are shown. Note that the motor simulation account predicts 1) measurable changes in the relationship between pMT, oMT, pCon and iCon and 2) that the slope of the movement time and confidence should be the same during execution and inference (solid lines in **a** & **b**)