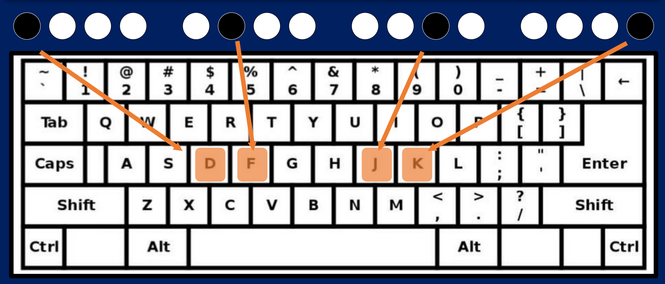
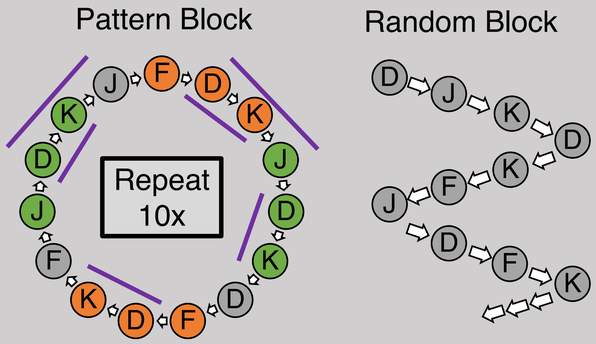
The Role of Intuitions on the Emergence of Explicit Knowledge: Evidence from a Serial Reaction Time Task

Adam Weinberger & Adam Green
Georgetown University

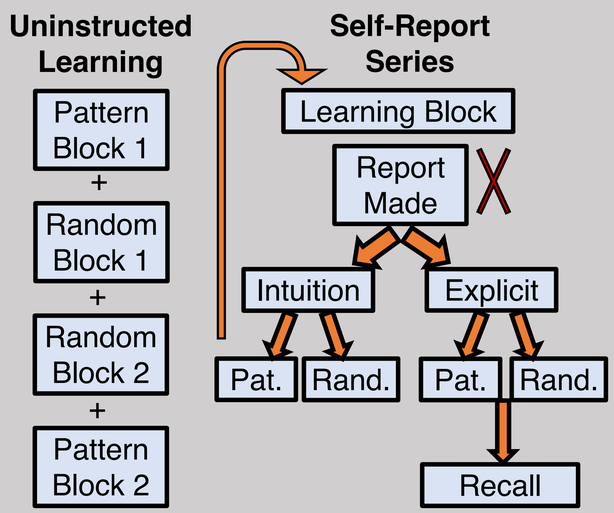
Intuition – the "sense of knowing without knowing how one knows" – has been theorized to develop based on incomplete perceptions of regularity during implicit/non-conscious learning. In turn, intuitions may lead to the development of more explicit, consciously-accessible knowledge. Here, we tested this theoretical trajectory of how information becomes explicit (i.e., enters conscious awareness) using a modified version of a serial reaction time task.

Serial Reaction Time Task (SRTT)





Experimental Design

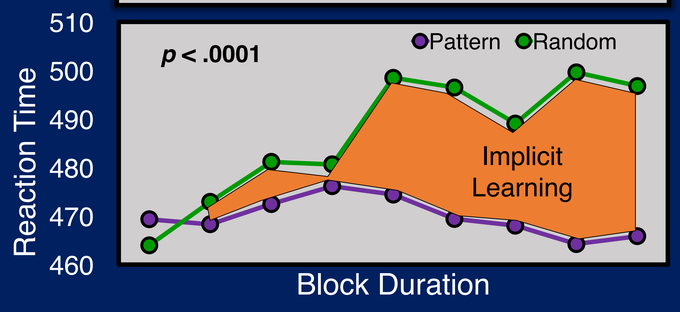


Theoretical Model

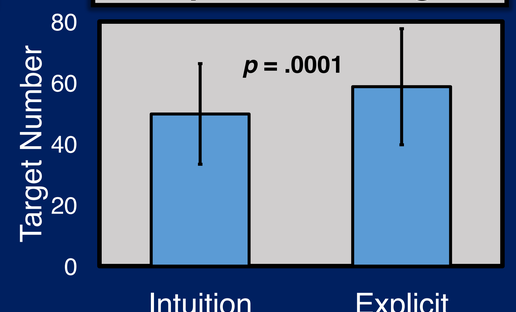
Implicit learning → Intuitions → Explicit Knowledge

