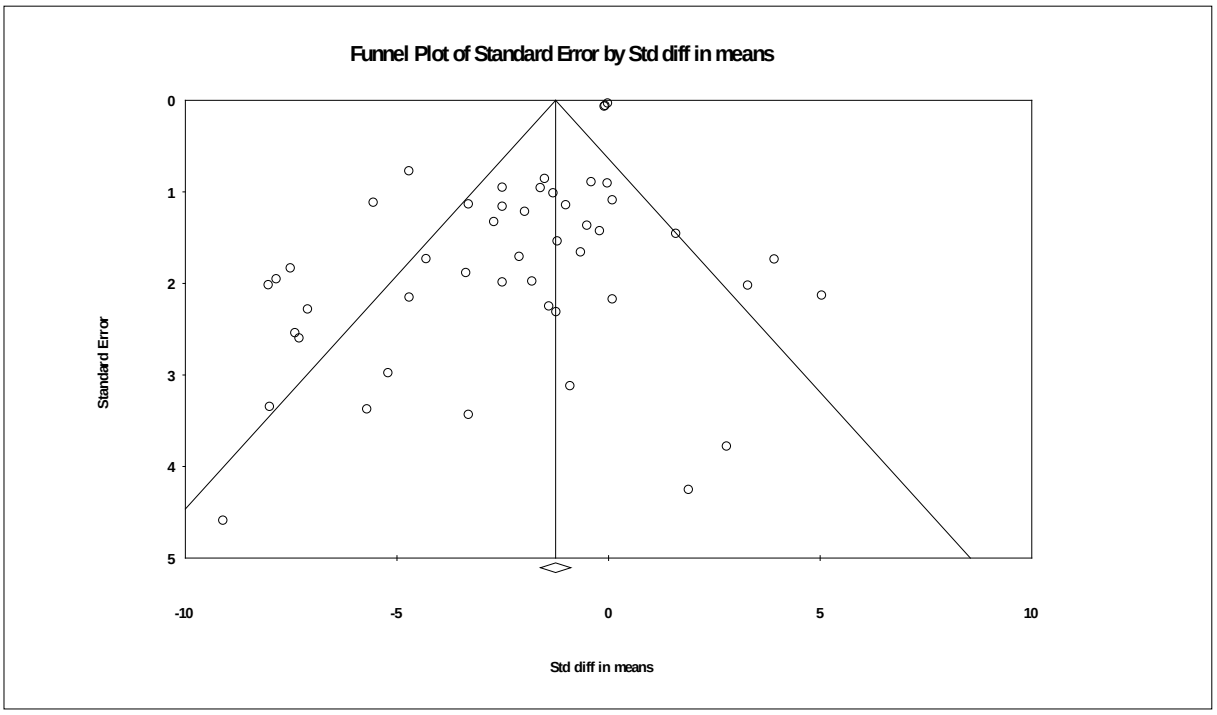
Document S2_Publication Bias:

For each significant result of the main results (for each disorder and each sleep variable) we assessed publication bias graphically by using a funnel plot as well as quantitatively following the classical fail-safe number method (number of studies with no effect required to bring the p value to 0.05). Below publication bias assessments are reported.

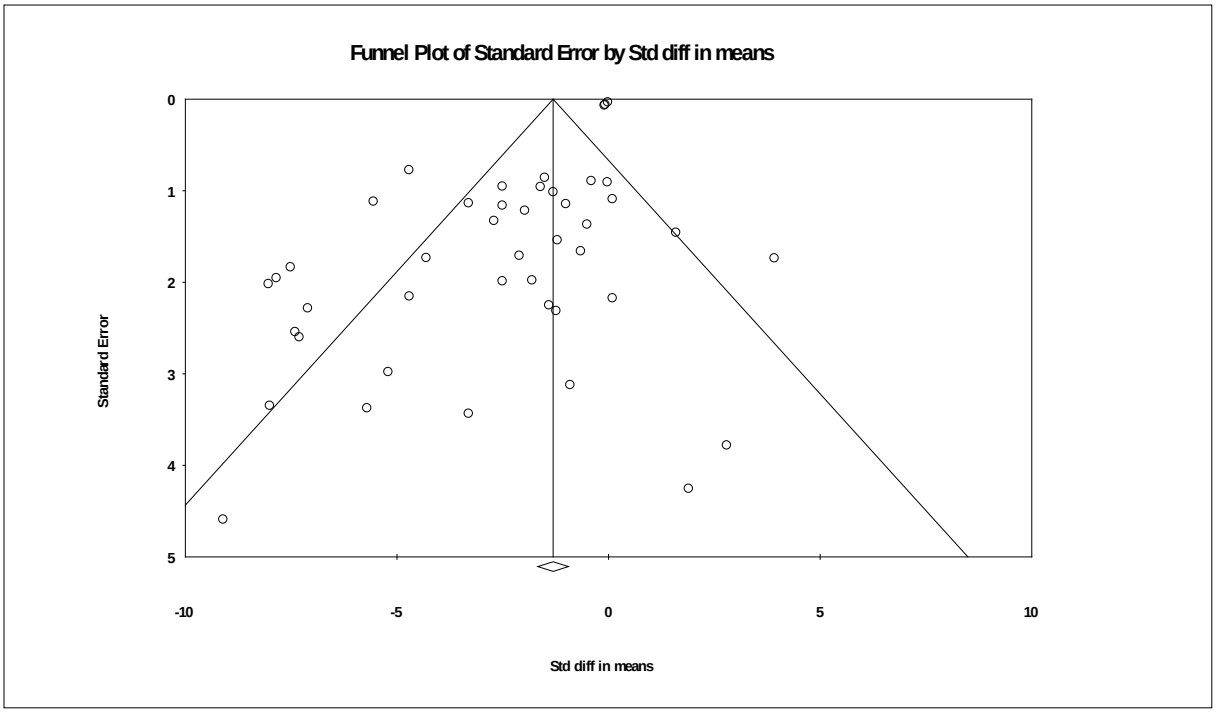
1- Sleep Efficiency Index – Affective Disorders



Classical fail-safe N:

Z-Value for observed studies:	-9,38231
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	48,00000
Number of missing studies that would bring p-value to > alpha	**1052,00000**

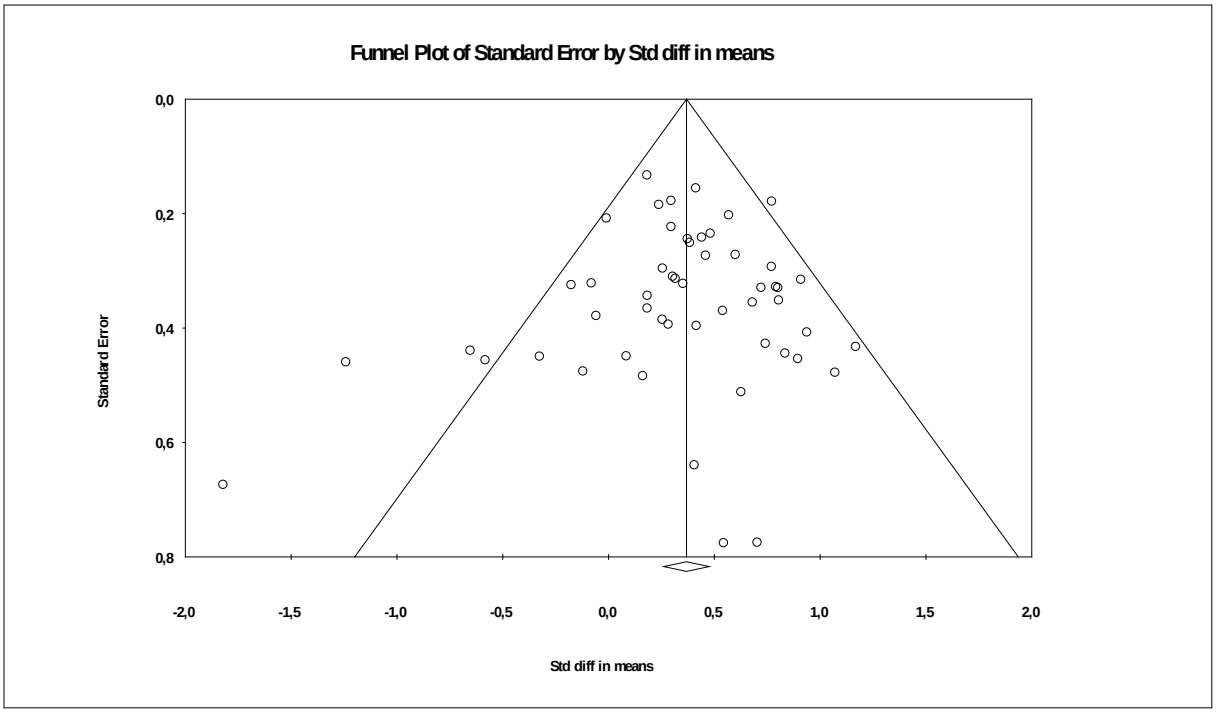
2- Sleep Efficiency Index – Major depression



Classical fail-safe N:

Z-Value for observed studies:	-10,1126
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	44,00000
Number of missing studies that would bring p-value to > alpha	**1128,0000**

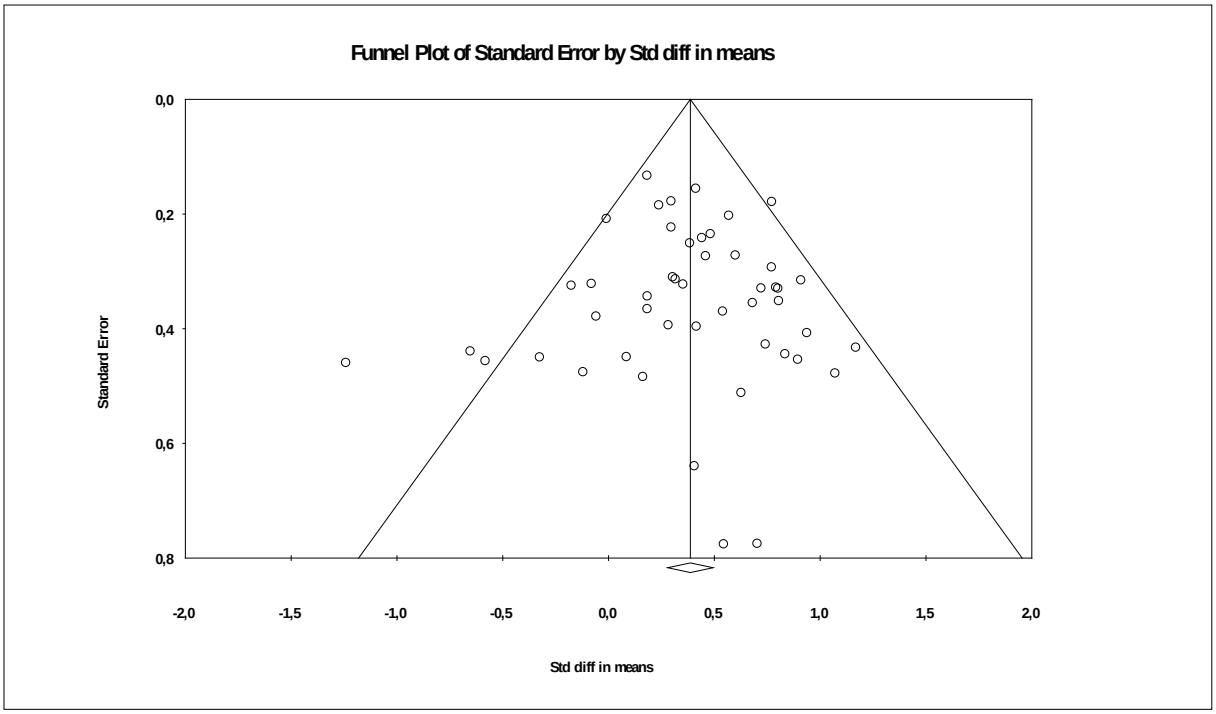
3- Sleep Onset Latency – Affective Disorders



Classical fail-safe N:

Z-Value for observed studies:	8,14016
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	52,00000
Number of missing studies that would bring p-value to > alpha	**845,00000**

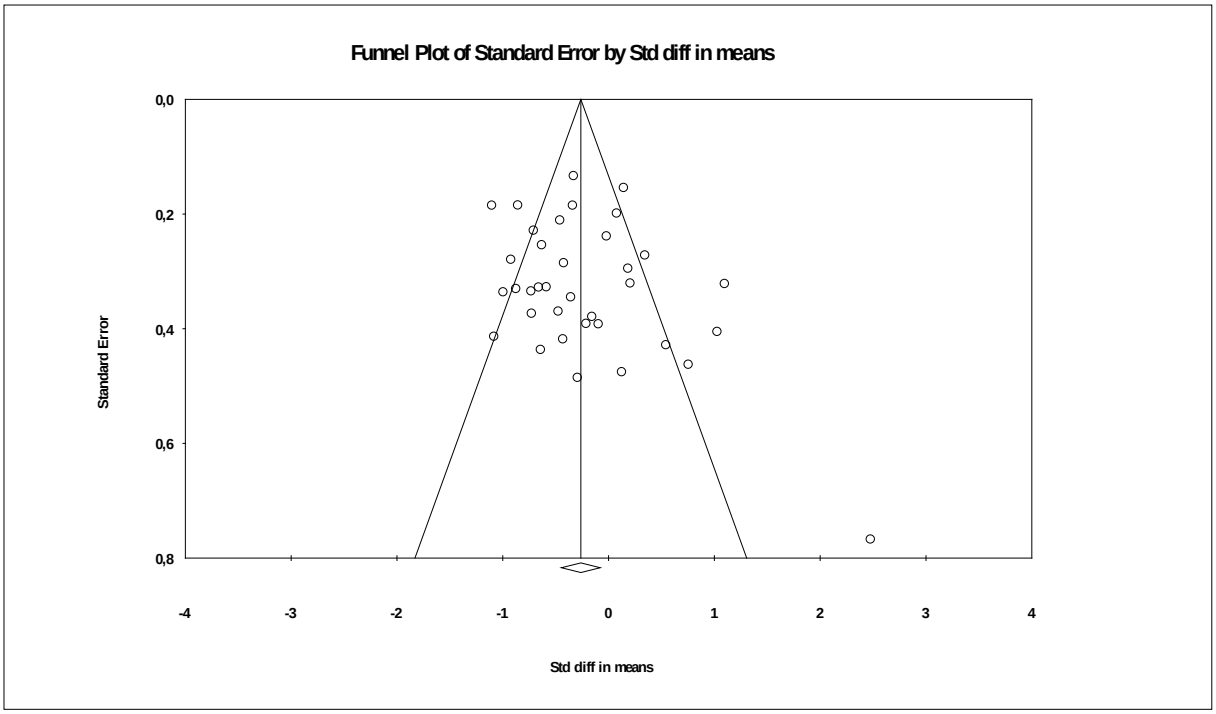
4- Sleep Onset Latency – Major depression



Classical fail-safe N:

Z-Value for observed studies:	8,14983
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	48,00000
Number of missing studies that would bring p-value to > alpha	**838,00000**

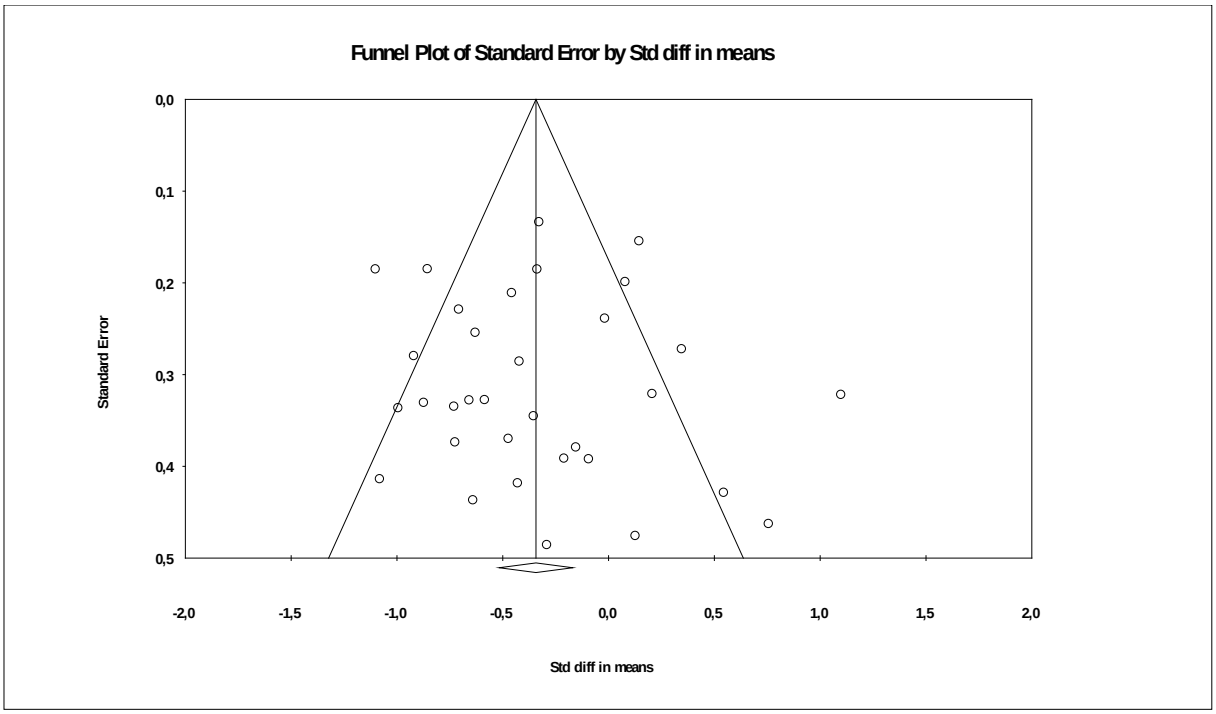
5- Total Sleep Time – Affective Disorders



Classical fail-safe N:

Z-Value for observed studies:	-5,61652
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	36,00000
Number of missing studies that would bring p-value to > alpha	**260,00000**

6- Total Sleep Time – Major depression

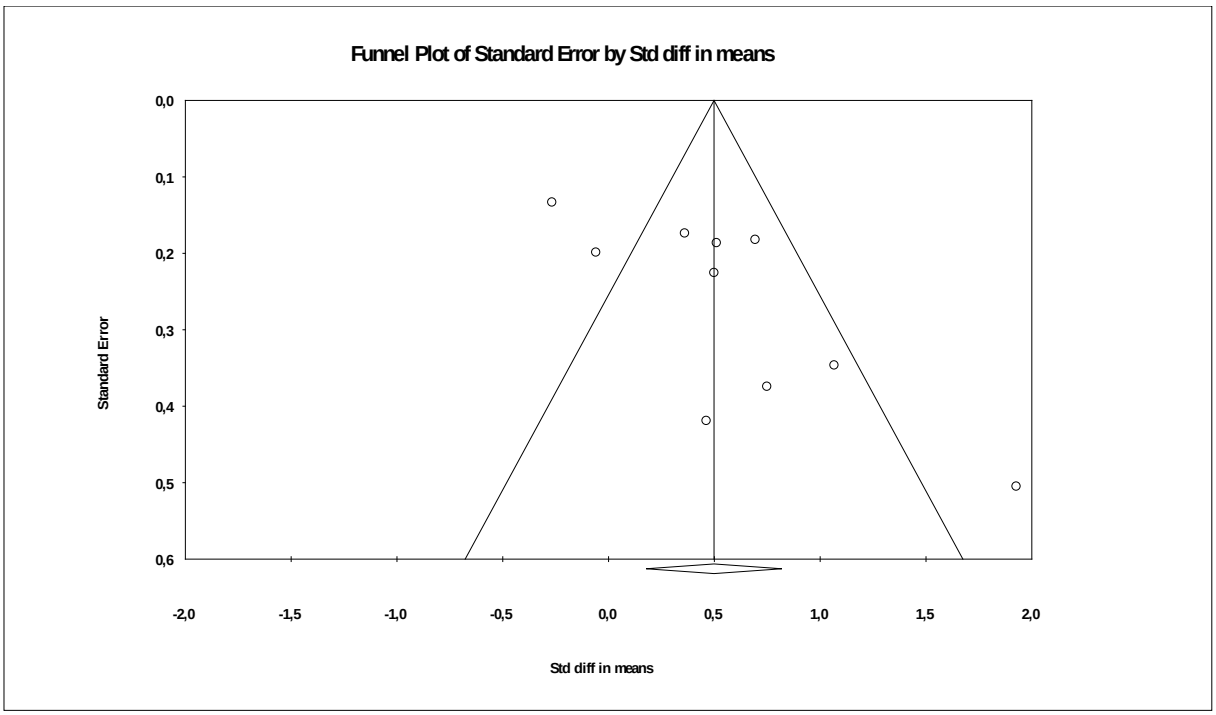


Classical fail-safe N:

Z-Value for observed studies:	-6,98057
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	33,00000
Number of missing studies that would bring p-value to > alpha	**386,00000**

7- Number of Awakenings – Affective Disorders/Major depression

(All studies in affective disorders category reporting number of awakenings included patients with major depression)

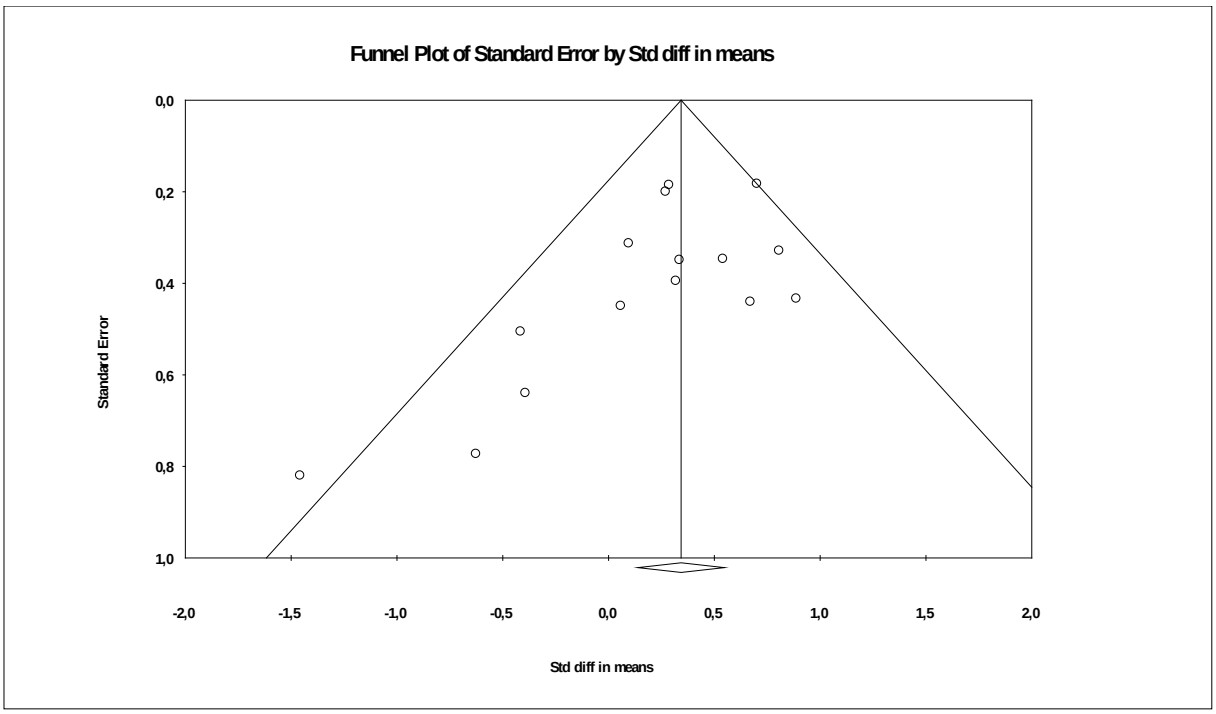


Classical fail-safe N:

Z-Value for observed studies:	5,87166
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	10,00000
Number of missing studies that would bring p-value to > alpha	**80,00000**

8- Total time awake during the night – Affective Disorders/Major depression

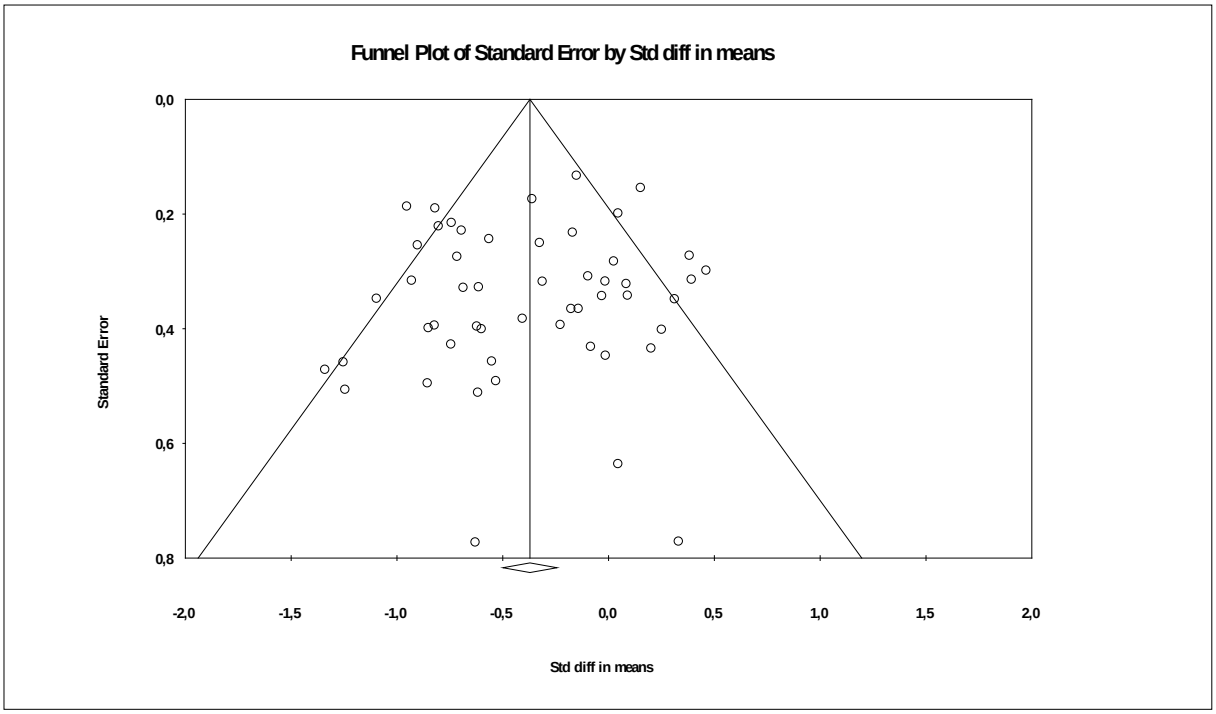
(All studies in affective disorders category reporting total time awake during the night included patients with major depression)



Classical fail-safe N:

Z-Value for observed studies:	3,23264
P-Value for observed studies:	0,00123
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	15,00000
Number of missing studies that would bring p-value to > alpha	**26,00000**

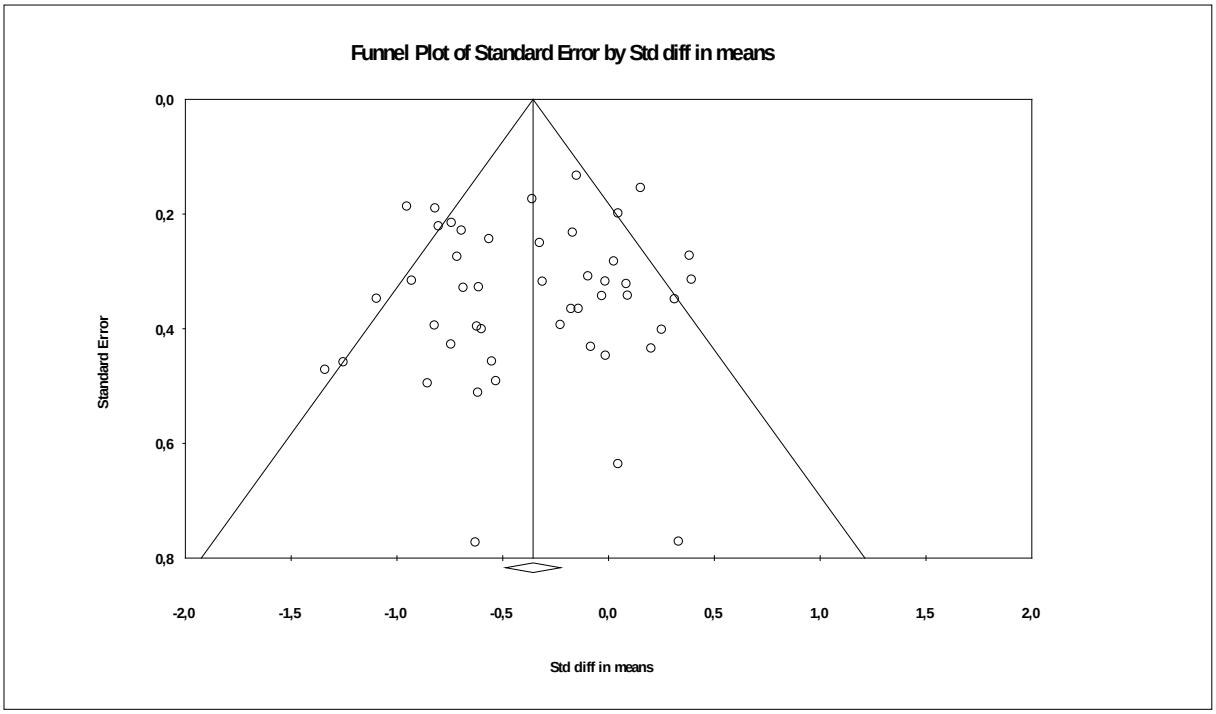
9- REM Latency – Affective Disorders



Classical fail-safe N:

Z-Value for observed studies:	-8,56992
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	52,00000
Number of missing studies that would bring p-value to > alpha	**943,00000**

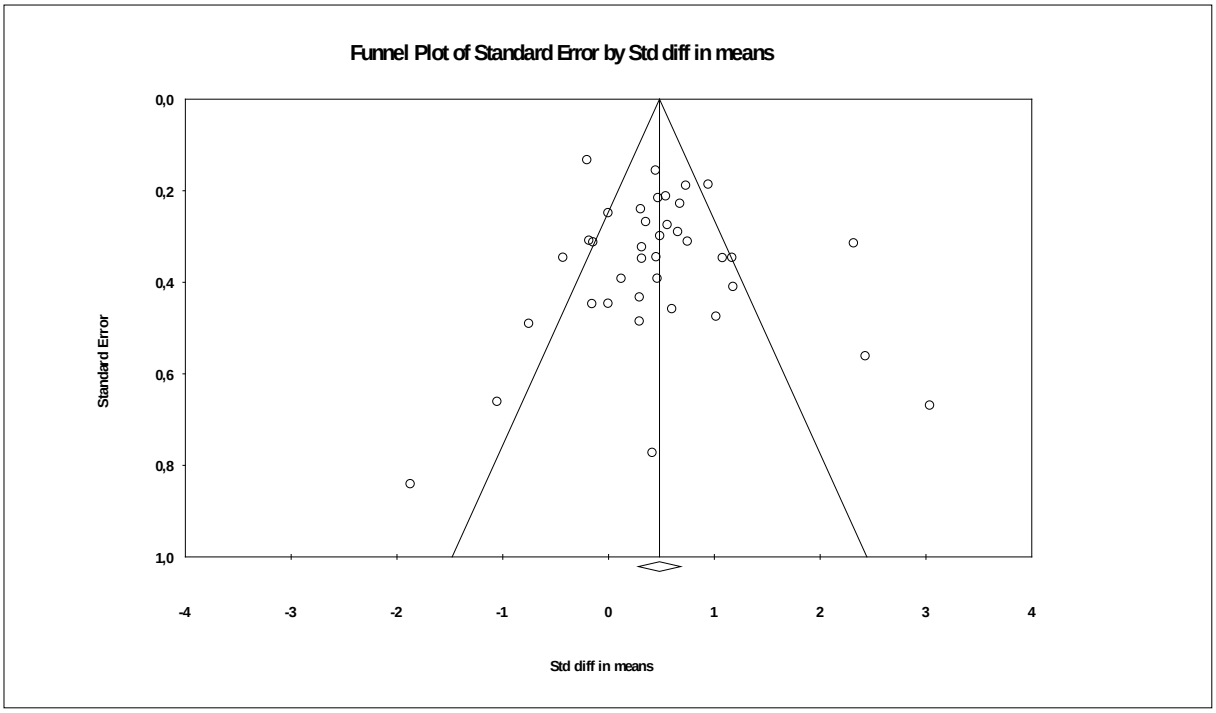
10- REM Latency – Major depression



Classical fail-safe N:

Z-Value for observed studies:	-7,90079
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	47,00000
Number of missing studies that would bring p-value to > alpha	**717,00000**

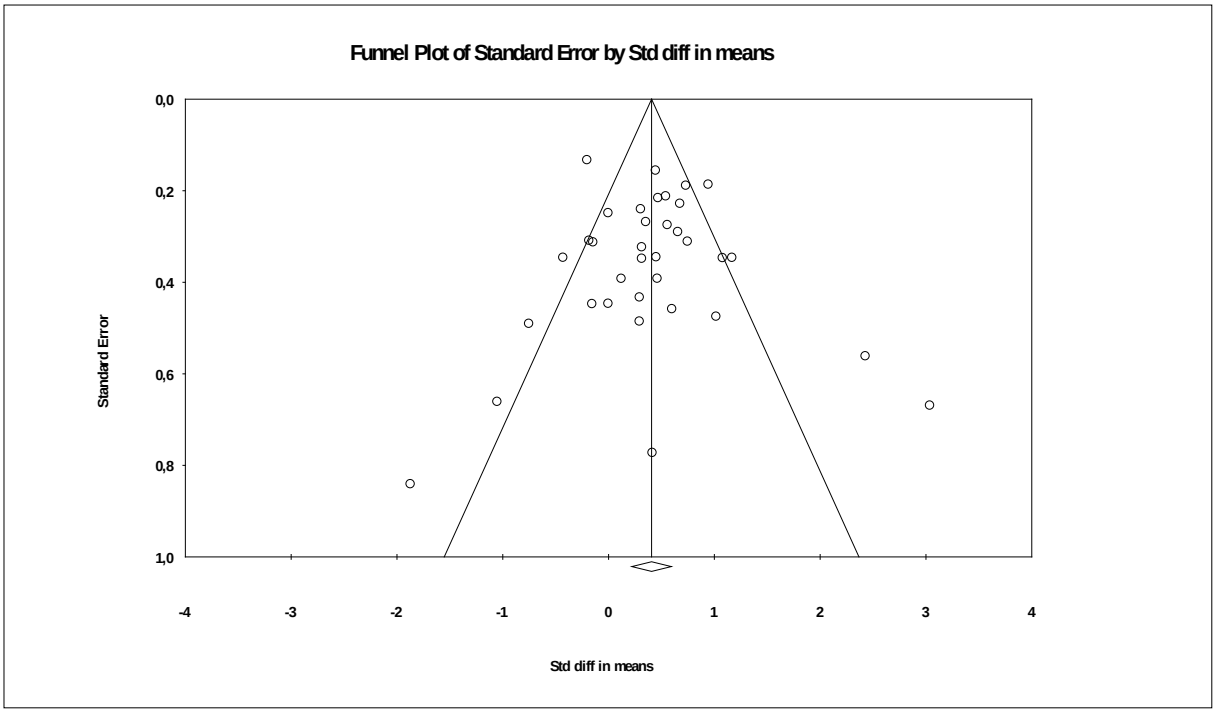
11- REM Density – Affective Disorders



Classical fail-safe N:

Z-Value for observed studies:	9,17741
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	38,00000
Number of missing studies that would bring p-value to > alpha	**796,00000**

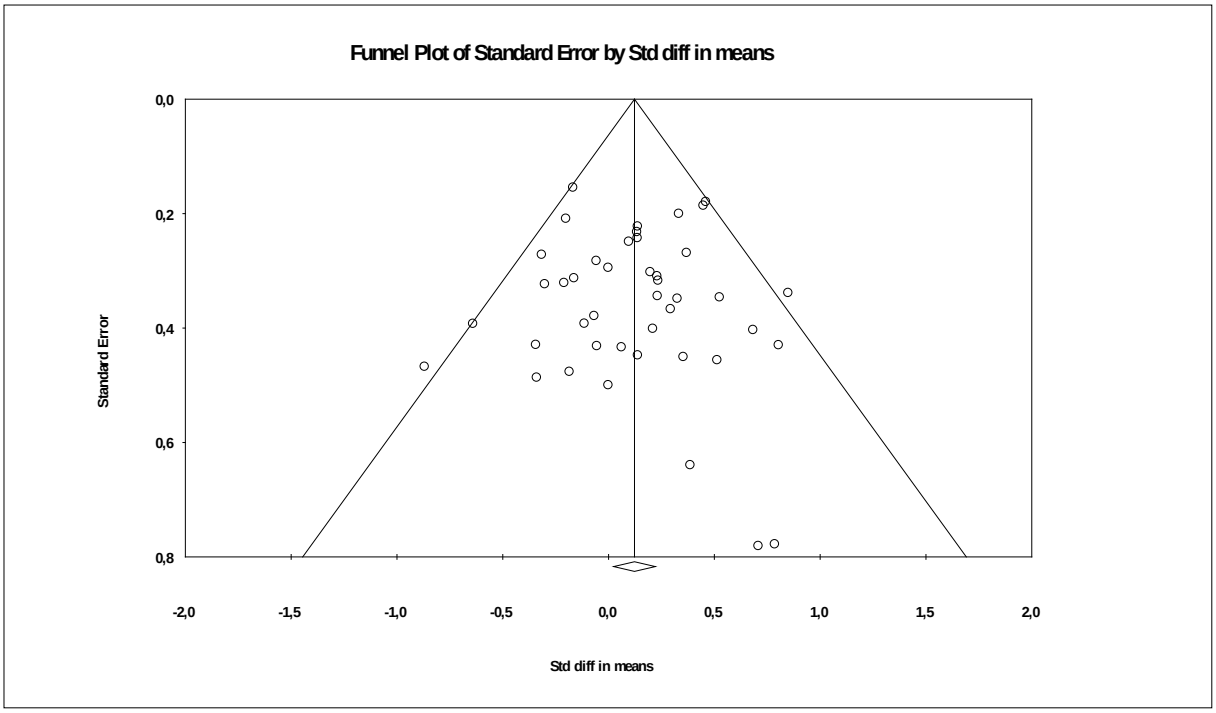
12- REM Density – Major depression



Classical fail-safe N:

Z-Value for observed studies:	7,55642
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	35,00000
Number of missing studies that would bring p-value to > alpha	**486,00000**

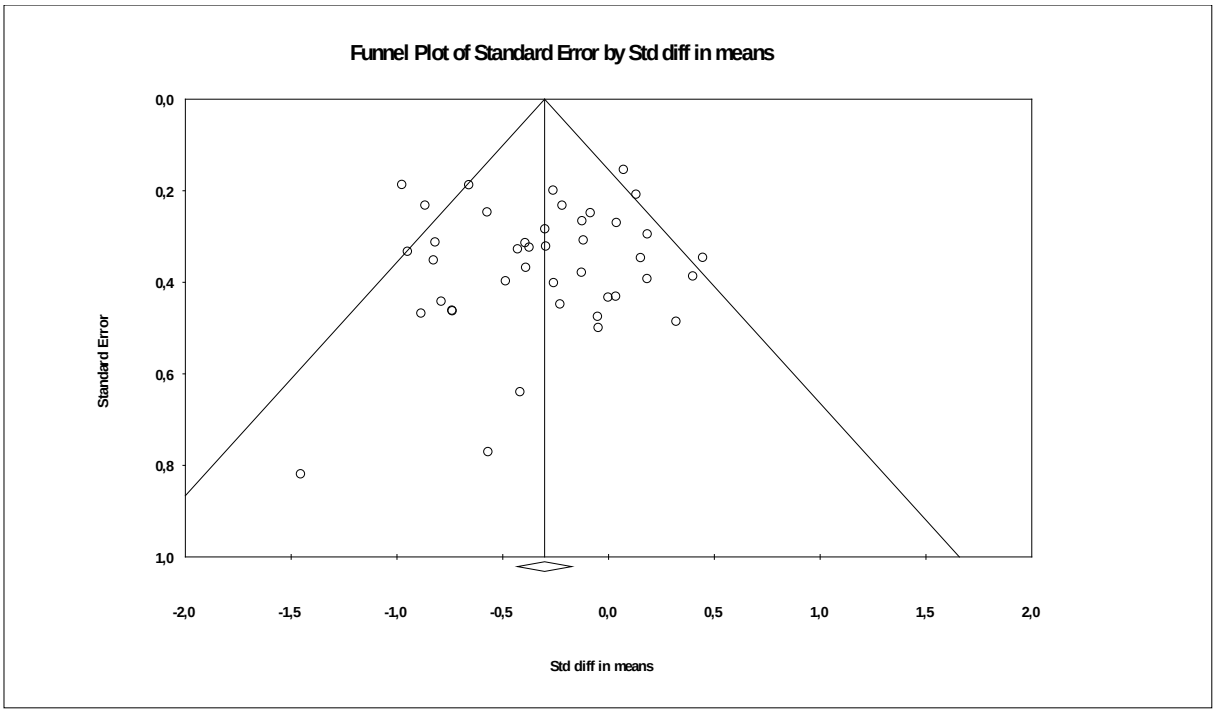
13- Duration of stage 1 sleep (%) – Affective Disorders



