

Predicting the effectiveness of CBT by measuring attentional characteristics

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Problem

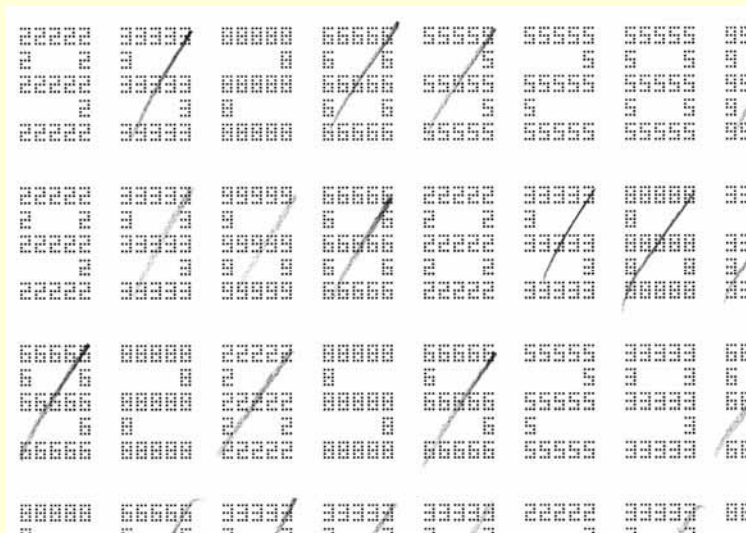
- ◆ Does measuring human cognitive ability predict the effectiveness of cognitive-behavioural therapy (CBT) ?
- ◆ The Compound Digit Checking Test (CDCT) was used for measuring cognitive ability (attentional switching ability).

What is CDCT?

- A simple test measuring attentional switching ability.
- ◆ 144 compound digit patterns were printed on a page of test sheets.
- ◆ A compound pattern consists of a global digit that contains 17–19 local digits.
- ◆ Subjects are required to check '3' or '6' that appears at the global or local level.
- ◆ 15 min for completing the test with 5 sheets.

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Sample of CDCT Sheet



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Analysis of CDCT

- ◆ Detection rates calculated for the analysis
- ◆ Index for the tendency of attentional allocation
 - G%: Global target detection rate
 - L%: Local target detection rate
- ◆ Index for the characteristics of attentional switching
 - GG%: Global target detection rate after global target
 - GL%: Local target detection rate after global target
 - LG%: Global target detection rate after local target
 - LL%: Local target detection rate after local target

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Deemed CBT

- ◆ We see
 - The Muller-Lyer Illusion as a cognitive maladaptive behaviour.
 - Instruction of the phenomenon of the Muller-Lyer Illusion as the CBT process.
 - Change in the amount of illusion after instruction as indicating the effectiveness of CBT.
 - Individual differences in the amount of changes as individual differences of CBT effectiveness.

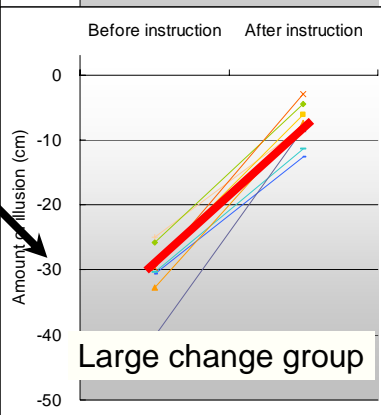
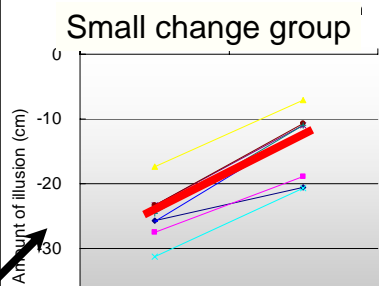
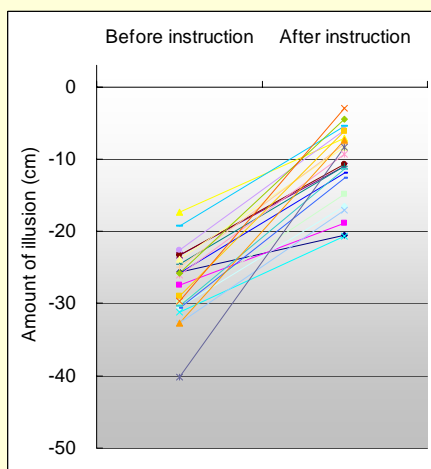
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Procedure

- Overview of instruction
- Deemed CBT experiment
 1. measuring the amount of illusion (1st)
 2. instructing the phenomenon and feedback the average data
 3. measuring the amount of illusion after instruction(2nd)
- CDCT experiment
- Subject: 33 university students

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Result 1: Changes



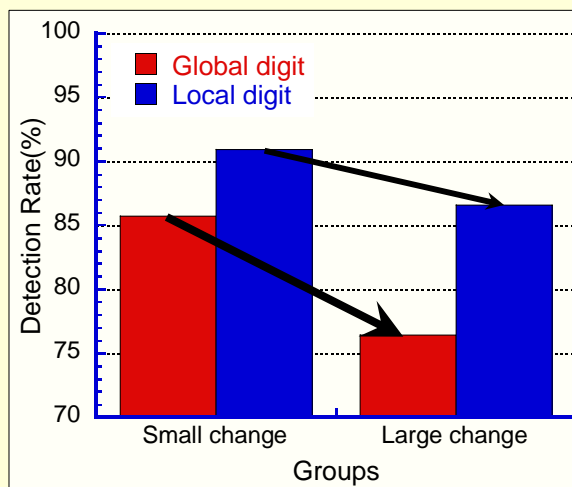
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Result-1: Changes

- ◆ Small change group showed resistance to the instructions.
= Subjects in this group might show low effectiveness on CBT.
- ◆ Large change group accepted the instructions at once.
= high effectiveness on CBT
- ◆ What kinds of cognitive differences do these groups have?

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Result 2: Attentional ability



- ◆ Large change G (right-hand side) showed lower detection rate than small change G

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Discussion

- ◆ Results of CDCT showed clear differences between two groups, divided by the changes in the amount of illusion in the deemed CBT processes.
- ◆ It might be too early to say that it is possible to predict the effectiveness of CBT. But I believe that we have demonstrated the possibility of predicting the effectiveness of therapy by using a simple task.
- ◆ It might be very useful if prediction were to have a certain level of probability. We will try and apply this design to the real CBT.