DATASET	VARIABLE	DESCRIPTION	DATA TYPE	VALUE CODES
CANTAB	sid	unique subject identifier	character	
CANTAB	age	age of a subject at the time in clinic evaluation	numeric	N/A
CANTAB	sex	sex	character	F: female; M: male
CANTAB	IED Stages completed	There are nine stages to be completed in this task in the clinical setup. Subjects completing all stages are deemed to have 'passed the test'. There are two key stages, the intra-dimensional shift (stage 6) and the extra-dimensional shift (stage 8). Analysis of stage reached has often been conducted using the likelihood ratio method for contingency tables which yields a likelihood ratio statistic '2i' (for further details of this analysis see Robbins, T. 1977 in Iversen, LL. et al. (Eds.) The Handbook of Psychopharmacology. Vol. 7, pp. 37-82, Plenum Press New York).	numeric	N/A
CANTAB	IED Total errors	This is a measure of the subject's efficiency in attempting the test. Thus, whilst a subject may pass all nine stages, a substantial number of errors may be made in doing so. It is crucial to note that subjects failing at any stage of the test by definition have had less opportunity to make errors - the IED Total errors (adjusted) measure attempts to compensate for this.	numeric	N/A
CANTAB	IED Total errors (adjusted)	This is a measure of the subject's efficiency in attempting the test. Thus, whilst a subject may pass all nine stages, a substantial number of errors may be made in doing so. It is crucial to note that subjects failing at any stage of the test by definition have had less opportunity to make errors. Therefore, this adjusted score is calculated by adding 25 for each stage not attempted due to failure. This value of 25 is used since subjects must complete 50 trials to fail a stage and half of these could be correct by chance alone.	numeric	N/A
CANTAB	PRM Percent correct	This is the number of correct responses, expressed as a percentage.	numeric	N/A
CANTAB	IED Completed stage errors	This is errors made on stages sucessfully completed. Subjects failing at any stage of the ID/ED shift will have less opportunity to make errors than those who finish, or get closer to finishing, the task. It would therefore be misleading to simply compare errors made in circumstances where different stages were reached (see IED total errors (adjusted)).	numeric	N/A
CANTAB	IED Completed stage trials	This is the number of trials on all successfully completed stages.	numeric	N/A

CANTAB	IED EDS errors	Errors made in the extra-dimensional stage of the task are labelled EDS errors as they have been committed at the stage where the subjects is required to make an extra-dimensional shift. Errors committed at the reversal stage following the EDS stage are not included.	numeric	N/A
CANTAB	IED Pre-ED errors	This metric records the number of errors made prior to the extra-dimensional shift of the task. Errors are defined as instances when the subject fails to select the stimulus that is compatible with the current rule.	numeric	N/A
CANTAB	IED Total trials	This is the number of trials completed on all attempted stages. Note that subjects failing at any stage of the test have had less opportunity to complete trials - the IED Total trial (adjusted) measure attempts to compensate for this.	numeric	N/A
CANTAB	IED Total trials (adjusted)	This is the number of trials completed on all attempted stages. The adjustment adds 50 for each stage not attempted due to failure at an earlier stage.	numeric	N/A
CANTAB	PRM Mean correct latency	This is the mean time to respond correctly. Latency is scored in milliseconds.	numeric	N/A
CANTAB	PRM Number correct	This is the number of correct responses (out of a maximum of 24 in the clinical setup).	numeric	N/A
CANTAB	RTI Simple movement time	This is the time taken to touch the stimulus after the press pad has been released and in trials wherestimuli appear in one location only. Movement time latency is usually normally distributed.	numeric	N/A
CANTAB	RTI Simple reaction time	This is the speed with which the subject releases the press pad in response to the onset of a stimulus in a single location. Reaction time latency is measured in milliseconds and tends toward a positive skew. Five-choice reaction time latencies are reliably observed to be longer than in simple reaction time. It should be remembered that subjects engaged in reaction time tasks have the opportunity to make a variety of errors. Most are errors of commission ('too soon', 'inaccurate' and 'wrong circle'), but it is possible to make an error of an omission by not responding ('too late'). Latency tasks that contain accuracy demands require a trade-off between speed and accuracy and so analysis of RT tasks need to consider making reference to both speed and accuracy.	numeric	N/A
CANTAB	RVP B''	B double prime is the signal detection measure of the strength of trace required to elicit a response (range -1.00 to +1.00). Thus, it is the tendency to repond regardless of whether the target sequence is present and uses the p(hit) and p(fa) results. A score close to +1.00 indicates that the subject gave few false alarms.	numeric	N/A