Classical fail-safe N:

Z-Value for observed studies:	2,48916
P-Value for observed studies:	0,01280
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	43,00000
Number of missing studies that would bring p-value to > alpha	**27,00000**

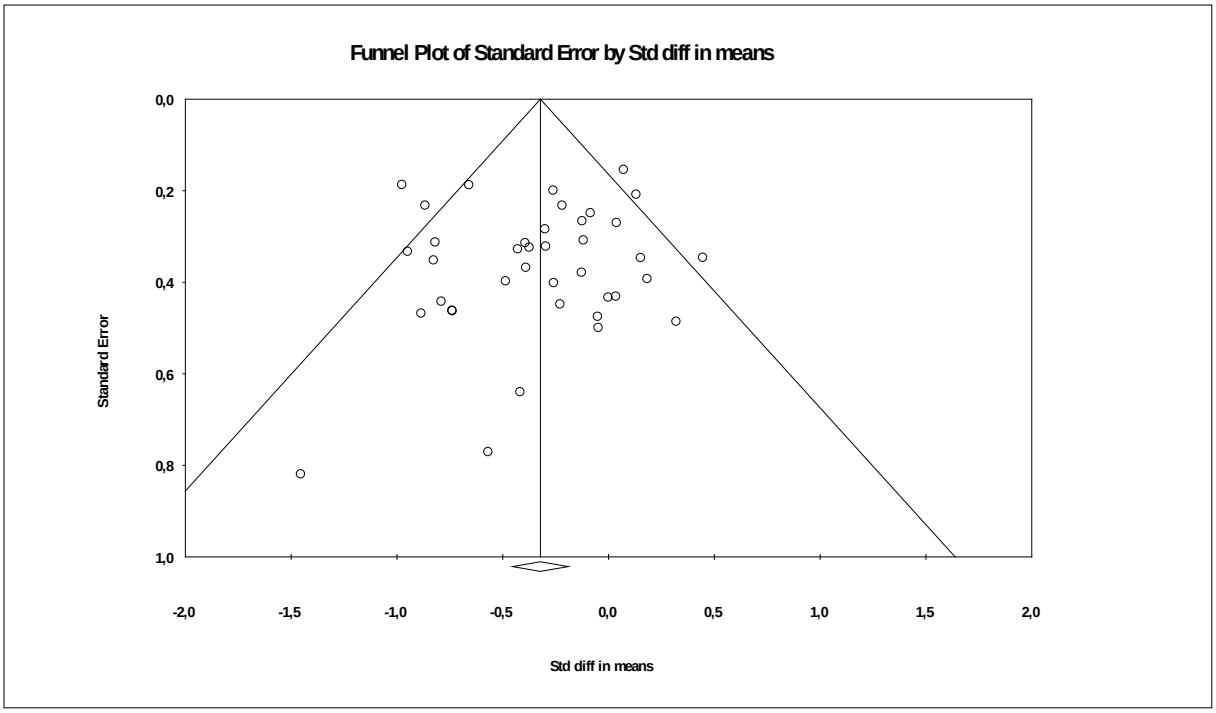
14- Duration of stage 2 sleep (%) – Affective Disorders



Classical fail-safe N:

Z-Value for observed studies:	-6,12569
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	42,00000
Number of missing studies that would bring p-value to > alpha	**369,00000**

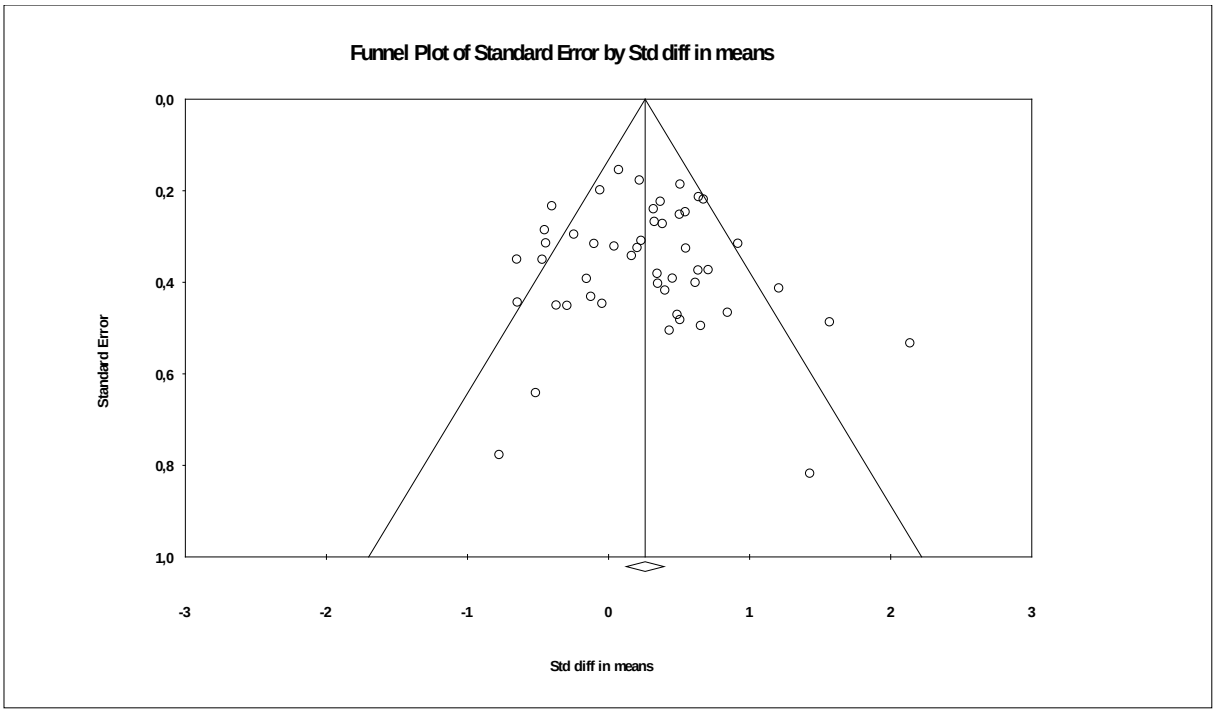
15- Duration of stage 2 sleep (%) – Major depression



Classical fail-safe N:

Z-Value for observed studies:	-6,25287
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	42,00000
Number of missing studies that would bring p-value to > alpha	**39,000000**

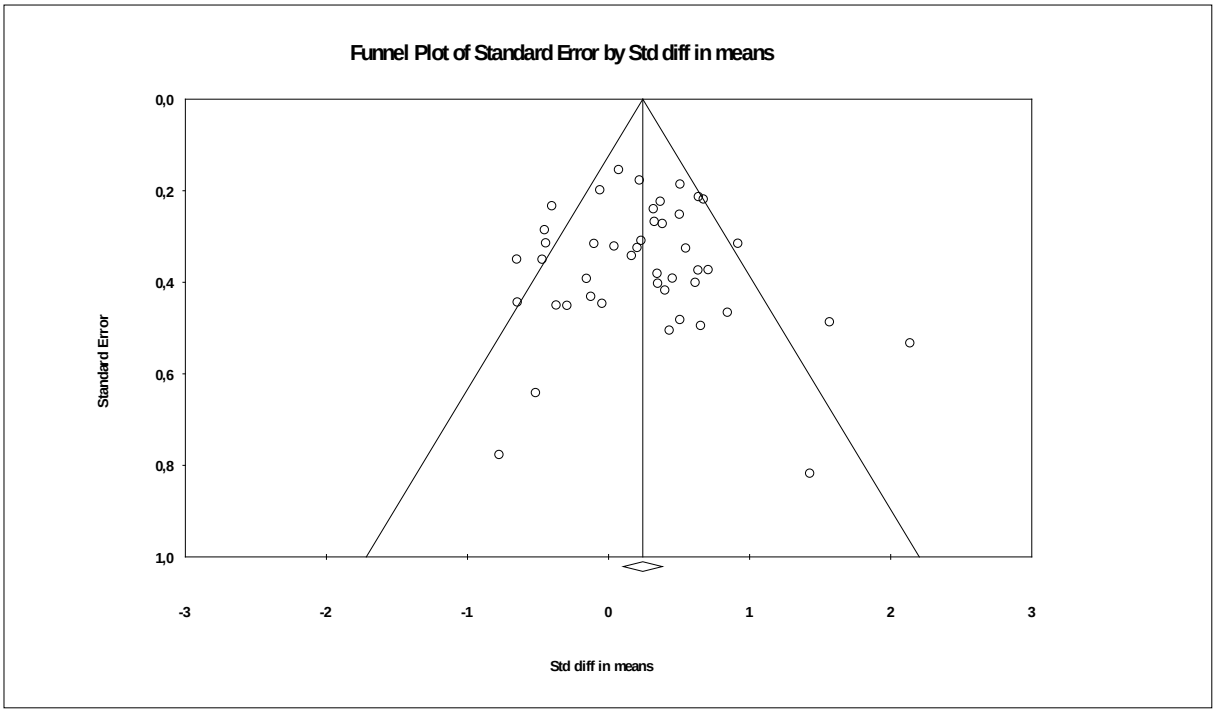
16- Duration of REM sleep (%) – Affective Disorders



Classical fail-safe N:

Z-Value for observed studies:	5,60979
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	49,00000
Number of missing studies that would bring p-value to > alpha	**353,000000**

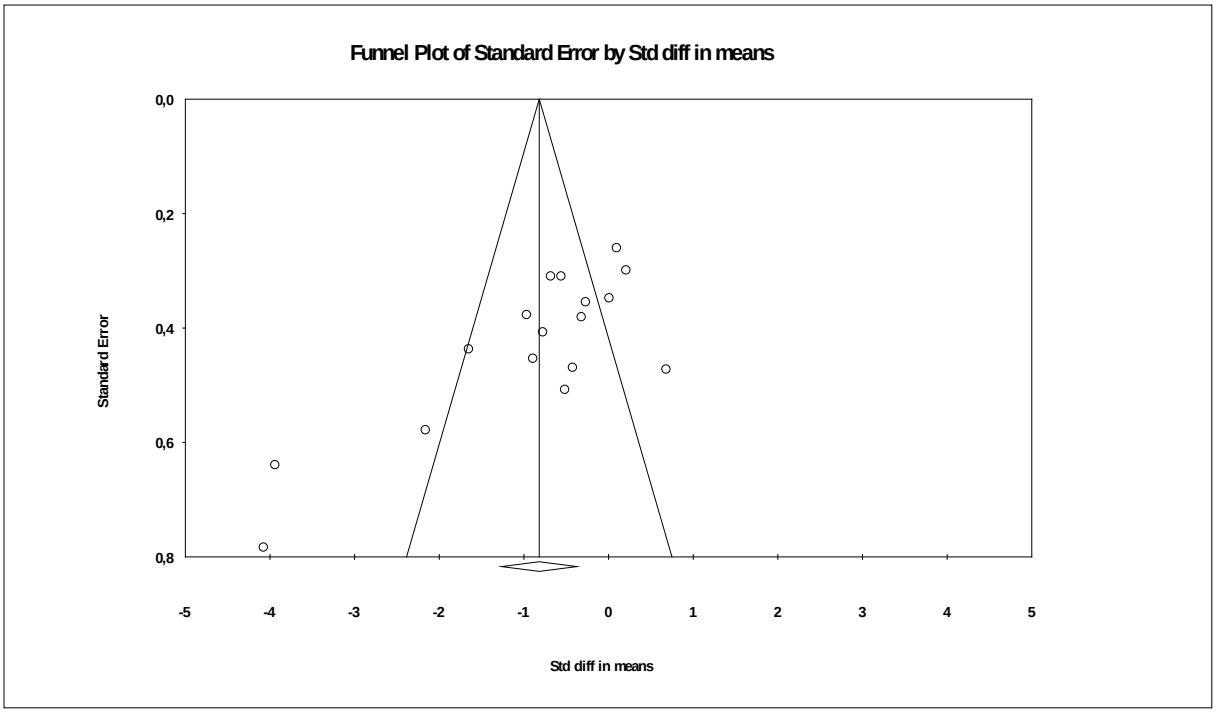
17- Duration of REM sleep (%) – Major depression



Classical fail-safe N:

Z-Value for observed studies:	5,05523
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	45,00000
Number of missing studies that would bring p-value to > alpha	**255,000000**

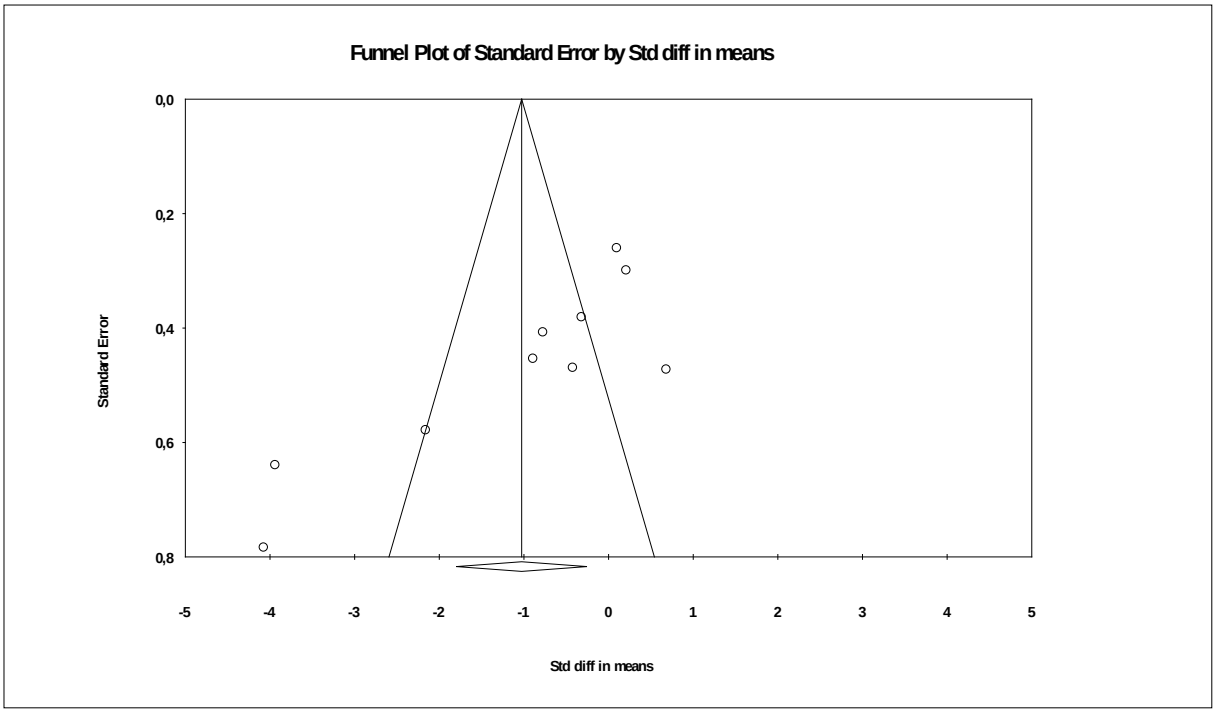
18- Sleep Efficiency Index – Anxiety Disorder



Classical fail-safe N:

Z-Value for observed studies:	-7,30839
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	17,00000
Number of missing studies that would bring p-value to > alpha	**220,000000**

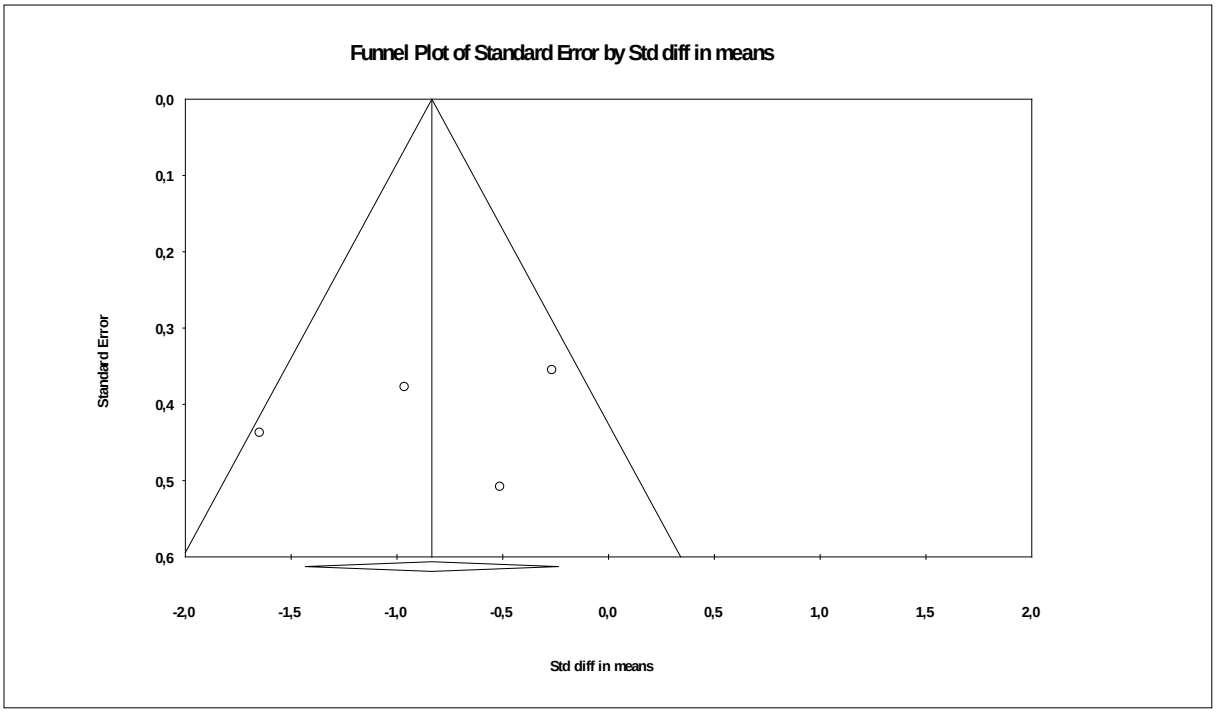
19- Sleep Efficiency Index – PTSD



Classical fail-safe N:

Z-Value for observed studies:	-5,72745
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	10,00000
Number of missing studies that would bring p-value to > alpha	**76,000000**