- **Prediction 1**: Intuitions will develop before explicit knowledge
- **Prediction 2**: Implicit learning will be associated with development of intuitions
  - Stronger implicit learners will report earlier and more accurate intuitions
- **Prediction 3**: Intuition timing will predict explicit knowledge
  - Faster intuitions will lead to greater explicit knowledge of the pattern structure.

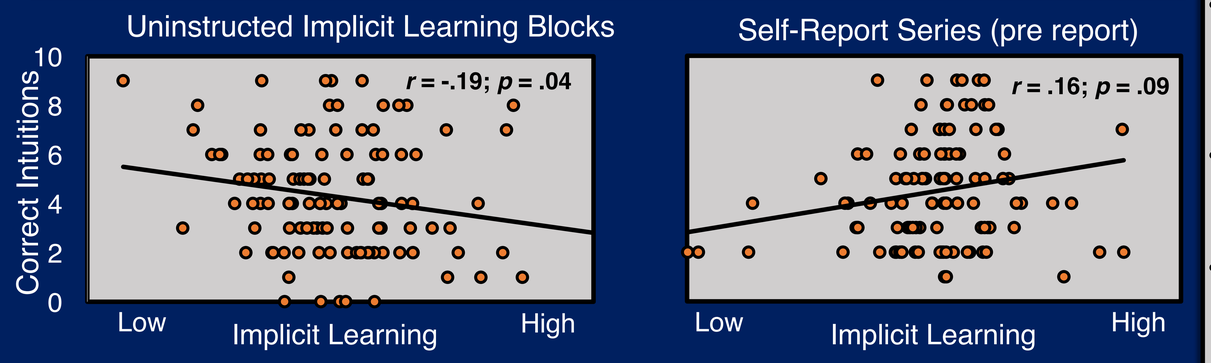
Implicit Learning During the SRTT



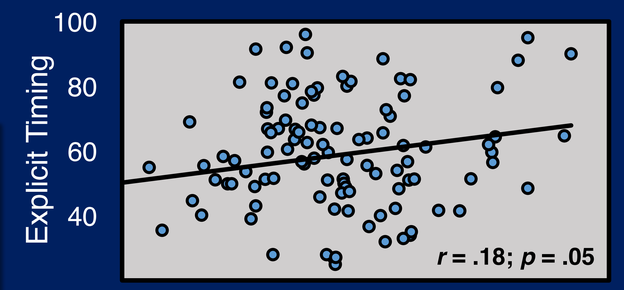
Intuitions Emerge Before Explicit Knowledge

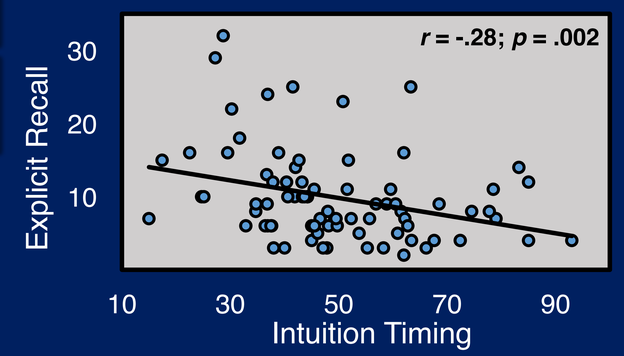


Implicit Learning Shows Inconsistent Relationship with Development of Intuitions



Intuitions Predict Explicit Knowledge





Conclusions

- **Prediction 1** ✓✓✓
  - Intuitions preceded explicit knowledge
- **Prediction 2** ? ? ?
  - Relationship between implicit learning and intuitions varied across task conditions
- **Prediction 3** ✓✓✓
  - Faster intuitions led to faster and more accurate explicit knowledge
- **Findings indicate crucial role of intuitions in trajectory of implicit to explicit knowledge**