

INTRODUCTION

An attempt has been made to study the sequences of information or sequences of actions in various everyday tasks - from sequencing sounds in speech to sequencing movements in typing, to playing instruments, to sequencing actions in driving an automobile.

The implicit character of this type of knowledge has its origin in the fact that sequenced knowledge is learned incidentally usually and is difficult to express.

METHOD

1. Participants performed a practice session consisting of 4 phases before proceeding to the main experiment to make sure that the key-to-tone mapping is clear to them.
2. The tones used in the experiment are completely distinguishable. Initially the momentary beeps and piano notes were used but when played repeatedly, the echo of the tones still persisted in the brain and thus, needed tones which can be easily perceived and differentiated on transition.
3. In the main experiment, 4 different sound tones were played. Participants had to press different keys to indicate the tone as learnt in the practice phase.

4. Two second order conditional (SOC) sequences were used, one for the training and one as the test sequence in 10th block.

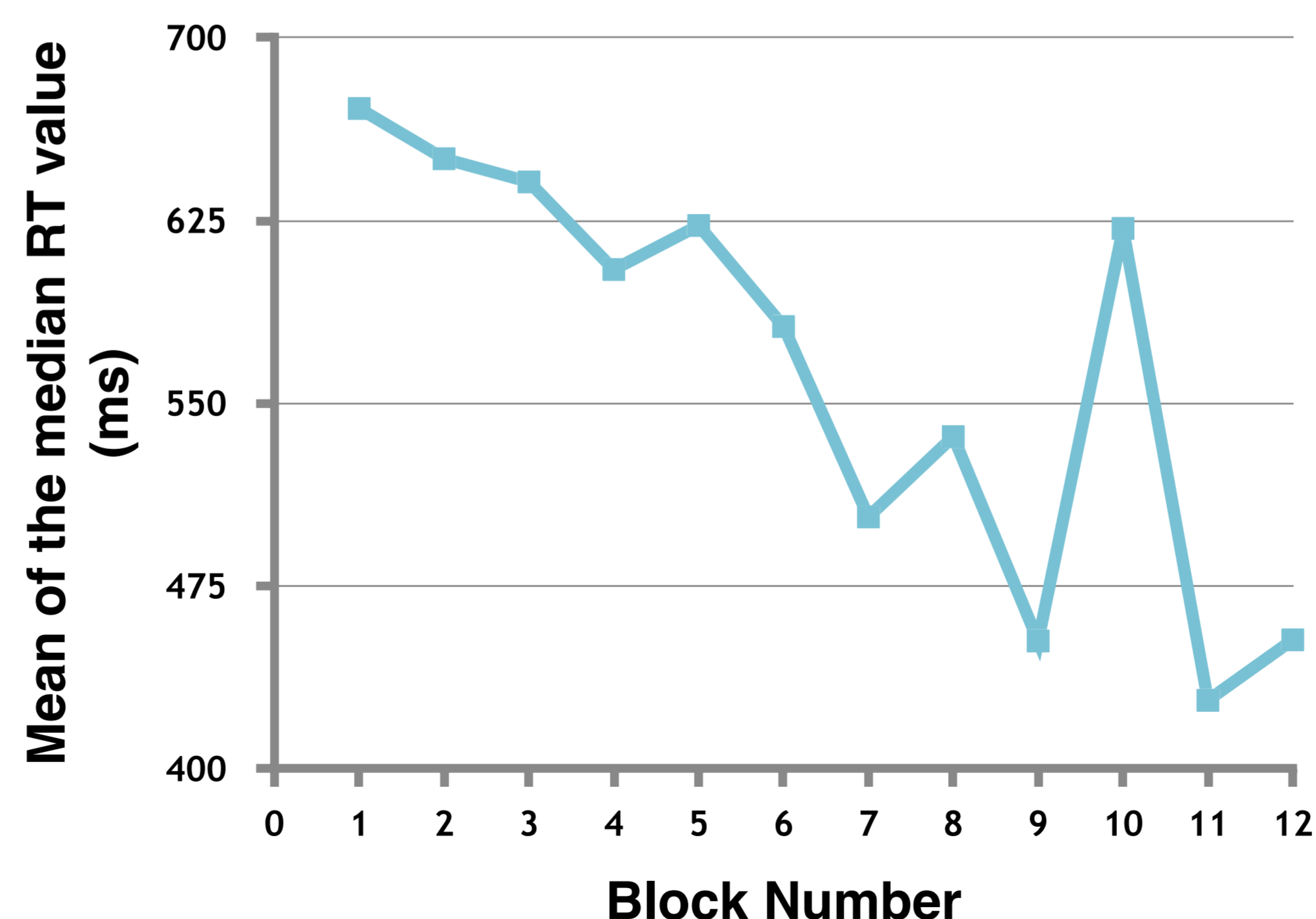
SOC1 - 1 2 1 3 4 2 3 1 4 3 2 4

SOC2 - 4 2 4 3 1 2 3 4 1 3 2 1

5. Free generation task and recognition task were performed to assess sequence awareness.

RESULTS

1. Participants rapidly reached a stable level of shorter RTs. Transfer effect was observed.
2. The total number of 3-12 length sub-sequences generated is consistent with the hypothesis.



OBJECTIVE

To characterize the learning of unpredictable auditory sequence under single task conditions.

CONCLUSIONS

1. A substantial increase in RT on Block 10 on the introduction of new sequence and RTs returning to their earlier levels on succeeding blocks can simply be associated with the sequence learning.
2. Sequence knowledge is accessible to consciousness to an extent that participants generate more number of sub-sequences of the training sequence than the test sequence.

FUTURE PROSPECTS

1. Musically trained people are formally trained to recognize and grasp the sound tones being played and this can raise a doubt on the learning observed here.
2. Implicit learning regulates the responses in the human brain at different levels of the auditory hierarchy?
3. Contribution to spoken language processing.