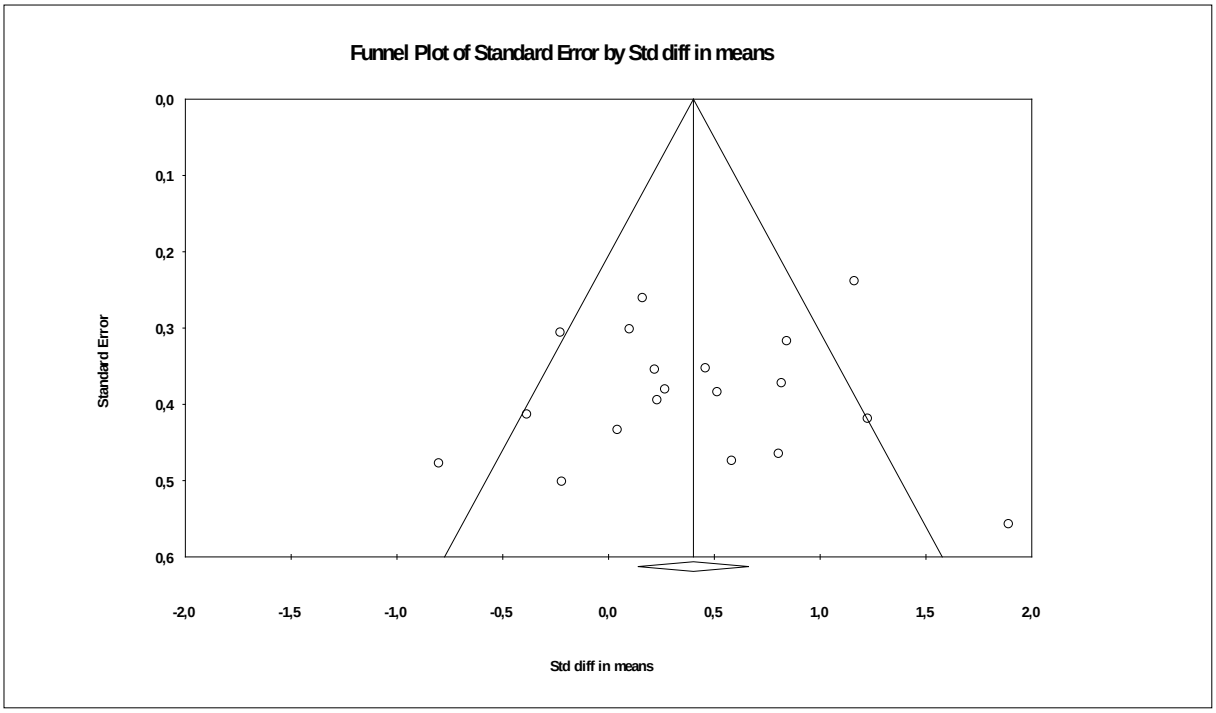
20- Sleep Efficiency Index – Panic disorder



Classical fail-safe N:

Z-Value for observed studies:	-403824
P-Value for observed studies:	0,00005
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	4,00000
Number of missing studies that would bring p-value to > alpha	**13,000000**

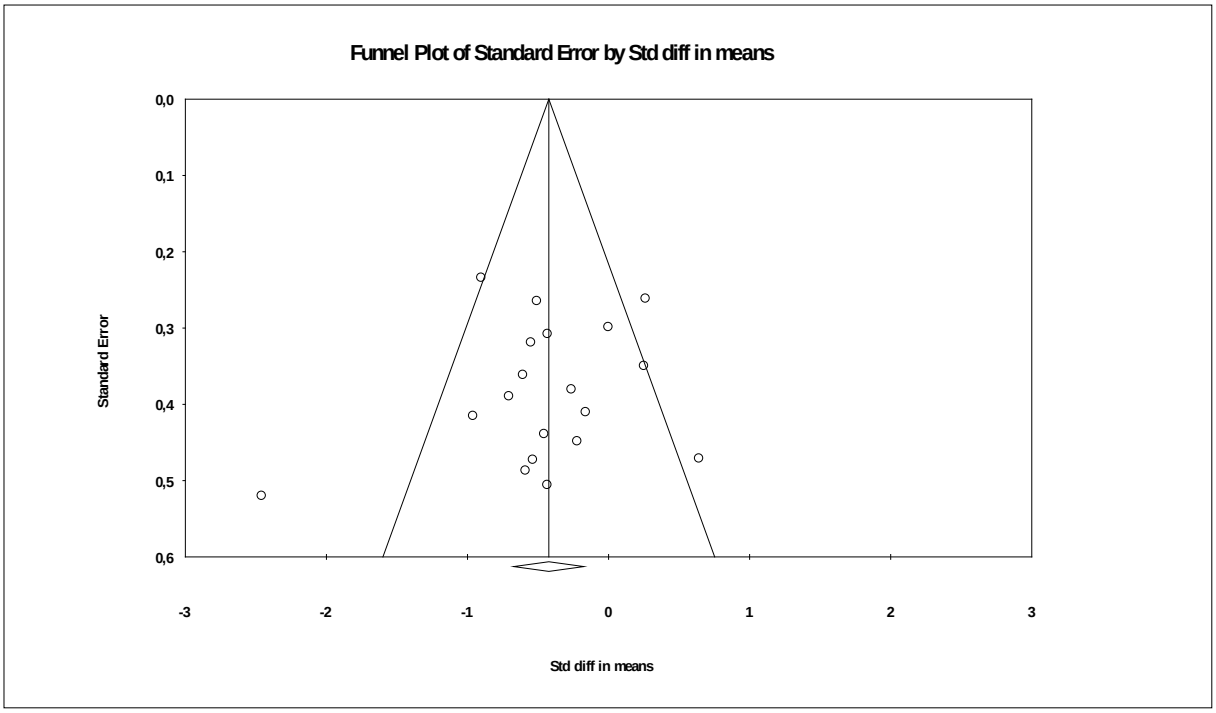
21- Sleep Onset Latency – Anxiety Disorder



Classical fail-safe N:

Z-Value for observed studies:	4,77983
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	19,00000
Number of missing studies that would bring p-value to > alpha	**95,000000**

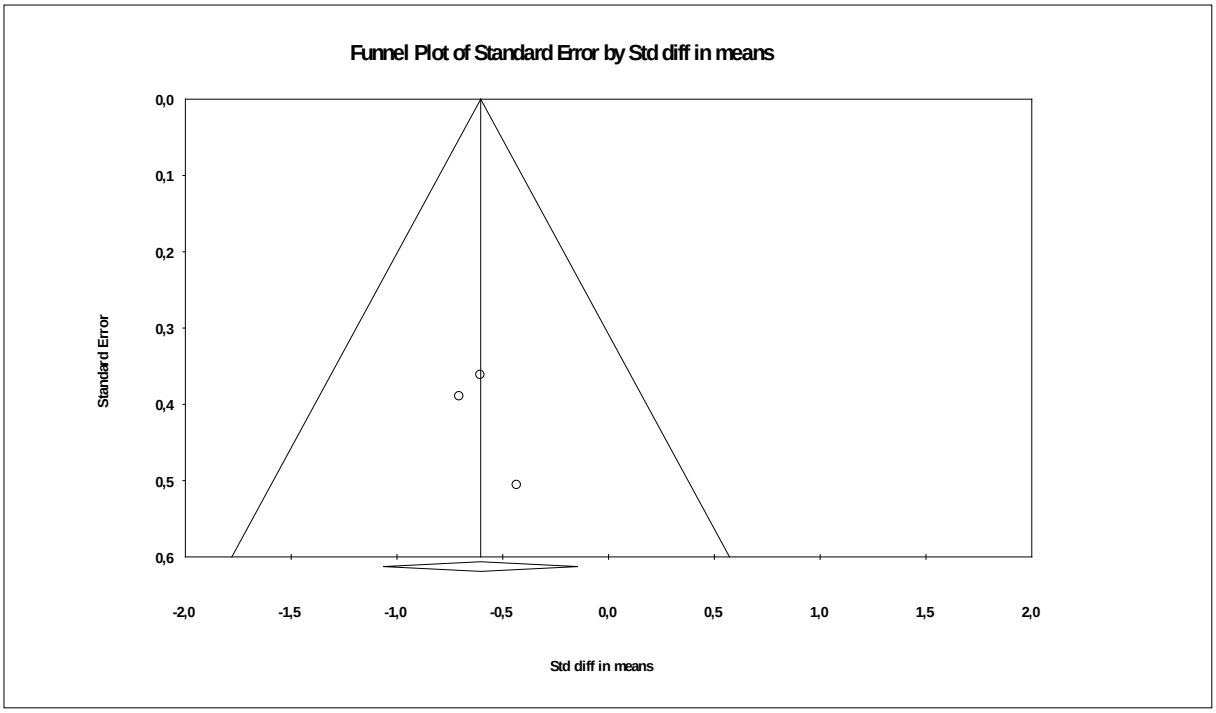
22- Total Sleep Time – Anxiety Disorder



Classical fail-safe N:

Z-Value for observed studies:	-5,07499
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	19,00000
Number of missing studies that would bring p-value to > alpha	**109,00000**

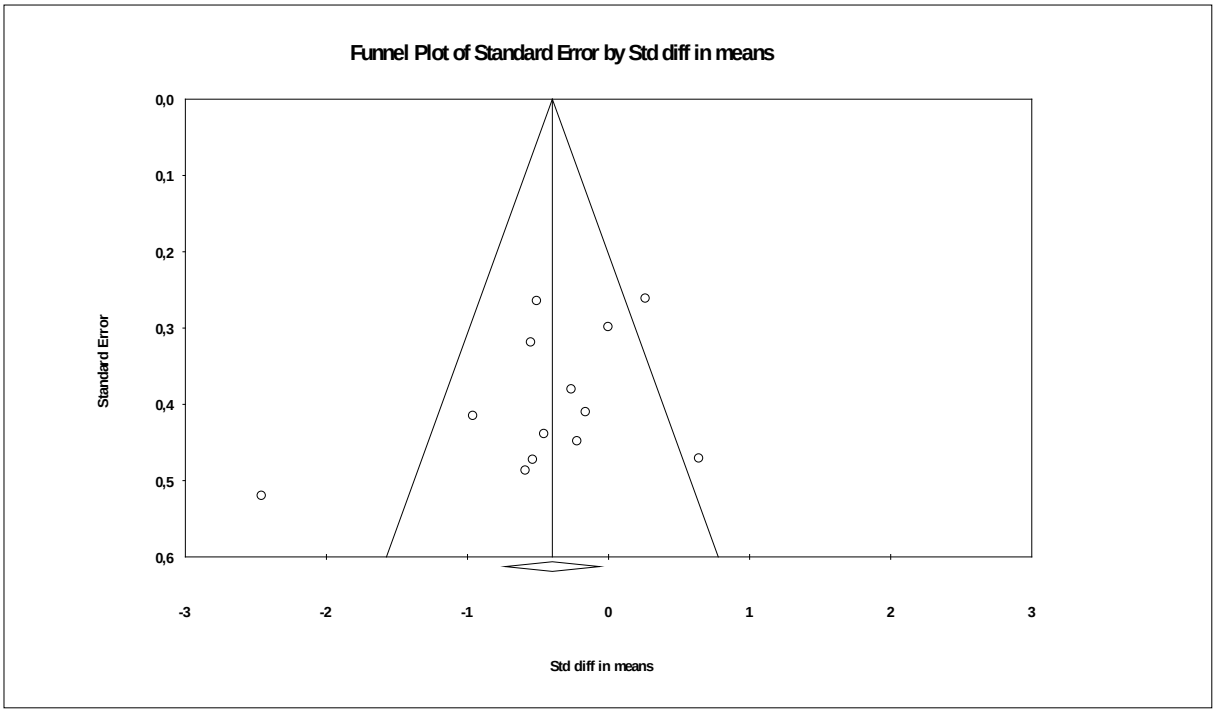
23- Total Sleep Time – Panic disorder



Classical fail-safe N:

Z-Value for observed studies:	-2,50541
P-Value for observed studies:	0,01223
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	3,00000
Number of missing studies that would bring p-value to > alpha	**2,00000**

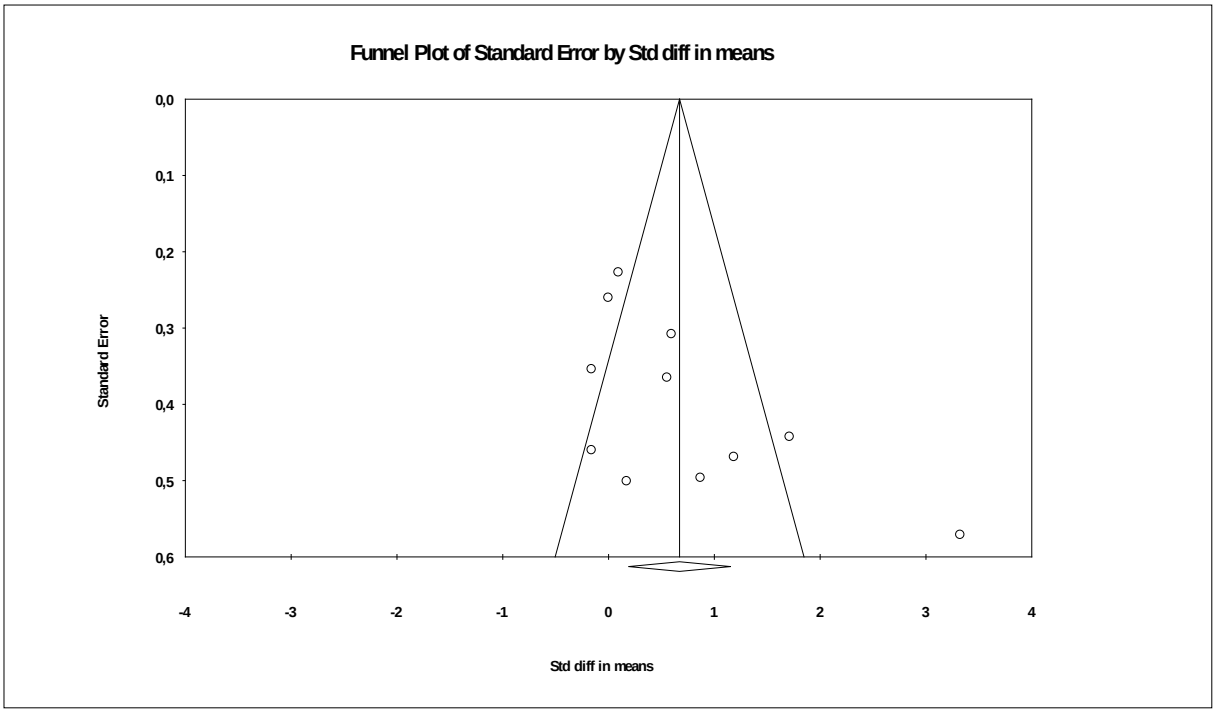
24- Total Sleep Time – PTSD



Classical fail-safe N:

Z-Value for observed studies:	-3,67523
P-Value for observed studies:	0,00024
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	13,00000
Number of missing studies that would bring p-value to > alpha	**33,00000**

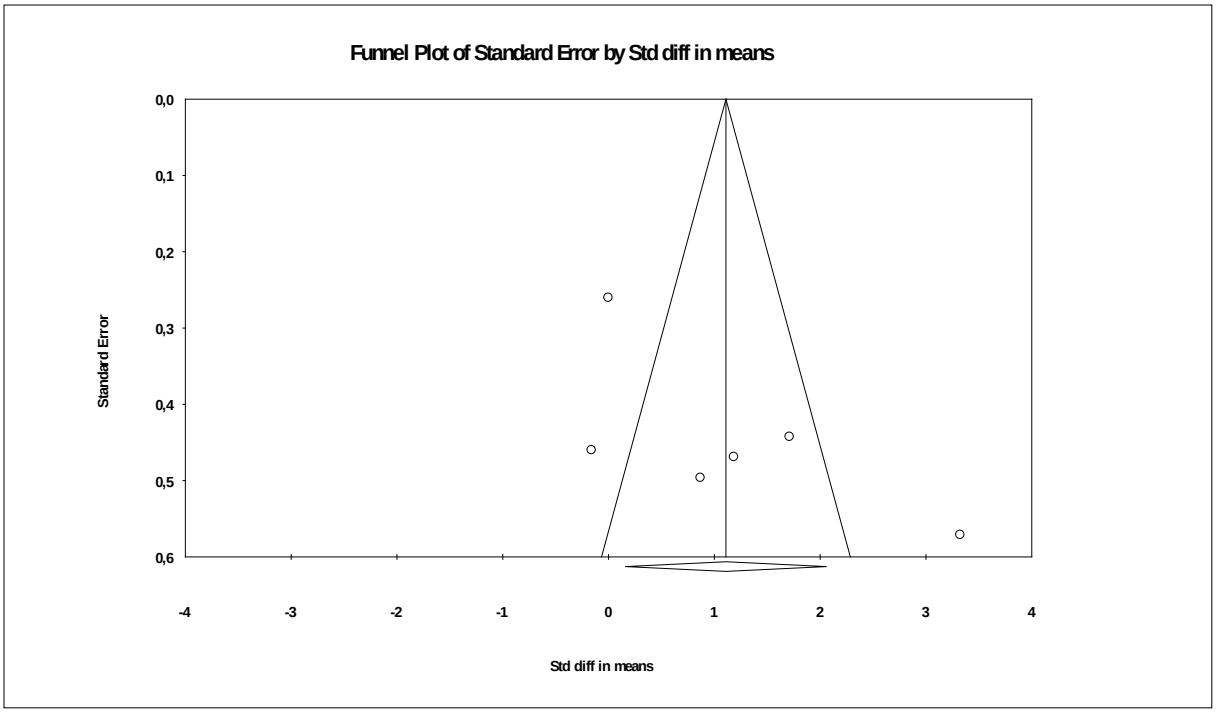
25- Number of Awakenings – Anxiety Disorder



Classical fail-safe N:

Z-Value for observed studies:	5,24581
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	11,00000
Number of missing studies that would bring p-value to > alpha	**68,00000**

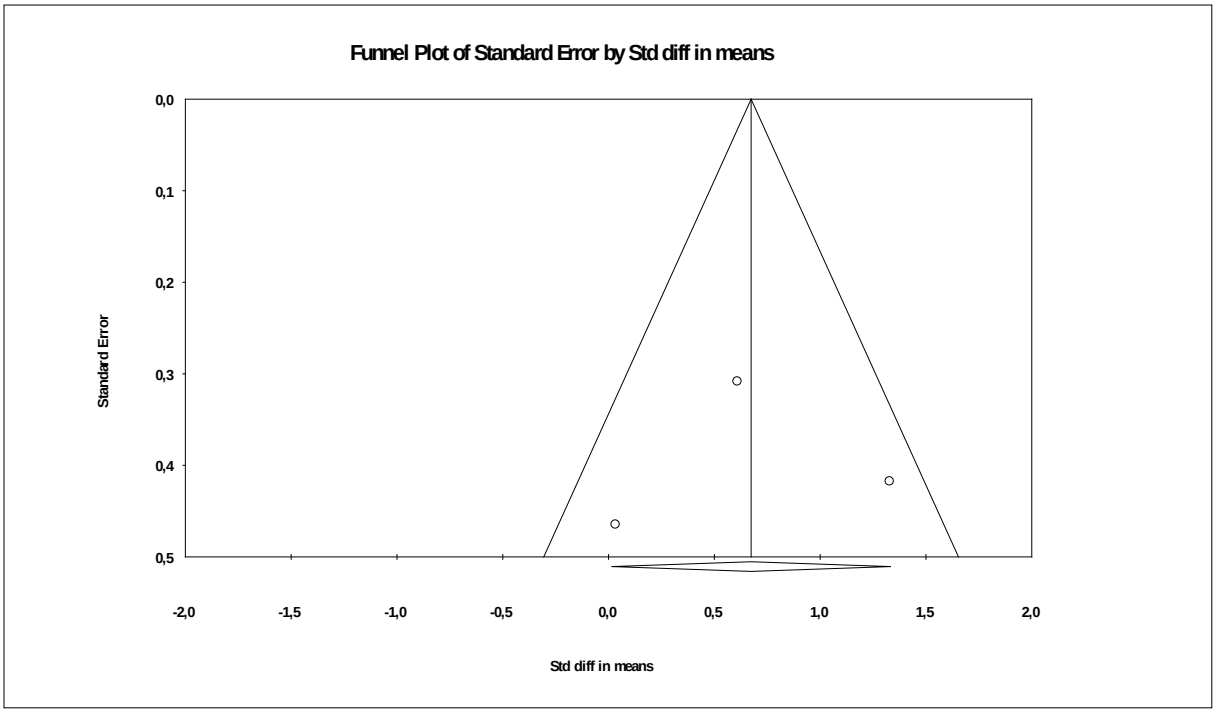
26- Number of Awakenings – PTSD



Classical fail-safe N:

Z-Value for observed studies:	5,56323
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	6,00000
Number of missing studies that would bring p-value to > alpha	**43,00000**

