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| Woolcock Institute of Medical Research |
| Tower Of London |
| Technical Specifications for Research Tools |

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**Tower of London**

The Tower of London is a problem solving task which requires the use of working memory, planning and executive functions. It involves the participant moving three coloured balls on three pegs from an initial state to a goal state in the minimum number of moves necessary. The test contains multiple problems of increasing difficulty requiring the participant to set more subgoals to reach the goal state.

In the TOL task participants are required to move three coloured balls from a starting state to a goal or target state on three pegs. The three pegs are of different lengths, with the first capable of holding all three balls, the second two and the third one. Participants can only move the top most ball of any pole and must move them into the goal state in the minimum number of moves necessary. If the participant takes too many moves to complete any problem, that problem ends and the next begins. As the test progresses the problems get progressively harder requiring the subjects to make more and more complex moves (increasing from 2 to 5) in order to reach the goal.   
  
The program records the participant’s number of problems solved, as well as errors and total number attempted. The participant’s planning time for each problem, that is the time between the problem starting and the first move being made, and the finish time, the time between the first move and completion, is recorded and a grand mean for planning time, execution time (planning + finish) and number of errors is calculated.

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| Variable Code | Variable |
| TPT | Planning Time |
| TFT | Finish Time |
| TSS | Success (False/True) |
| TNO | Number |
| TGME | Grand Mean Number of Errors |
| TGMT | Grand mean Exectution Time |
| TER0 | Grand Mean Number of Errors for zero sub-goal moves |
| TET0 | Grand Mean Execution time for zero sub-goal moves |
| TER1 | Grand mean number of errors for (n) subgoal moves |
| TET1 | Grand mean Execution for (n) sub-goal moves |
| TMIS | Grand Number of Missed goals |
| TPLAN | Grand mean Number of Seconds between when test starts and first move is made |