CANTAB	RVP Mean latency	This measure details the mean time taken to respond and is reported in milliseconds. It only includes correct responses made within the response window of 1800 milliseconds.	numeric	N/A
CANTAB	RVP Probability of false alarm	The data from vigilance tasks such as RVP lend themselves to analysis using the principles of Signal Detection Theory (SDT). The standard methodology of SDT allows for the analysis of the two main components of the decision making process, the acquisition of information and the criterion required for a response. In the case of RVP, the optimal pattern of response is to maximise sensitivity so that so that no targets are missed and such that no false alarms are committed. Clearly speed of response is a factor as subjects placing a premium on speed rather than accuracy will tend to be less accurate in their detection of targets and their correction rejections. The probability of a false alarm i.e. the subject responding inappropriately, is equal to the total number of false alarms/(total false alarms + total correct rejections)*100. A number of texts on the topic of SDT are available. Interested readers may wish to browse Swets, J.A. (1996) 'Signal detection theory and ROC analysis in psychology and diagnostics.' LEA	numeric	N/A
CANTAB	RVP Probability of hit	The data from vigilance tasks such as RVP lend themselves to analysis using the principles of Signal Detection Theory (SDT). The standard methodology of SDT allows for the analysis of the two main components of the decision making process, the acquisition of information and the criterion required for a response. In the case of RVP, the optimal pattern of response is to maximise sensitivity so that so that no targets are missed and such that no false alarms are committed. Clearly speed of response is a factor as subjects placing a premium on speed rather than accuracy will tend to be lees accurate in their detection of targets and their correction rejections. The probability of a 'hit' i.e. the subject responding correctly, is calculated from hits/(hits+misses)*100. A number of texts on the topic of SDT are available. Interested readers may wish to browse Swets, J.A. (1996) 'Signal detection theory and ROC analysis in psychology and diagnostics.' LEA	numeric	N/A
CANTAB	RVP Total correct rejections	This is the number of stimuli that were correctly rejected, i.e. the number of stimuli that were not part of a target sequence and were not responded to. This score is calculated from blocks 2, 3 and 4 only	numeric	N/A

CANTAB	RVP Total false alarms	This records the number of times the subject respond outside the response window of a target sequence This score is calculated from blocks 2, 3 and 4 only	numeric	N/A
CANTAB	RVP Total hits	This score represents the number of occasions upon which the target sequence is correctly responded to (within a response window of 1800 milliseconds for the clinical setup). This score is calculated from blocks 2, 3 and 4 only.	numeric	N/A
CANTAB	RVP Total misses	This score reports the number of occasions the subject fails to respond to a target sequence within the response window. This score is calculated from blocks 2, 3 and 4 only	numeric	N/A
CANTAB	SOC Mean initial thinking time (2 moves)	Subjects are encouraged to plan their moves before actually enacting the solution to the problems Initial thinking time is the difference in time taken to select the first ball for the same problem under the copy and follow conditions. Therefore, this gives an indication of the time taken to plan the problem solution. This metric reports average initial thinking time for 2-move problems. Please note that initial thinking time and subsequent thinking time may well interact both with one another and with other SOC metrics, such as Minimum Move Solutions. For example, some impulsive subjects may record very brief initial thinking time latencies, but fail to solve any of the presented problems. This score may be 0 if the subject is slower in the 'follow' condition.	numeric	N/A
CANTAB	SOC Mean initial thinking time (3 moves)	Subjects are encouraged to plan their moves before actually enacting the solution to the problems. Initial thinking time is the difference in time taken to select the first ball for the same problem under the copy and follow conditions. Therrefore, this gives an indication of the time taken to plan the problem solutionThis metric reports average initial thinking time for 3-move problems. Please note that initial thinking time and subsequent thinking time may well interact both with one another and with other SOC metrics, such as Minimum Move Solutions. For example, some impulsive subjects may record very brief initial thinking time latencies, but fail to solve any of the presented problems. This score may be 0 if the subject is slower in the 'follow' condition.	numeric	N/A