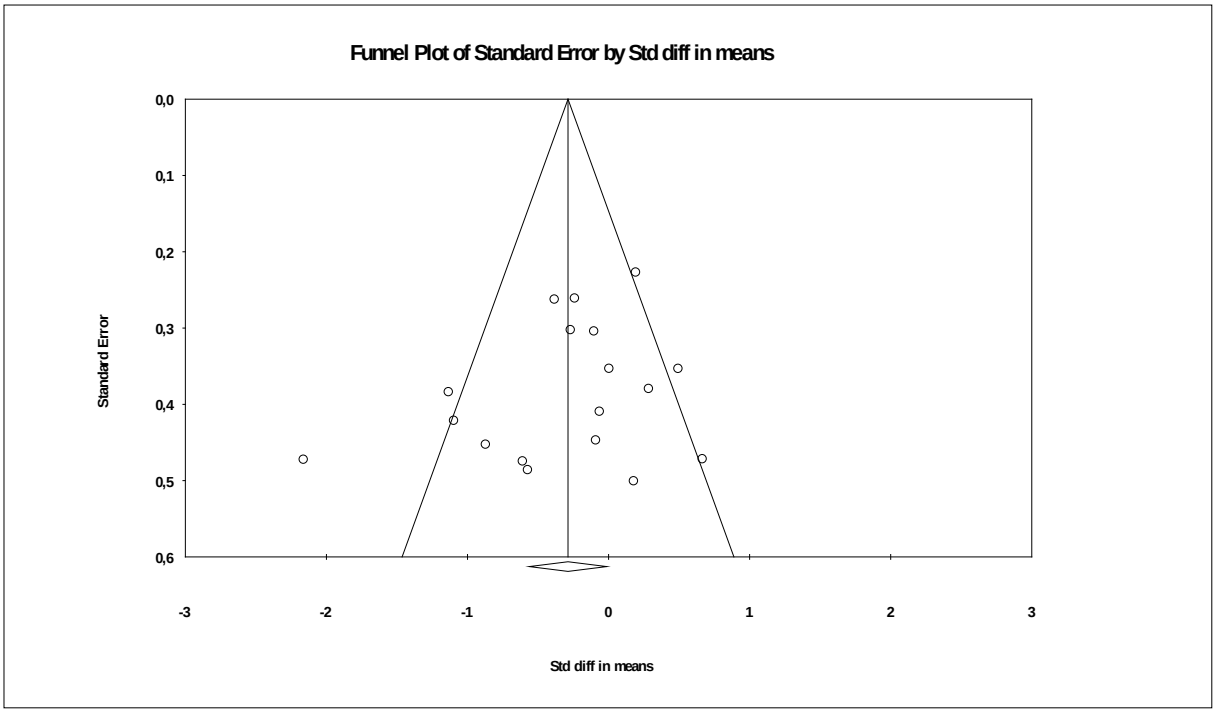
27- Total time awake during the night – Anxiety Disorder



Classical fail-safe N:

Z-Value for observed studies:	3,02075
P-Value for observed studies:	0,00252
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	3,00000
Number of missing studies that would bring p-value to > alpha	**5,00000**

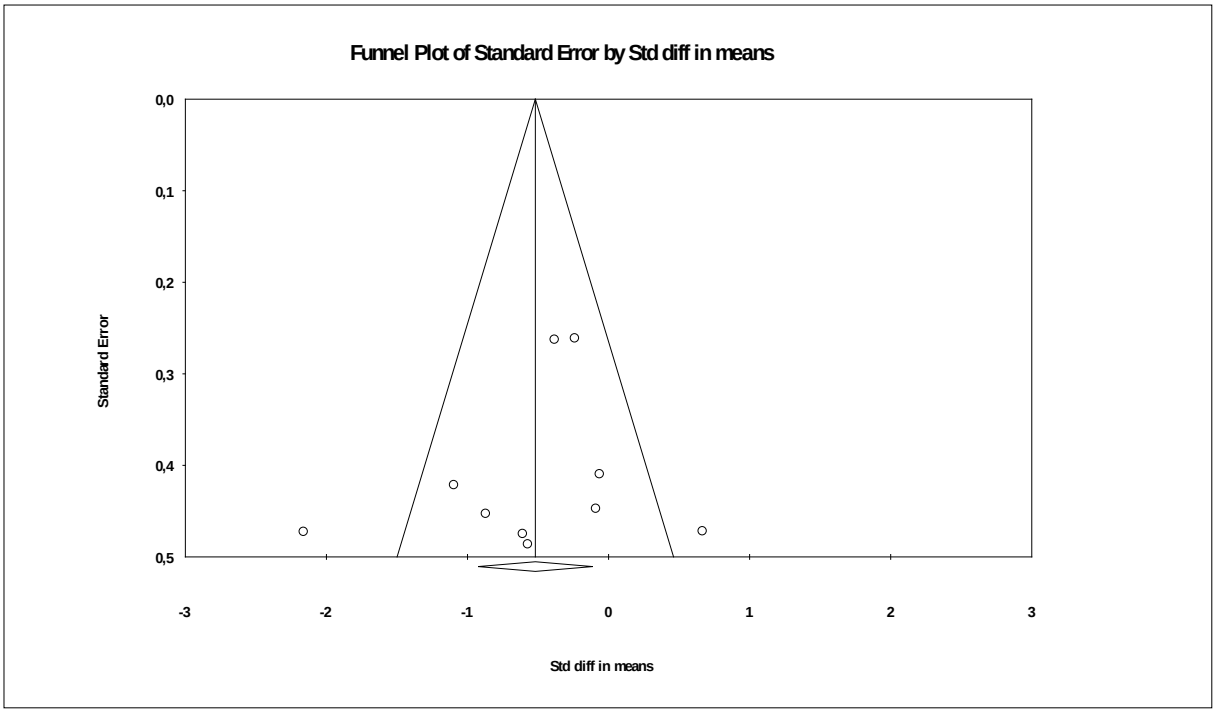
28- REM Latency – Anxiety Disorder



Classical fail-safe N:

Z-Value for observed studies:	-3,20253
P-Value for observed studies:	0,00136
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	18,00000
Number of missing studies that would bring p-value to > alpha	**31,00000**

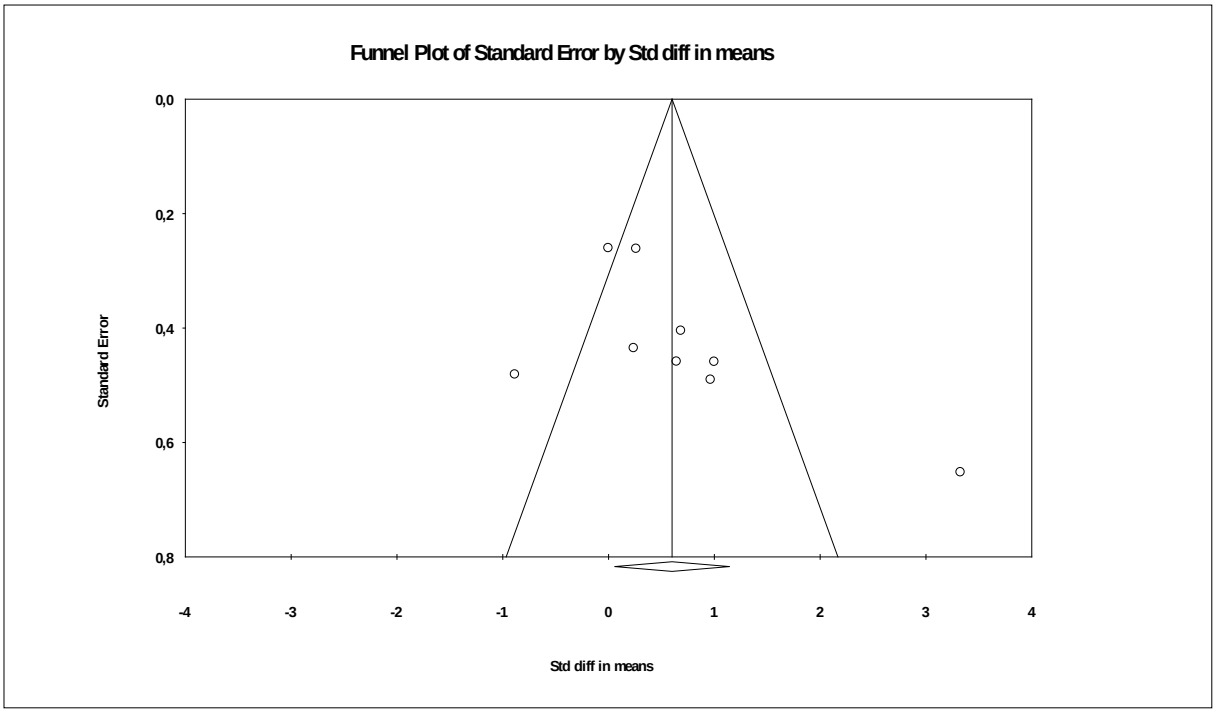
29- REM Latency – PTSD



Classical fail-safe N:

Z-Value for observed studies:	-4,05594
P-Value for observed studies:	0,00005
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	10,00000
Number of missing studies that would bring p-value to > alpha	**33,00000**

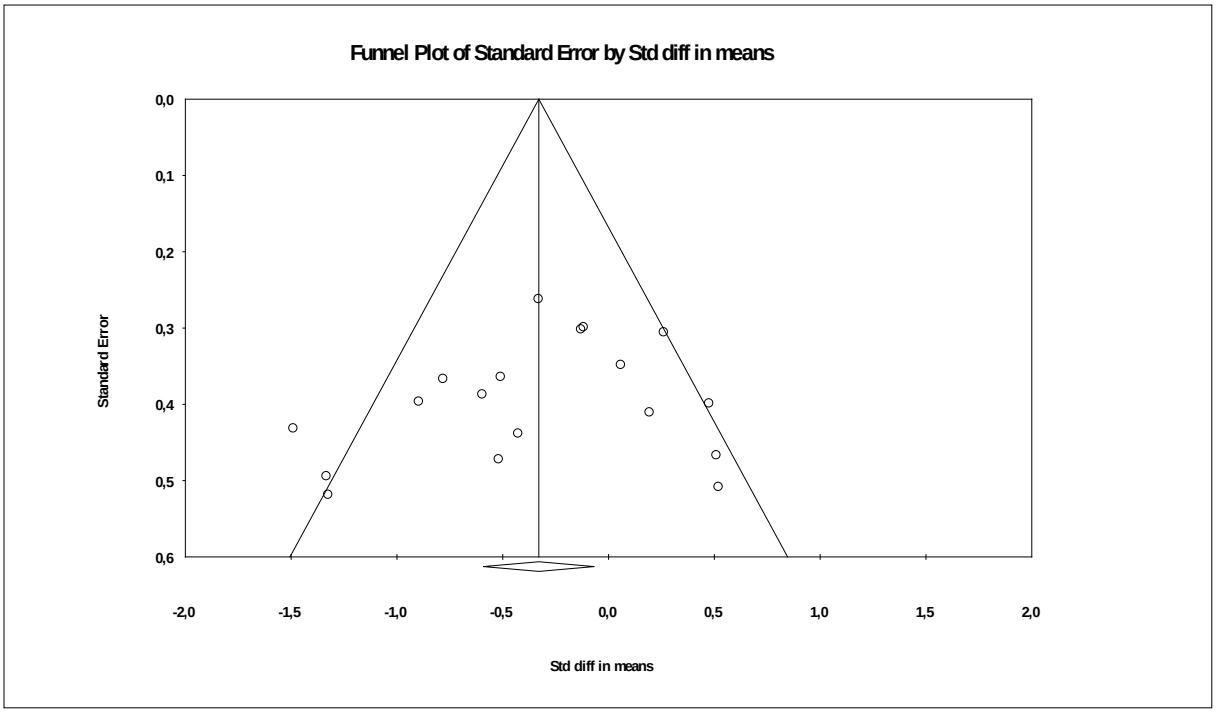
30- REM Density – PTSD



Classical fail-safe N:

Z-Value for observed studies:	4,02434
P-Value for observed studies:	0,00006
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	9,00000
Number of missing studies that would bring p-value to > alpha	**29,00000**

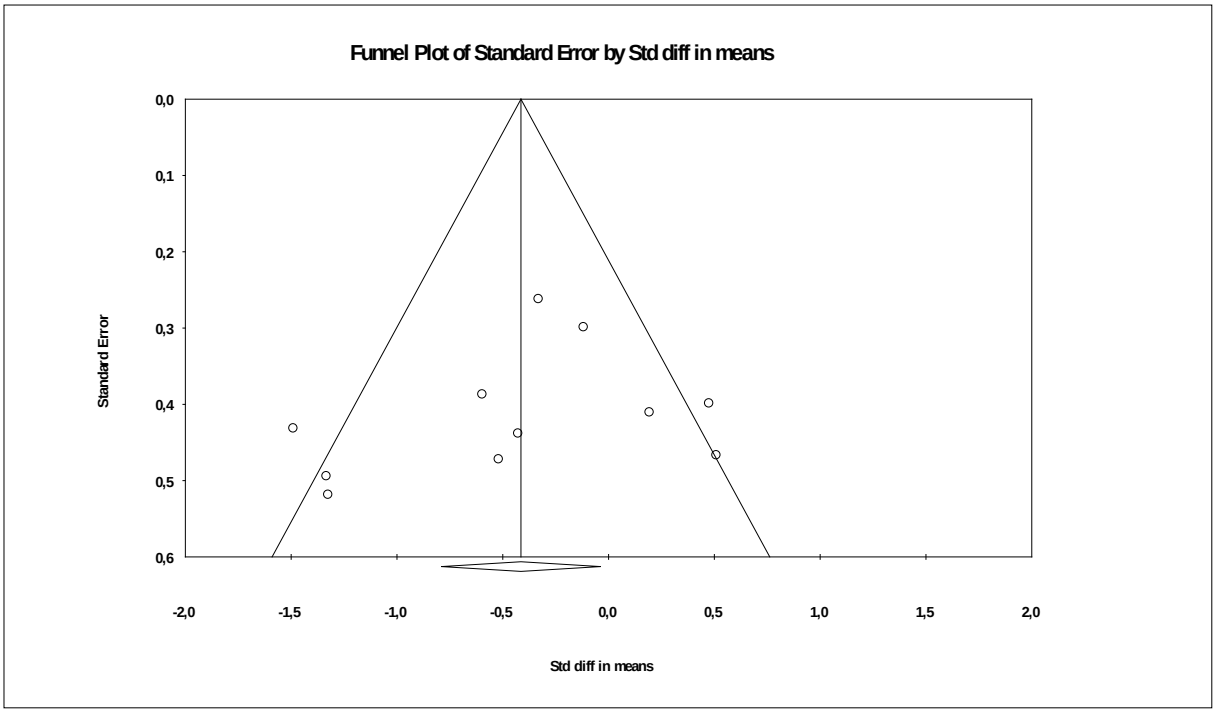
31- Duration of SWS – Anxiety Disorder



Classical fail-safe N:

Z-Value for observed studies:	-3,62046
P-Value for observed studies:	0,00029
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	18,00000
Number of missing studies that would bring p-value to > alpha	**44,00000**

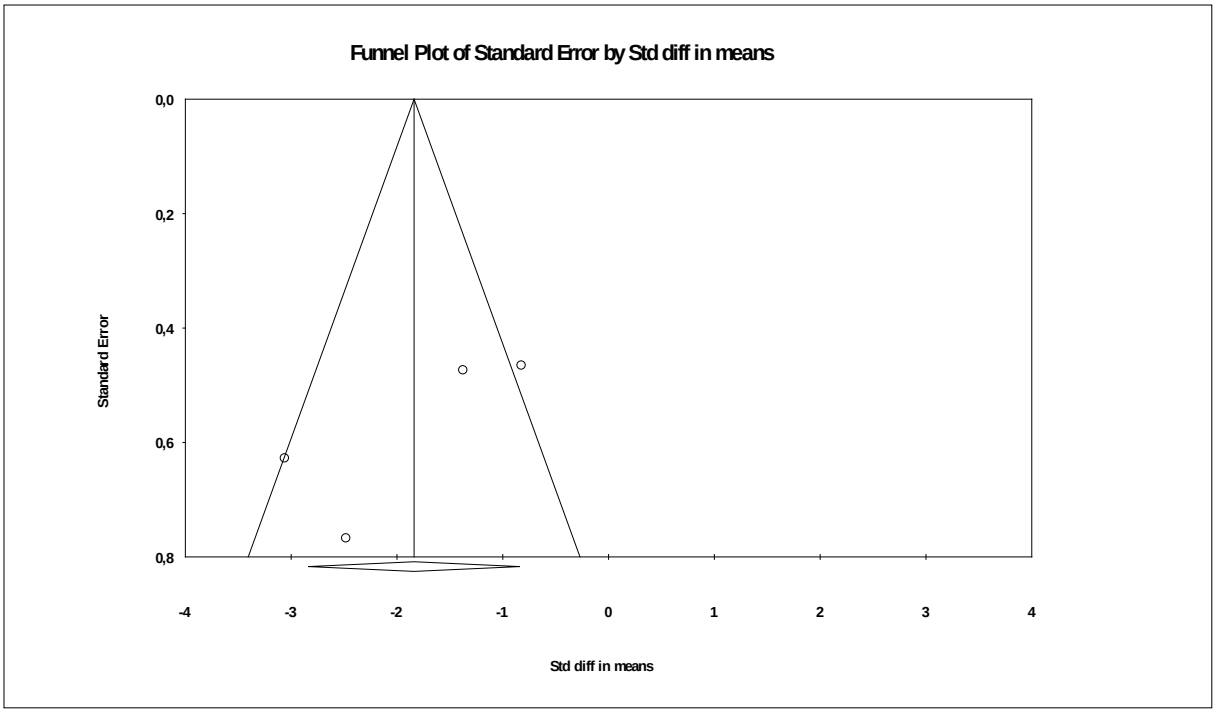
32- Duration of SWS – PTSD



Classical fail-safe N:

Z-Value for observed studies:	-3,37583
P-Value for observed studies:	0,00074
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	11,00000
Number of missing studies that would bring p-value to > alpha	**22,00000**

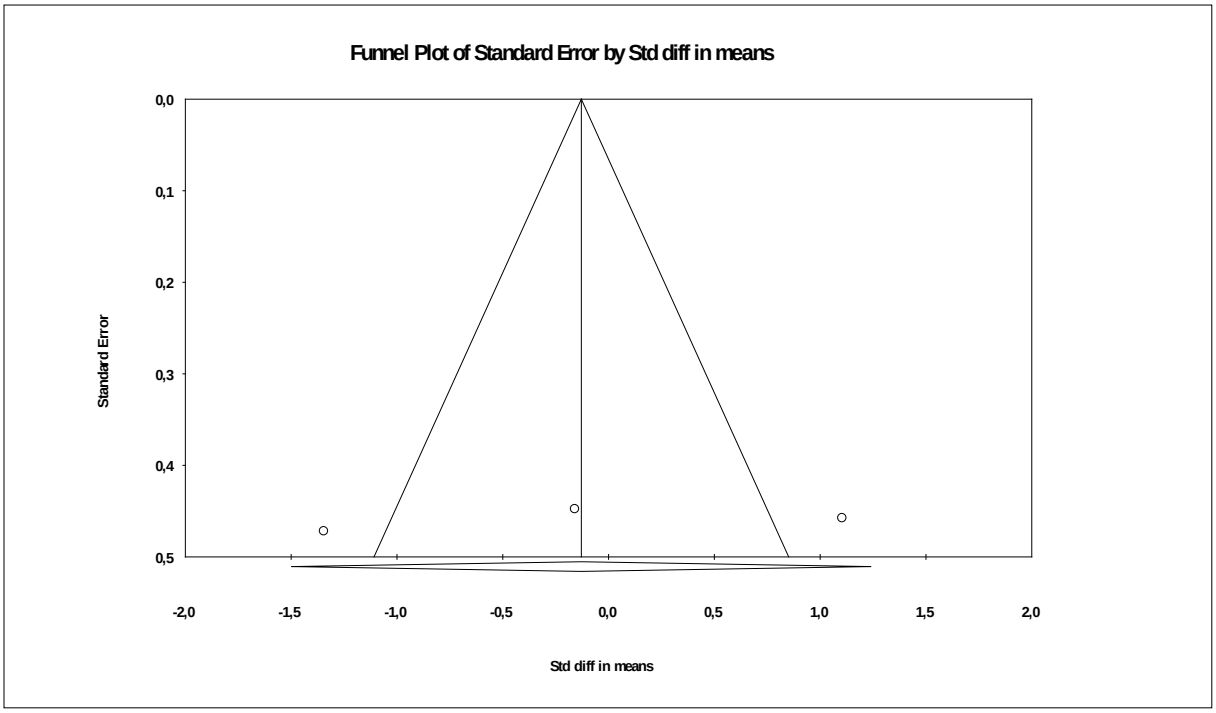
33- Sleep Efficiency Index – Eating Disorders



Classical fail-safe N:

Z-Value for observed studies:	-6,37817
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	4,00000
Number of missing studies that would bring p-value to > alpha	**39,00000**

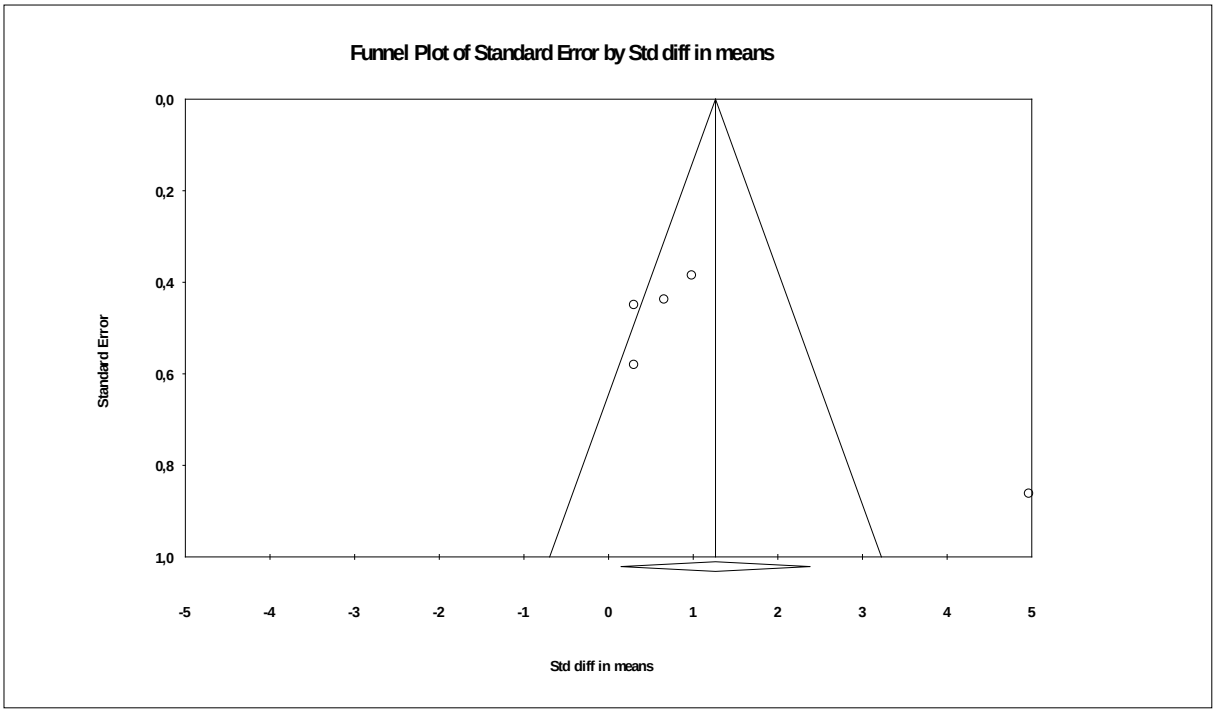
34- Sleep Onset Latency – Eating Disorders



Classical fail-safe N:

Z-Value for observed studies:	-0,45372
P-Value for observed studies:	0,65003
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	3,00000
Number of missing studies that would bring p-value to > alpha	**0,00000**

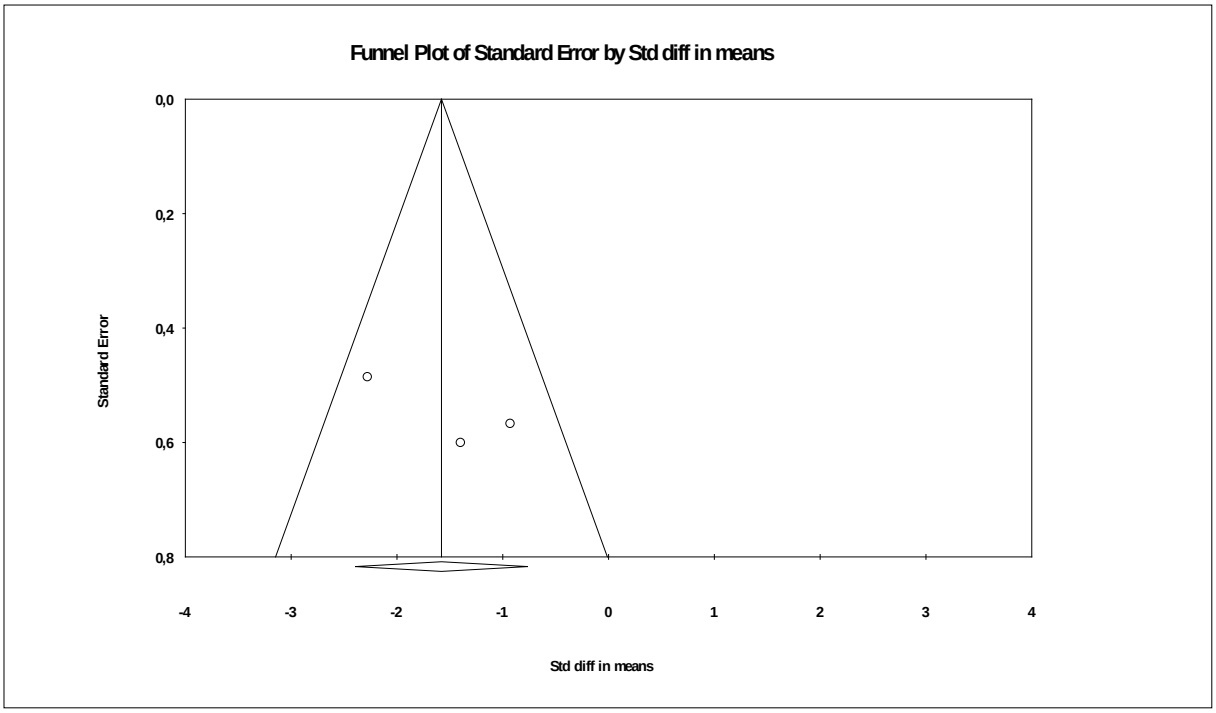
35- Duration of stage 1 sleep – Eating Disorders



Classical fail-safe N:

Z-Value for observed studies:	4,93109
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	5,00000
Number of missing studies that would bring p-value to > alpha	**27,00000**

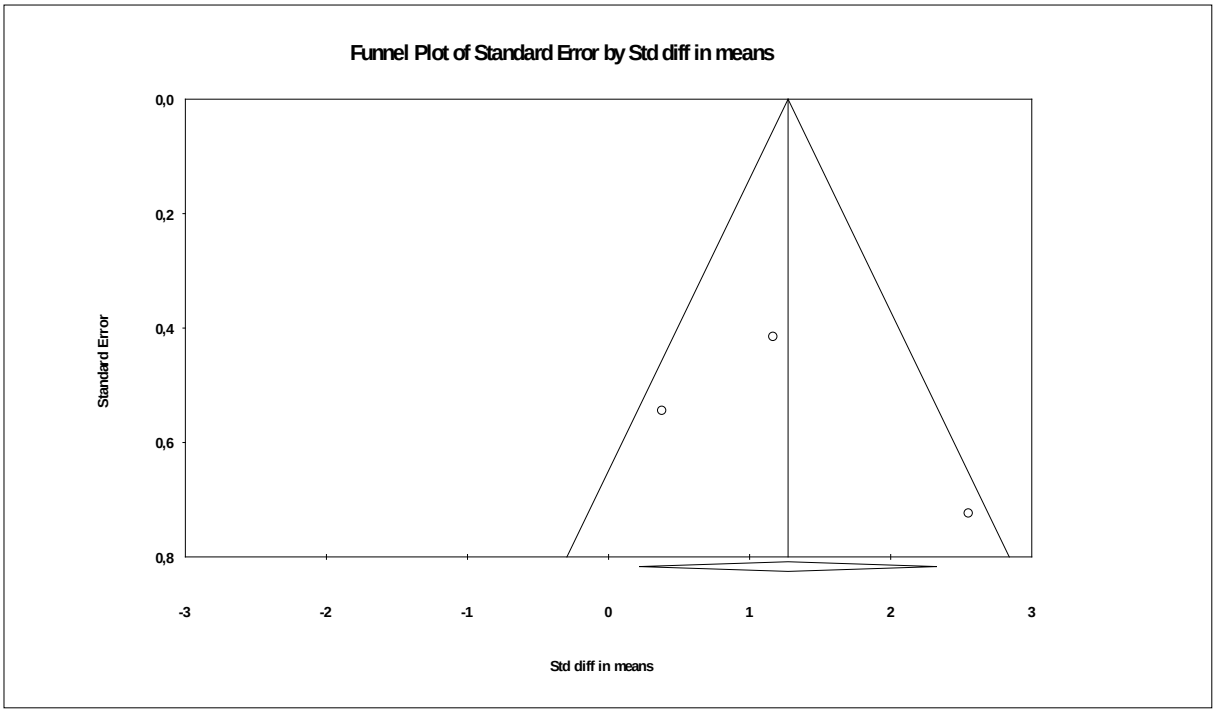
36- Sleep Efficiency Index – Asperger syndrome



Classical fail-safe N:

Z-Value for observed studies:	-4,98282
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	3,00000
Number of missing studies that would bring p-value to > alpha	**17,00000**

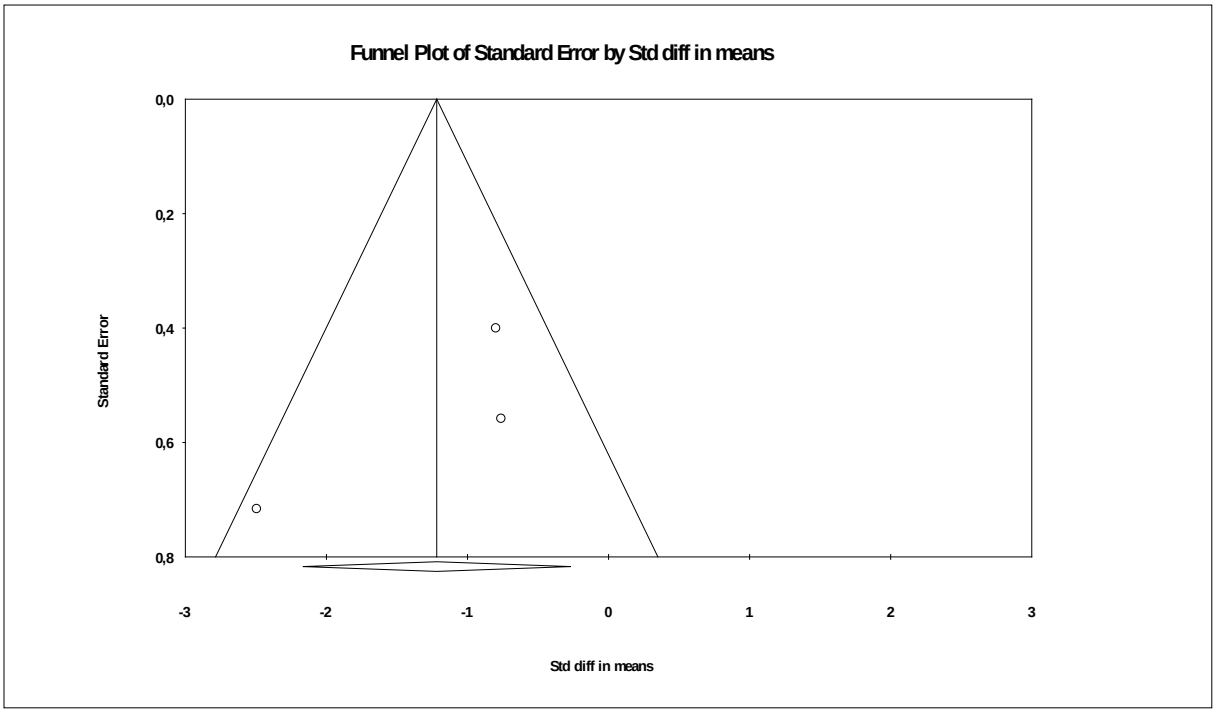
37- Sleep Onset Latency – Asperger syndrome



Classical fail-safe N:

Z-Value for observed studies:	4,06303
P-Value for observed studies:	0,00005
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	3,00000
Number of missing studies that would bring p-value to > alpha	**10,00000**

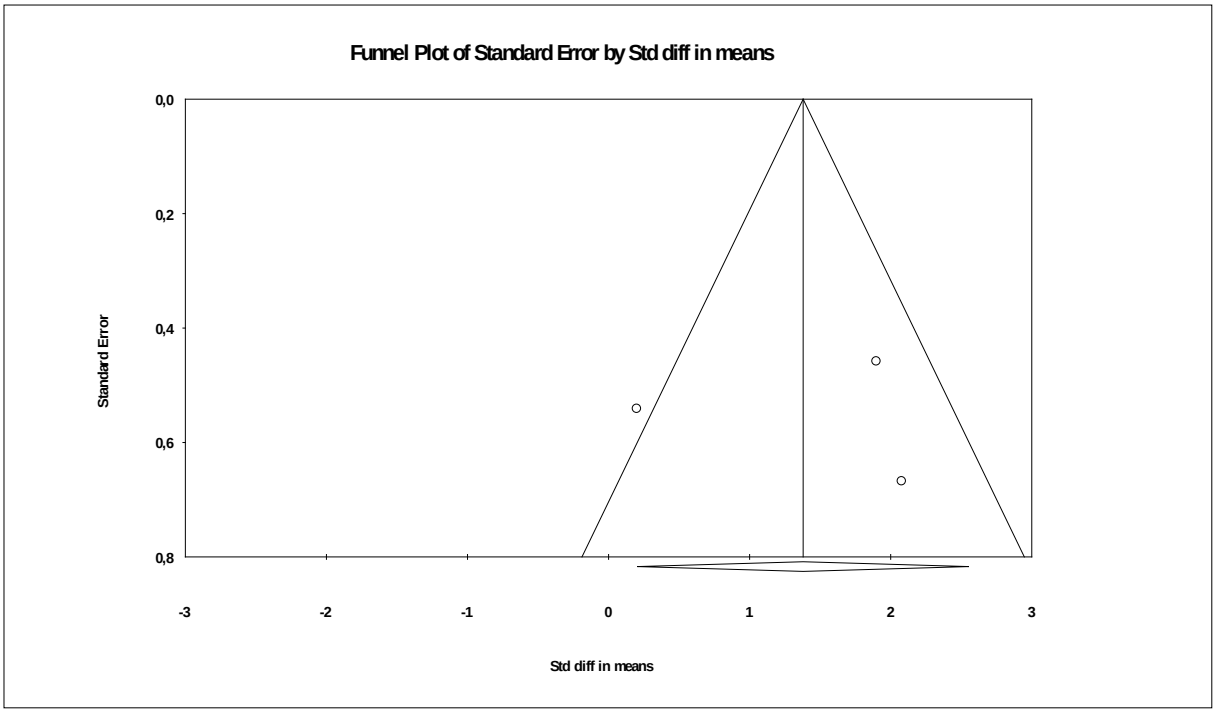
38- Total Sleep Time – Asperger syndrome



Classical fail-safe N:

Z-Value for observed studies:	-3,93954
P-Value for observed studies:	0,00008
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	3,00000
Number of missing studies that would bring p-value to > alpha	**10,00000**

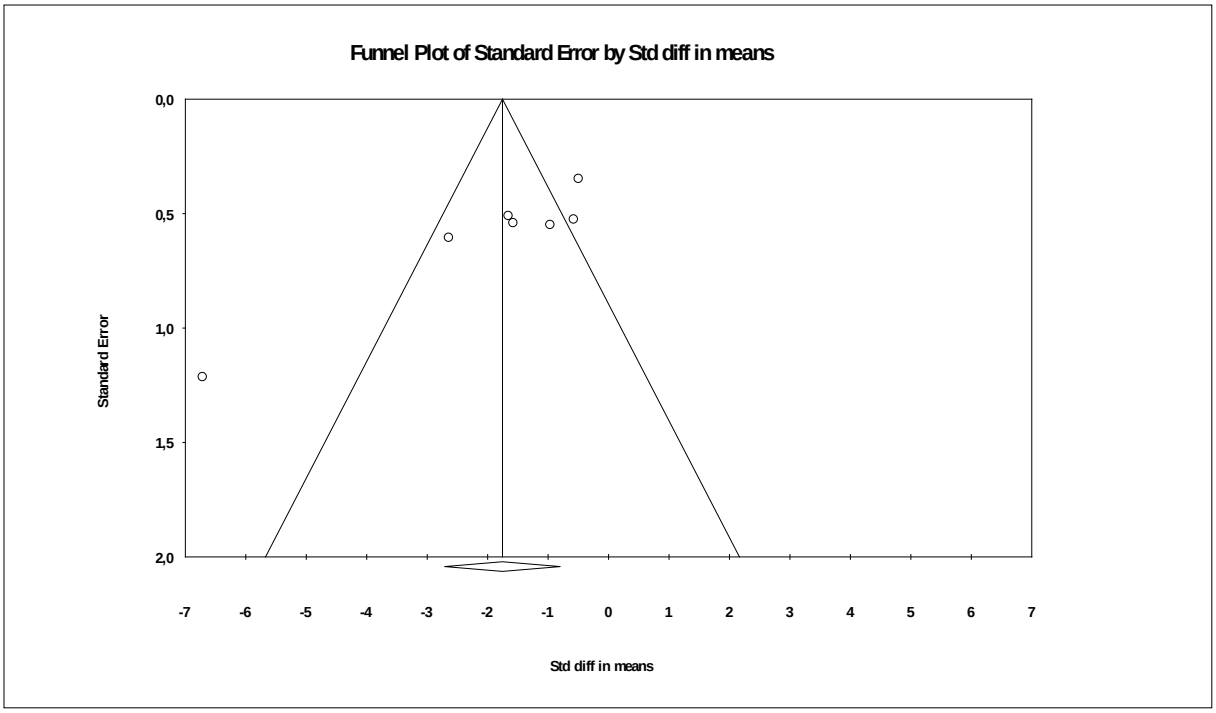
39- Duration of stage 1 sleep (%) – Asperger syndrome



Classical fail-safe N:

Z-Value for observed studies:	4,40620
P-Value for observed studies:	0,00001
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	3,00000
Number of missing studies that would bring p-value to > alpha	**13,00000**

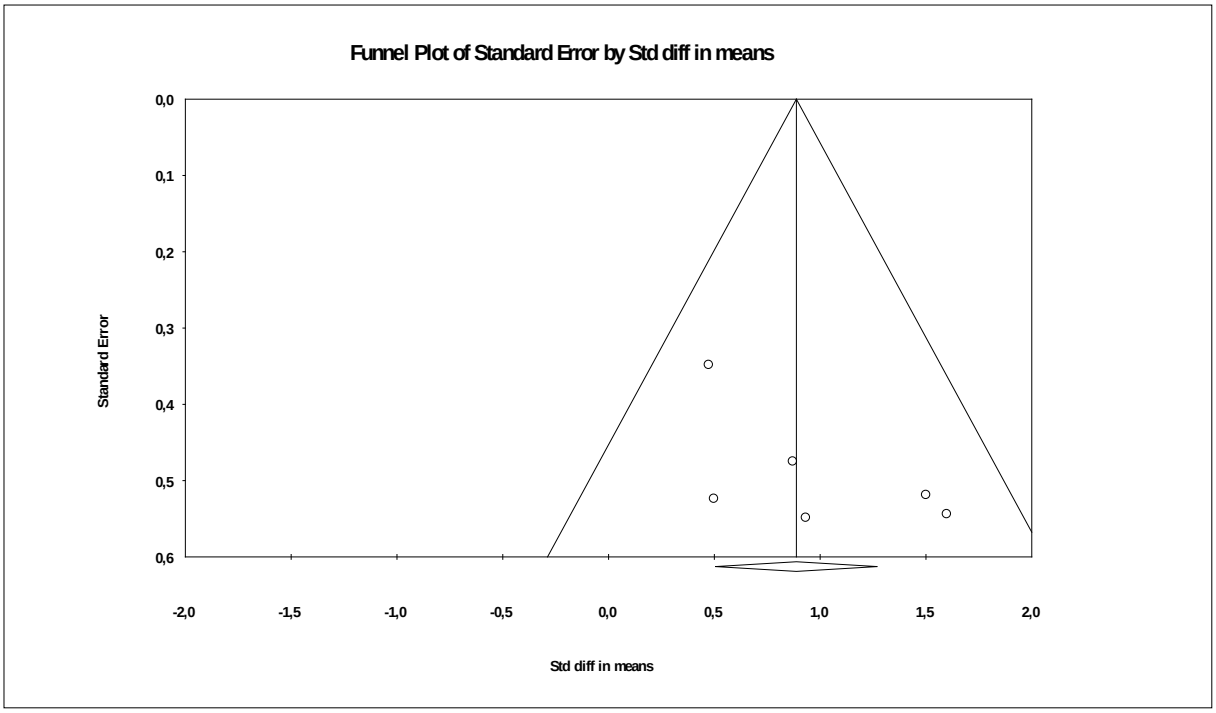
40- Sleep Efficiency Index – Autism



Classical fail-safe N:

Z-Value for observed studies:	-7,65764
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	7,00000
Number of missing studies that would bring p-value to > alpha	**100,00000**

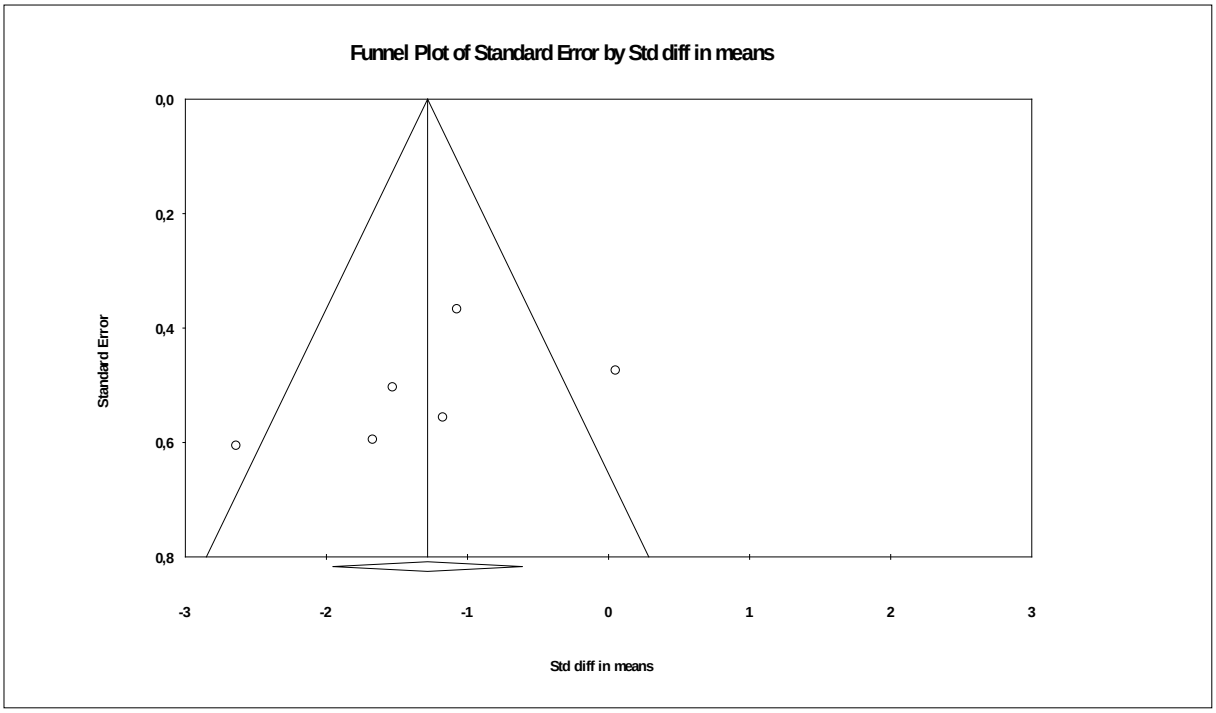
41- Sleep Onset Latency – Autism



Classical fail-safe N:

Z-Value for observed studies:	4,76911
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	6,00000
Number of missing studies that would bring p-value to > alpha	**30,00000**

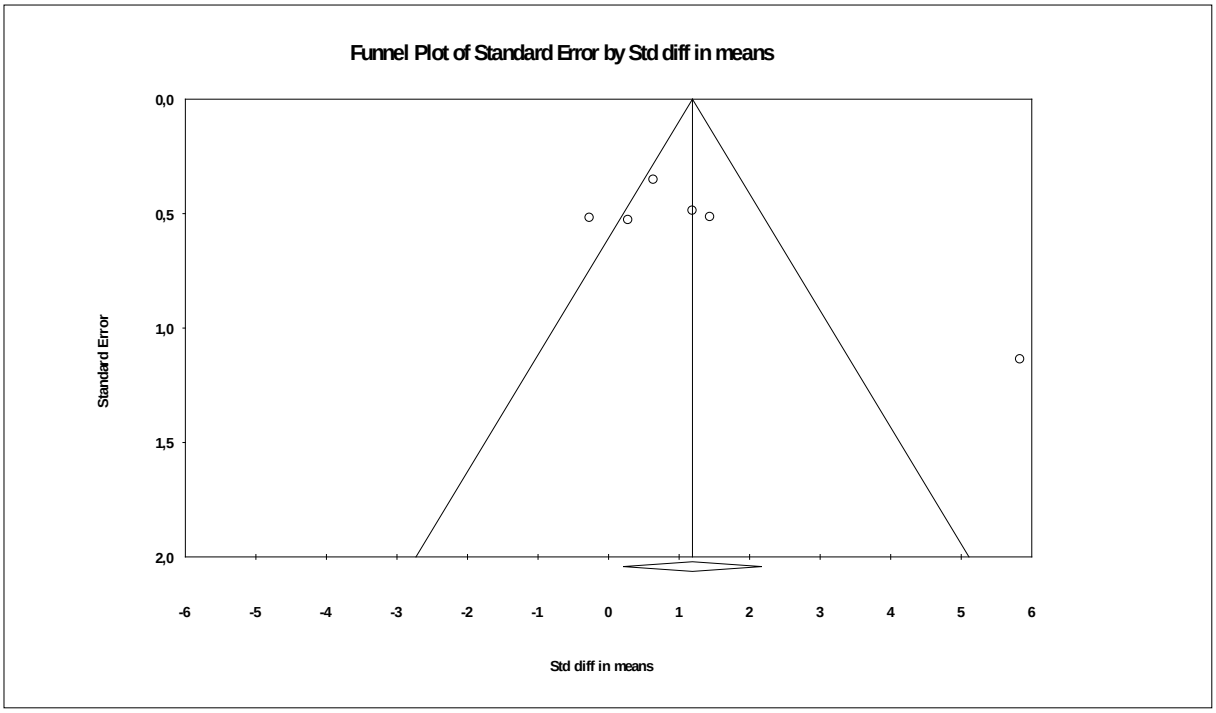
42- Total Sleep Time – Autism



Classical fail-safe N:

Z-Value for observed studies:	-6,16788
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	6,00000
Number of missing studies that would bring p-value to > alpha	**54,00000**

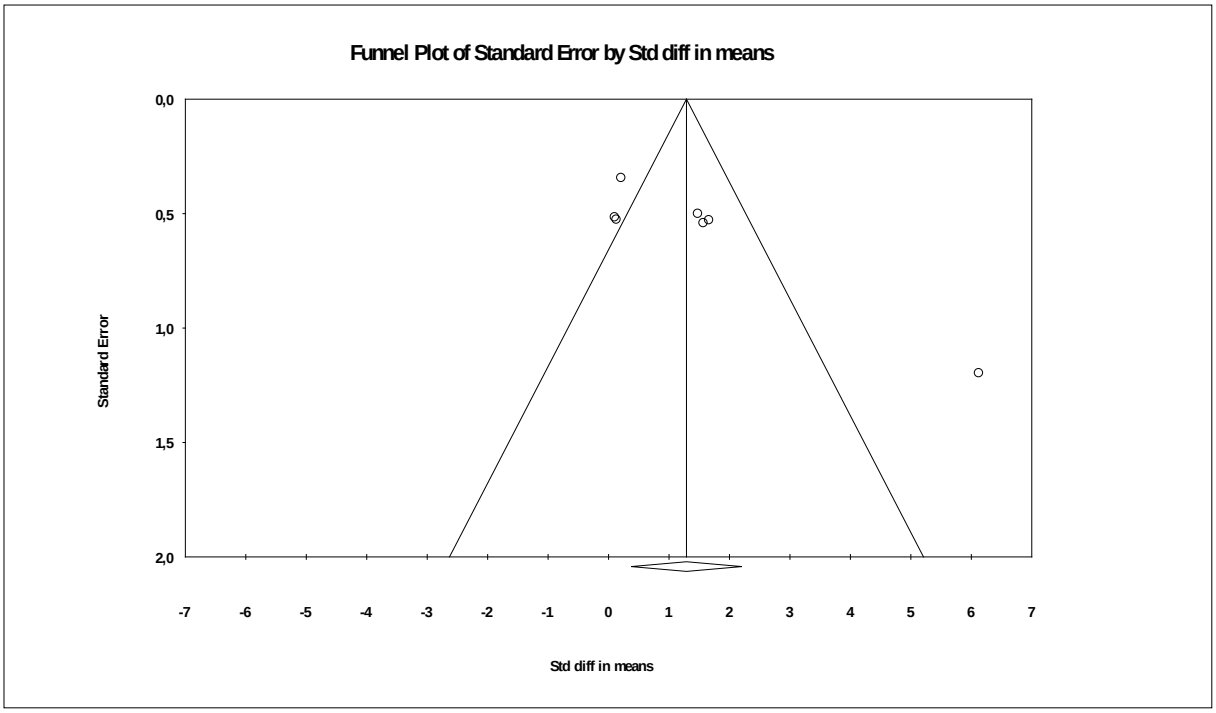
43- Number of awakenings – Autism



Classical fail-safe N:

Z-Value for observed studies:	4,98281
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	6,00000
Number of missing studies that would bring p-value to > alpha	**33,00000**

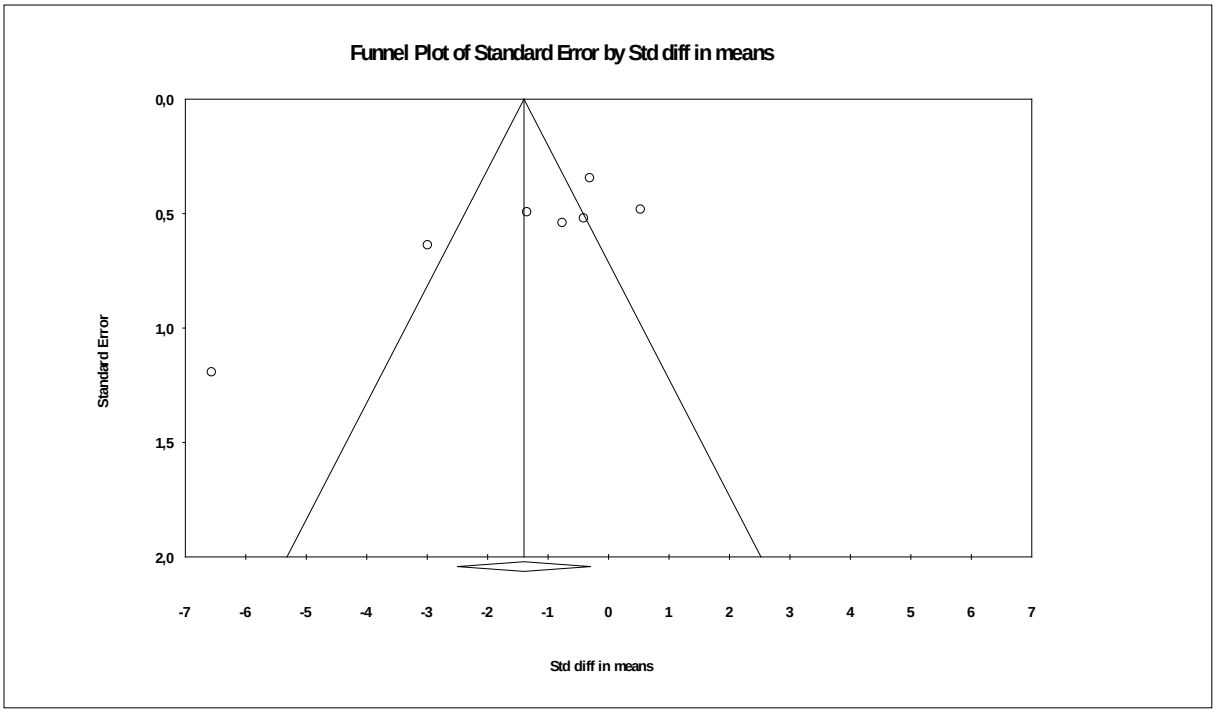
44- Total time awake during the night – Autism



Classical fail-safe N:

Z-Value for observed studies:	5,74342
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	7,00000
Number of missing studies that would bring p-value to > alpha	**54,00000**

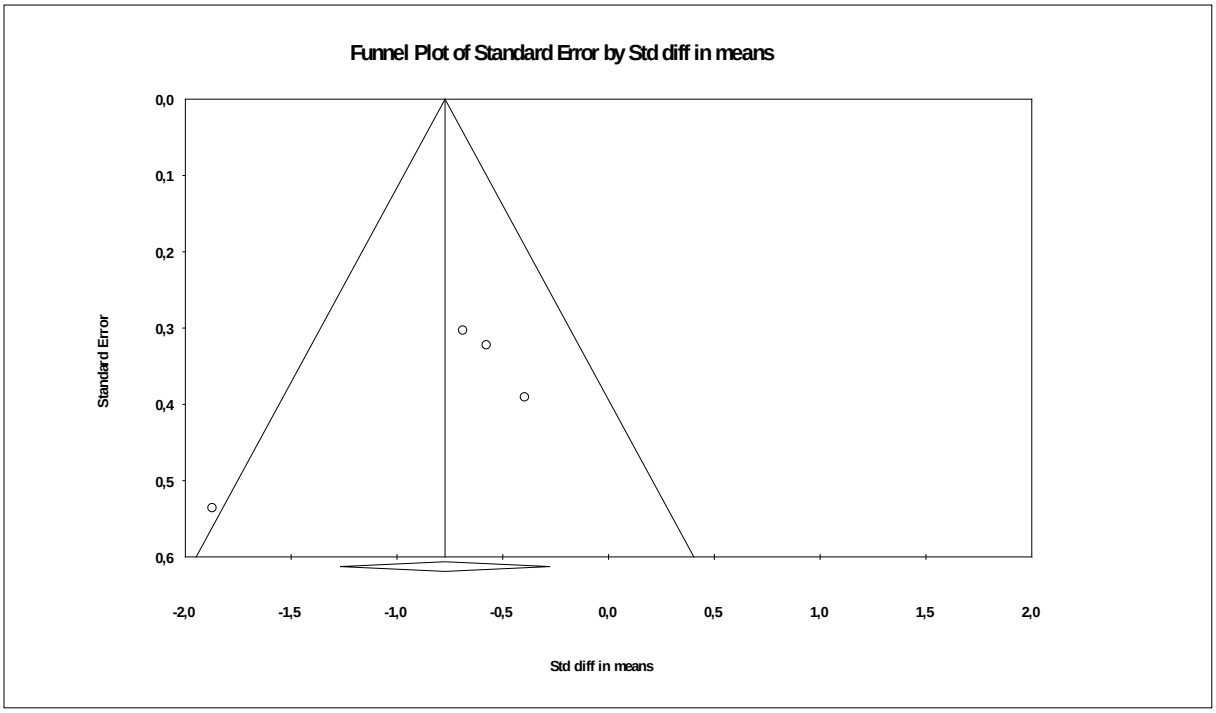
45- Duration of REM sleep– Autism



Classical fail-safe N:

Z-Value for observed studies:	-5,61092
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	7,00000
Number of missing studies that would bring p-value to > alpha	**51,00000**

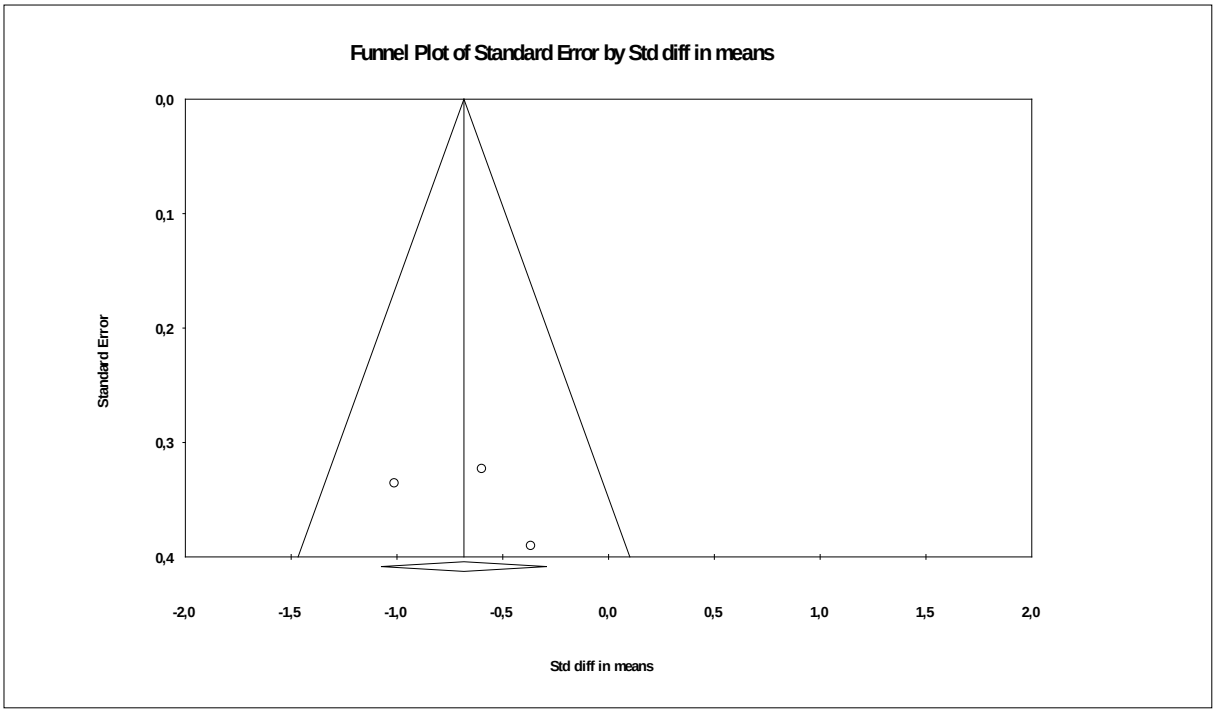
46- Sleep Efficiency Index – Borderline personality disorder



Classical fail-safe N:

Z-Value for observed studies:	-4,27226
P-Value for observed studies:	0,00002
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	4,00000
Number of missing studies that would bring p-value to > alpha	**16,00000**