CANTAB	SOC Mean initial thinking time (4 moves)	Subjects are encouraged to plan their moves before actually enacting the solution to the problems. Initial thinking time is the difference in time taken to select the first ball for the same problem under the copy and follow conditions. Therrefore, this gives an indication of the time taken to plan the problem solutionThis metric reports average initial thinking time for 4-move problems. Please note that initial thinking time and subsequent thinking time may well interact both with one another and with other SOC metrics, such as Minimum Move Solutions. For example, some impulsive subjects may record very brief initial thinking time latencies, but fail to solve any of the presented problems. This score may be 0 if the subject is slower in the 'follow' condition.	numeric	N/A
CANTAB	SOC Mean moves (2 moves)	This metric describes the mean number of moves required by the subject to solve problems where the solution can be reached in a minimum of 2 moves (out of a possible two 2-move problems in the clinical setup).	numeric	N/A
CANTAB	SOC Mean moves (3 moves)	This metric describes the mean number of moves required by the subject in problems where the solution can be reached in a minimum of 3 moves (out of a possible 2 3-move problems in the clinical setup).	numeric	N/A
CANTAB	SOC Mean moves (4 moves)	This metric describes the mean number of moves required by the subject in problems where the optimal solution can be reached in a minimum of 4 moves (out of a possible four 4-move problems in the clinical setup).	numeric	N/A
CANTAB	SOC Mean moves (5 moves)	This metric describes the mean number of moves required by the subject in problems where the optimal solution can be reached in a minimum of 5 moves (out of a possible four 5-move problems in the clinical setup).	numeric	N/A
CANTAB	SOC Mean subsequent thinking time (2 moves)	This measure reflects the subject's speed of movement after the initial move has been made for two move problems.. This metric is obtained by calculating the difference in time between selecting the first ball and completing the problem for the same problem under the two conditions (copy and follow) and dividing this result by the number of moves made.Please note that initial thinking time and subsequent thinking time may well interact both with one another and with other SOC metrics, such as Minimum Move Solutions. For example, some impulsive subjects may record very brief initial thinking time latencies, but fail to solve any of the presented problems. This score may be 0 if the subject is slower in the 'follow' condition.	numeric	N/A

CANTAB	SOC Mean subsequent thinking time (3 moves)	This measure reflects the subject's speed of movement after the initial move has been made for three move problems. This metric is obtained by calculating the difference in time between selecting the first ball and completing the problem for the same problem under the two conditions (copy and follow) and dividing this result by the number of moves made.Please note that initial thinking time and subsequent thinking time may well interact both with one another and with other SOC metrics, such as Minimum Move Solutions. For example, some impulsive subjects may record very brief initial thinking time latencies, but fail to solve any of the presented problems. This score may be 0 if the subject is slower in the 'follow' condition.	numeric	N/A
CANTAB	SOC Mean subsequent thinking time (4 moves)	This measure reflects the subject's speed of movement after the initial move has been made for four move problems. This metric is obtained by calculating the difference in time between selecting the first ball and completing the problem for the same problem under the two conditions (copy and follow) and dividing this result by the number of moves made.Please note that initial thinking time and subsequent thinking time may well interact both with one another and with other SOC metrics, such as Minimum Move Solutions. For example, some impulsive subjects may record very brief initial thinking time latencies, but fail to solve any of the presented problems. This score may be 0 if the subject is slower in the 'follow' condition.	numeric	N/A
CANTAB	SRM Mean correct latency	This is the mean time to respond correctly. Latency is scored in milliseconds.	numeric	N/A
CANTAB	SRM Number correct	This is the number of correct responses (out of a possible 20 in the clinical setup).	numeric	N/A
CANTAB	SWM Between errors (4 boxes)	Between errors are defined as occasions upon which the subject revisits a box in which a token has previously been found. This metric records between errors for 4 box problems only.	numeric	N/A
CANTAB	SWM Between errors (6 boxes)	Between errors are defined as occasions upon which the subject revisits a box in which a token has previously been found. This metric records between errors for 6 box problems only.	numeric	N/A
CANTAB	SWM Between errors (8 boxes)	Between errors are defined as occasions upon which the subject revisits a box in which a token has previously been found. This metric records between errors for 8 box problems only.	numeric	N/A

CANTAB	SWM Double errors	These are occasions where the subject has committed an error that can be categorised as both a within and a between error, This is calculated for trials of four or more tokens only.	numeric	N/A
CANTAB	SWM Double errors (4 boxes)	These are occasions where the subject has committed an error that can be categorised as both a within and a between error, summarised for 4 box problems.	numeric	N/A
CANTAB	SWM Double errors (6 boxes)	These are occasions where the subject has committed an error that can be categorised as both a within and a between error, summarised for 6 box problems.	numeric	N/A
CANTAB	SWM Double errors (8 boxes)	These are occasions where the subject has committed an error that can be categorised as both a within and a between error, summarised for 8 box problems.	numeric	N/A
CANTAB	SWM Total errors	This is the number of times a box is selected that is certain not to contain a blue token and therefore should not have been visited by the subject, i.e. between errors + within errors - double errors.	numeric	N/A
CANTAB	SWM Within errors	Within errors are defined as the number of errors made within a search, i.ethe number of times a subject revisits a box already found to be empty during the same search. . This is calculated for trials of four or more tokens only.	numeric	N/A
CANTAB	SWM Within errors (4 boxes)	Within errors are defined as the number of errors made within a search, i.e. repeated responses to a box previously opened and shown to be empty earlier in the same search sequence. This metric records within errors made at in 4-box trials.	numeric	N/A
CANTAB	SWM Within errors (6 boxes)	Within errors are defined as the number of errors made within a search, i.e. repeated responses to a box previously opened and shown to be empty earlier in the same search sequence. This metric records within errors made at in 6-box trials.	numeric	N/A
CANTAB	SWM Within errors (8 boxes)	Within errors are defined as the number of errors made within a search, i.e. repeated responses to a box previously opened and shown to be empty earlier in the same search sequence. This metric records within errors made at in 8-box trials.	numeric	N/A
CANTAB	SRM Percent correct	This is the number of correct responses, expressed as a percentage.	numeric	N/A

CANTAB	RTI Five-choice movement time	This is the time taken to touch the stimulus after the press pad has been released and in trials where one of five possible different stimuli have been presented. Movement time latency is usually normally distributed for correct responses.	numeric	N/A
CANTAB	RTI Five-choice reaction time	This is the speed with which the subject releases the press pad in response to a stimulus in any one of five locations. Choice reaction time latency is measured in milliseconds and tends toward a positive skew. Five-choice reaction time latencies are reliably observed to be longer than in simple reaction time. It should be remembered that subjects engaged in reaction time tasks have the opportunity to make a variety of errors. Most are errors of commission ('too soon', 'inaccurate' and 'wrong circle'), but it is possible to make an error of an omission by not responding ('too late'). Latency tasks that contain accuracy demands require a trade-off between speed and accuracy and so analysis of RT tasks need to consider making reference to both speed and accuracy.	numeric	N/A
CANTAB	RVP A'	This is the signal detection measure of sensitivity to errors, regardless of error tendency (range 0.00 to 1.00; bad to good). In essence, this metric is a measure of how good the subject is at detecting target sequences using p(hit) and p(fa).	numeric	N/A
CANTAB	SOC Mean initial thinking time (5 moves)	Subjects are encouraged to plan their moves before actually enacting the solution to the problems Initial thinking time is the difference in time taken to select the first ball for the same problem under the copy and follow conditions. Therrefore, this gives an indication of the time taken to plan the problem solutionThis metric reports average initial thinking time for 5-move problems. Please note that initial thinking time and subsequent thinking time may well interact both with one another and with other SOC metrics, such as Minimum Move Solutions. For example, some impulsive subjects may record very brief initial thinking time latencies, but fail to solve any of the presented problems. This score may be 0 if the subject is slower in the 'follow' condition.	numeric	N/A

CANTAB	SOC Mean subsequent thinking time (5 moves)	This measure reflects the subject's speed of movement after the initial move has been made for five move problems. This metric is obtained by calculating the difference in time between selecting the first ball and completing the problem for the same problem under the two conditions (copy and follow) and dividing this result by the number of moves made.Please note that initial thinking time and subsequent thinking time may well interact both with one another and with other SOC metrics, such as Minimum Move Solutions. For example, some impulsive subjects may record very brief initial thinking time latencies, but fail to solve any of the presented problems. This score may be 0 if the subject is slower in the 'follow' condition.	numeric	N/A
CANTAB	SOC Problems solved in minimum moves	This is a fundamental metric test, recording the number of occasions upon which the subject has successfully completed a test problem in the minimum possible number of moves. For the clinical setup, this is scored out of a possible 12 problems since eight practice problems are excluded from the calculation (the first six problems in the first block and the first two problems in the second block).	numeric	N/A
CANTAB	SWM Between errors	Between errors are defined as times the subject revisits a box in which a token has previously been found. This is calculated for trials of four or more tokens only.	numeric	N/A
CANTAB	SWM Strategy	Owen et al. (Neuropsychologia 1990:28; 1021-1034) have suggested that an efficient strategy for completing this task is to follow a predetermined sequence by beginning with specific box and then, once a blue token has been found, to return to that box to start the new search sequence. An estimate of the use of this strategy is obtained by counting the number of times the subject begins a new search with the same box. A high score represents poor use of this strategy and a low score equates to effective use. Thus, for the clinical setup, the minimum strategy score is 1 for each stage (i.e.8) and the maximum is 1 for each search (i.e. 56).	numeric	N/A
CANTAB	Warnings	warning codes	numeric	1: IED test failed; 2: RVP test failed; 3: IED test aborted