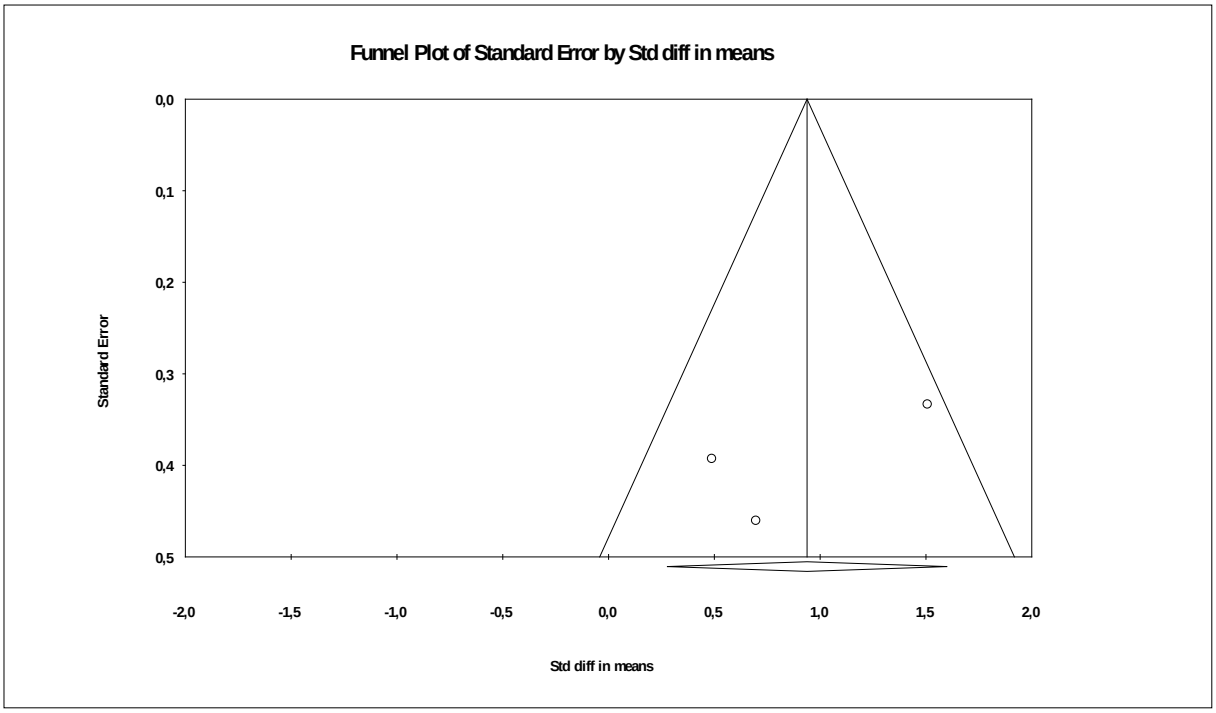
47- Total Sleep Time – Borderline personality disorder



Classical fail-safe N:

Z-Value for observed studies:	-3,34646
P-Value for observed studies:	0,00082
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	3,00000
Number of missing studies that would bring p-value to > alpha	**6,00000**

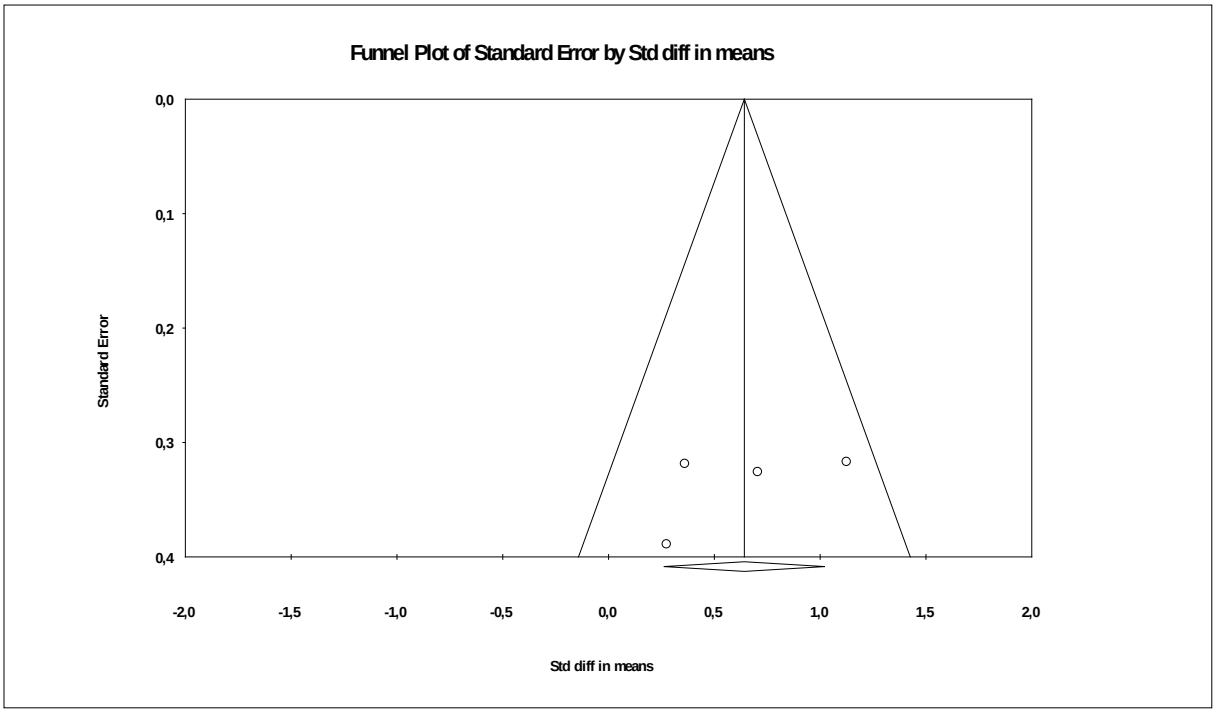
48- Number of Awakenings – Borderline personality disorder



Classical fail-safe N:

Z-Value for observed studies:	4,20646
P-Value for observed studies:	0,00003
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	3,00000
Number of missing studies that would bring p-value to > alpha	**11,00000**

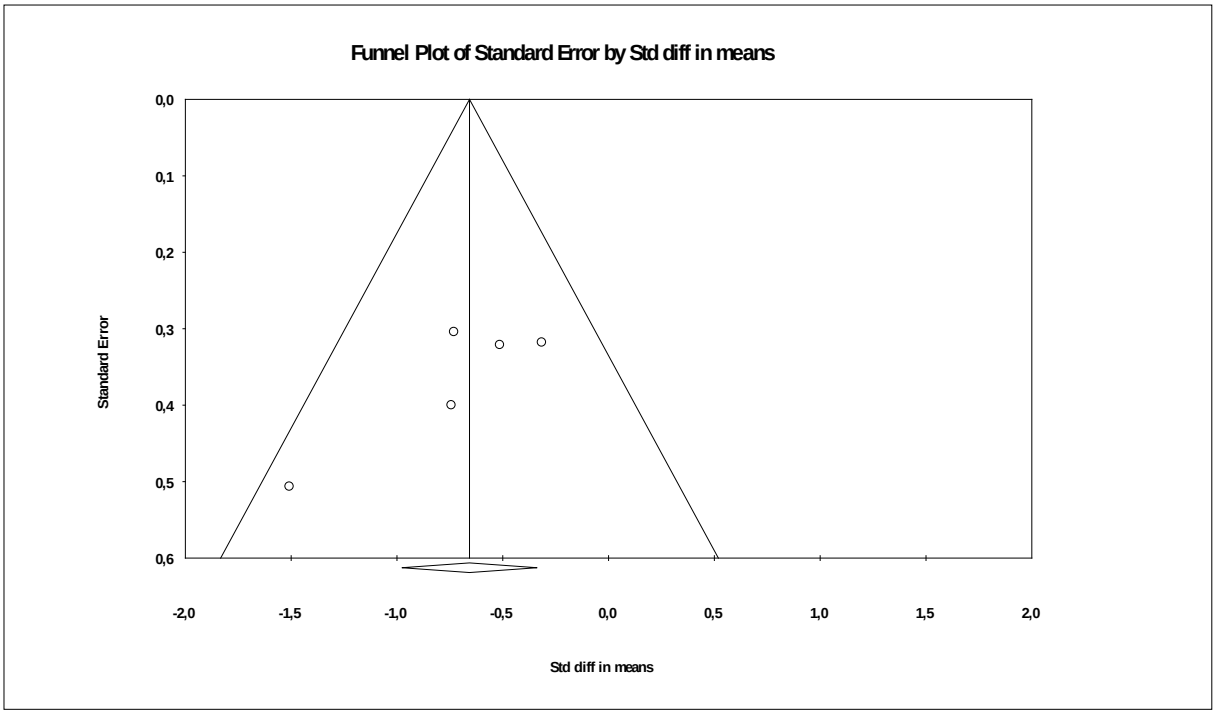
49- Total time awake during the night – Borderline personality disorder



Classical fail-safe N:

Z-Value for observed studies:	3,78027
P-Value for observed studies:	0,00016
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	4,00000
Number of missing studies that would bring p-value to > alpha	**11,00000**

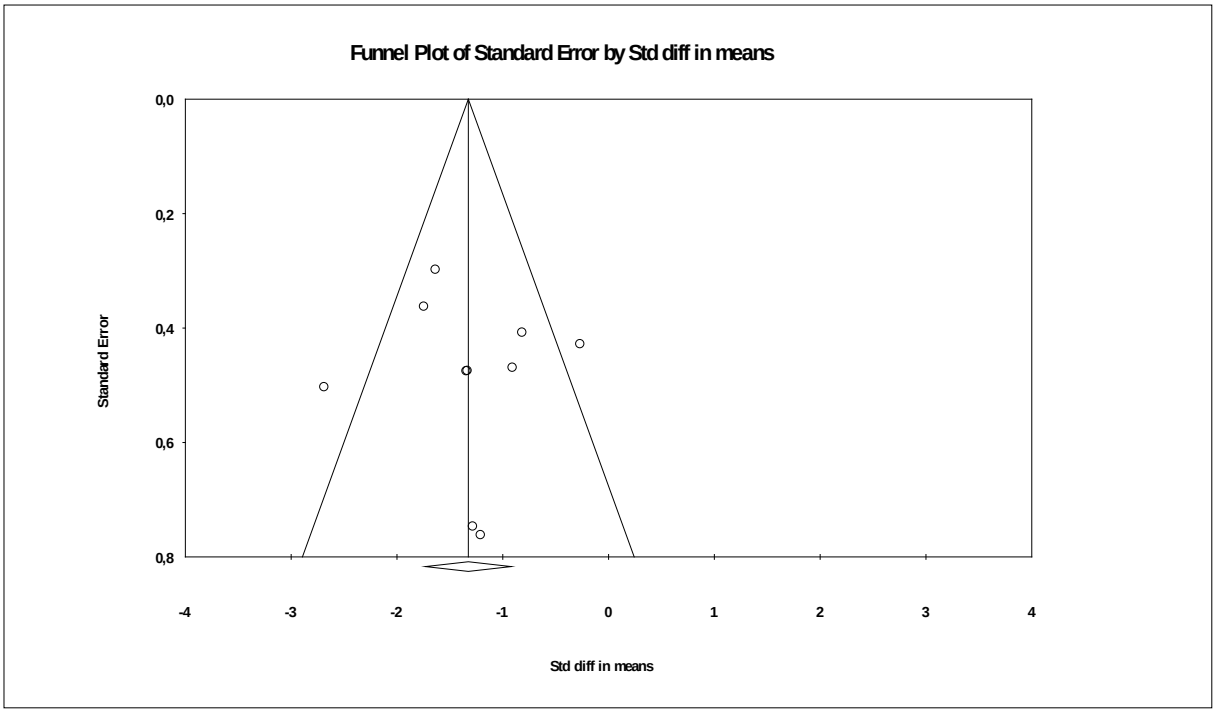
50- REM Latency – Borderline personality disorder



Classical fail-safe N:

Z-Value for observed studies:	-4,38508
P-Value for observed studies:	0,00001
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	5,00000
Number of missing studies that would bring p-value to > alpha	**21,00000**

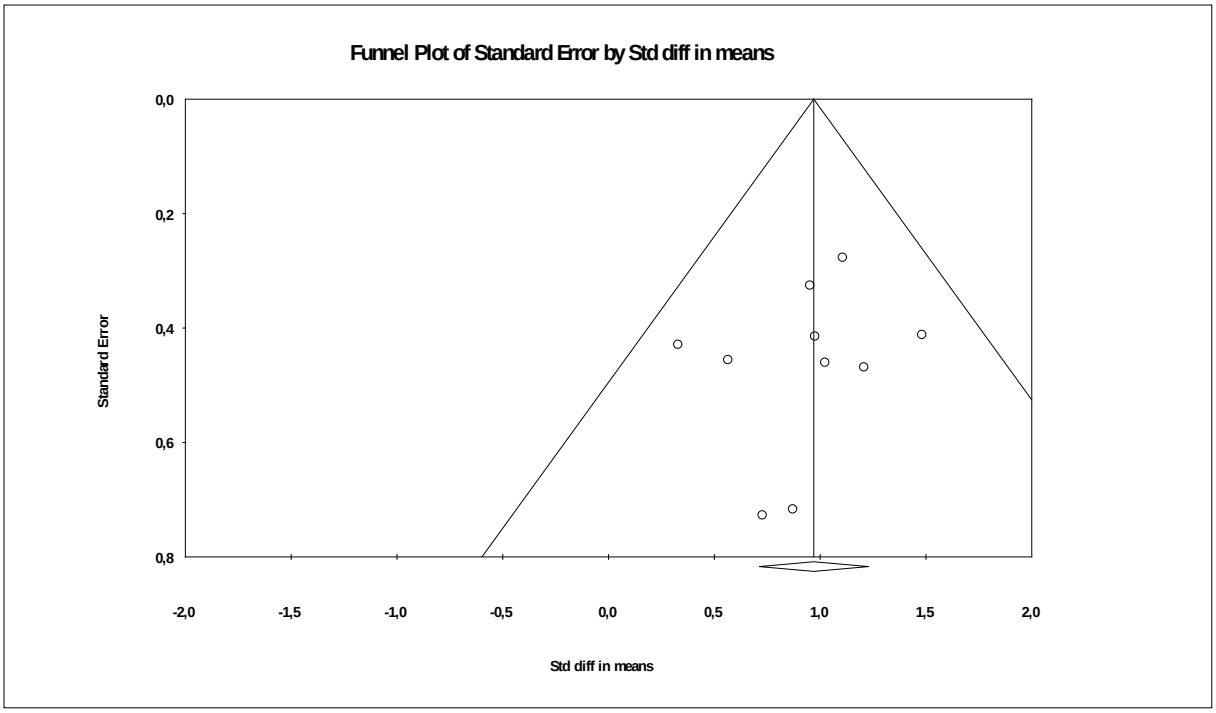
51- Sleep Efficiency Index – Schizophrenia



Classical fail-safe N:

Z-Value for observed studies:	-9,19632
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	10,00000
Number of missing studies that would bring p-value to > alpha	**211,00000**

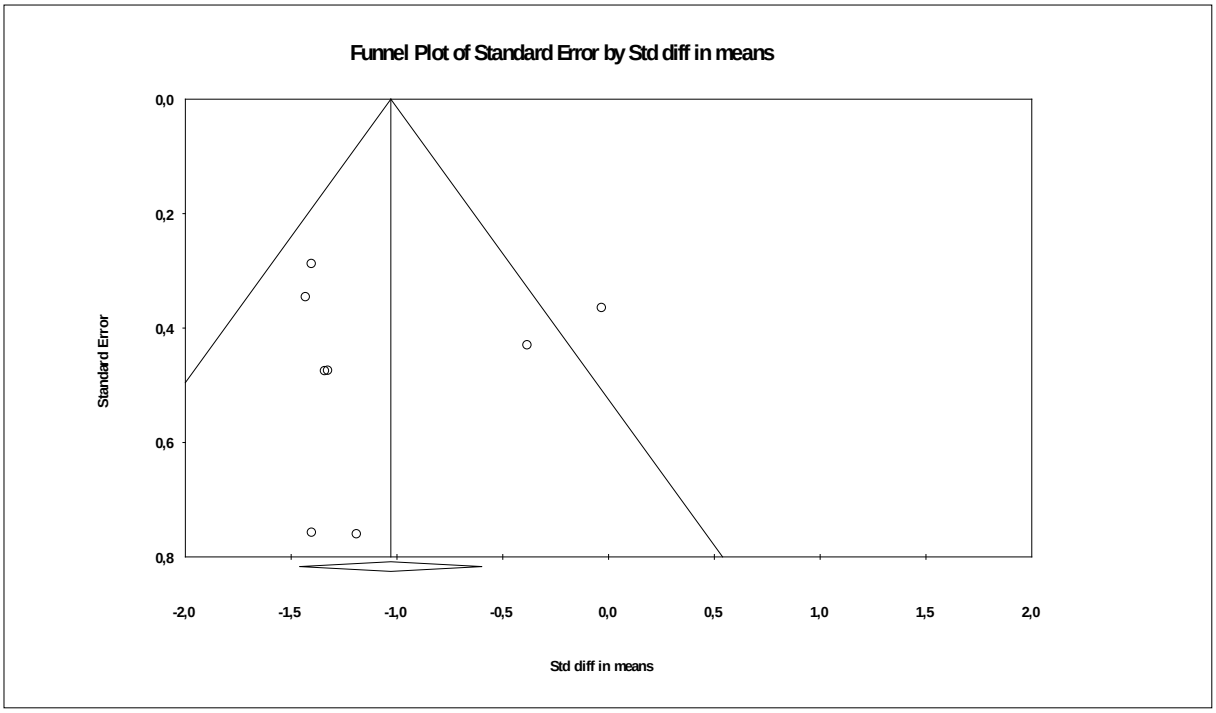
52- Sleep Onset Latency – Schizophrenia



Classical fail-safe N:

Z-Value for observed studies:	6,92624
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	10,00000
Number of missing studies that would bring p-value to > alpha	**115,00000**

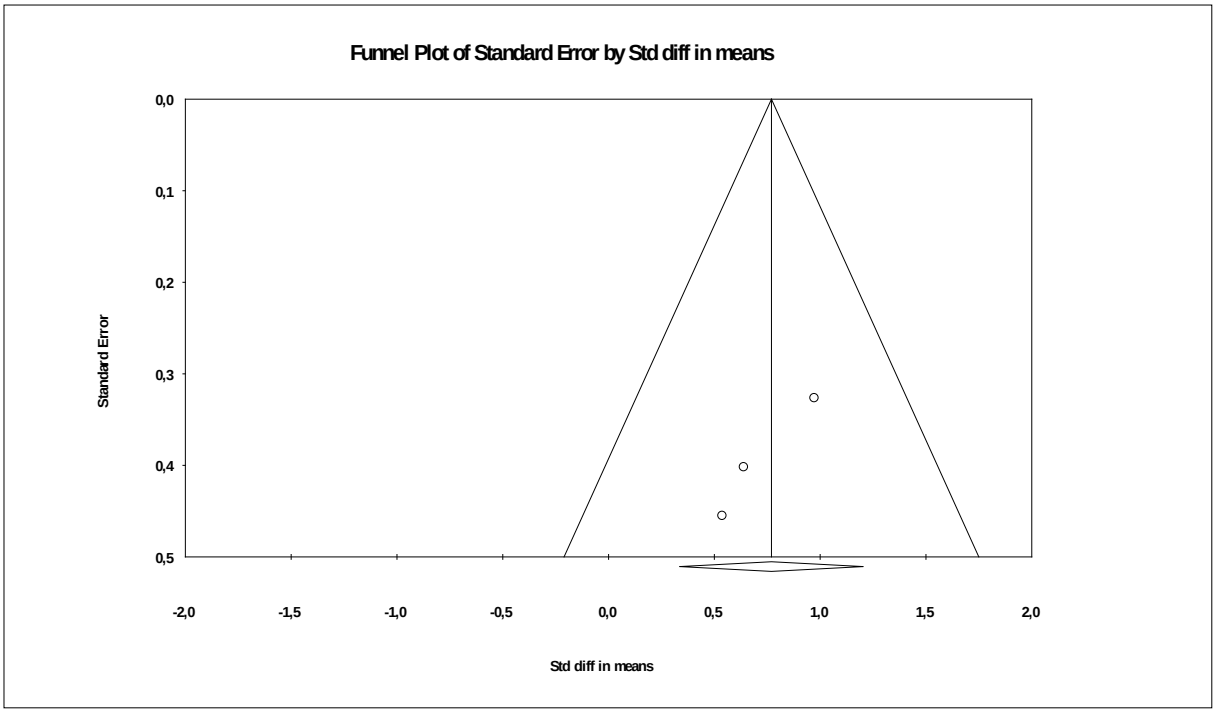
53- Total Sleep Time – Schizophrenia



Classical fail-safe N:

Z-Value for observed studies:	-6,71470
P-Value for observed studies:	0,00000
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	8,00000
Number of missing studies that would bring p-value to > alpha	**86,00000**

54- Total time awake during the night – Schizophrenia



Classical fail-safe N:

Z-Value for observed studies:	3,32368
P-Value for observed studies:	0,00089
Alpha	0,05000
Tails	2,00000
Z for alpha	1,95996
Number of observed studies	3,00000
Number of missing studies that would bring p-value to > alpha	**6,00000**