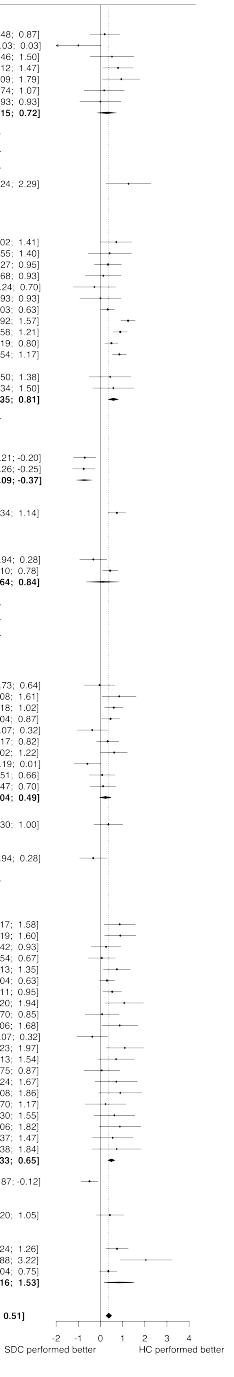
EXECUTIVE FUNCTIONING

Study	Std. Mean Difference IV, Random, 95% CI
Inhibitory control	
Sleep-related breathing disorders	
Beebe 2004 (PS)	0.19 [-0.48; 0.87]
Kheirandish-Gozal 2014 (OSA)	-1.00 [-2.03; 0.03]
Kheirandish-Gozal 2014 (OSA)	0.52 [-0.46; 1.50]
Hannon 2012 (OSA and obesity)	0.79 [0.12; 1.47]
Beebe 2004 (Mild OSA)	0.94 [0.09; 1.79]
Yuan 2012 (MS OSA)	0.17 [-0.74; 1.07]
Beebe 2004 (MS OSA)	0.00 [-0.93; 0.93]
	0.28 [-0.15; 0.72]
Insomnia disorders	-
Central disorders of hypersomnolence	-
Sleep-related neurological disorders	-
Baglietto 2001 (Epilepsy)	1.26 [0.24; 2.29]
Cognitive flexibility	
Sleep-related breathing disorders	
Beebe 2004 (PS)	0.71 [0.02; 1.41]
Shetty 2023 (PS)	0.42 [-0.55; 1.40]
Hagström 2020 (PS)	0.34 [-0.27; 0.95]
Beebe 2004 (Mild OSA)	0.13 [-0.88; 0.93]
Shetty 2023 (Mild OSA)	-0.27 [-1.24; 0.70]
Beebe 2004 (MS OSA)	0.00 [-0.93; 0.93]
Esposito (MS OSA)	0.33 [0.03; 0.63]
Esposito (MS OSA)	1.25 [0.92; 1.57]
Esposito (MS OSA)	0.89 [0.58; 1.21]
Esposito (MS OSA)	0.50 [0.19; 0.80]
Esposito (MS OSA)	0.85 [0.54; 1.17]
Esposito (MS OSA)	
Shetty 2023 (MS OSA)	0.44 [-0.50; 1.38]
Yuan 2012 (MS OSA)	0.58 [-0.34; 1.50]
	0.58 [0.35; 0.81]
Insomnia disorders	-
Central disorders of hypersomnolence	
Huang 2016 (Narcolepsy)	-0.71 [-1.21; -0.20]
Huang 2016 (Narcolepsy)	-0.75 [-1.26; -0.25]
	-0.73 [-1.09; -0.37]
Sleep-related neurological disorders	
Saywer 2009 (ADHD and sleep problems)	0.74 [0.34; 1.14]
Planning	
Sleep-related breathing disorders	
Hagström 2020 (PS)	-0.33 [-0.94; 0.28]
Gottlieb 2004 (SBD)	0.44 [0.10; 0.78]
Total (95% CI)	**0.10 [-0.64; 0.84]**
Insomnia disorders	-
Central disorders of hypersomnolence	-
Sleep-related neurological disorders	-
Cognitive flexibility	
Sleep-related breathing disorders	
Blunden 2005 (PS)	-0.04 [-0.73; 0.64]
Blunden 2005 (PS and BSP)	0.84 [0.08; 1.61]
Kohler 2009 (SBD)	0.60 [0.18; 1.02]
Kohler 2009 (SBD)	0.46 [0.04; 0.87]
Brockmann 2018 (Mild OSA)	-0.37 [-1.07; 0.32]
Giordani 2008 (OSA)	0.32 [-0.17; 0.82]
Lau 2015 (OSA)	0.62 [0.02; 1.22]
Lau 2015 (OSA)	-0.59 [-1.19; 0.01]
Lau 2015 (OSA)	0.08 [-0.51; 0.66]
Lau 2015 (OSA)	0.12 [-0.47; 0.70]
	0.22 [-0.04; 0.49]
Insomnia disorders	
Blunden 2005 (BSP)	0.35 [-0.30; 1.00]
Central disorders of hypersomnolence	
Gagnon 2023 (Narcolepsy)	-0.33 [-0.94; 0.28]
Sleep-related neurological disorders	-
Processing speed and fluency	
Sleep-related breathing disorders	
Beebe 2004 (PS)	0.87 [0.17; 1.58]
Beebe 2004 (PS)	0.89 [0.19; 1.60]
Beebe 2004 (PS)	0.25 [-0.42; 0.93]
Hagström 2020 (PS)	0.06 [-0.54; 0.67]
Hill 2006 (SBD)	0.74 [0.13; 1.35]
Gottlieb 2004 (SBD)	0.30 [-0.04; 0.63]
Vitelli 2015 (SDB)	0.53 [0.11; 0.95]
Hogan 2008 (SDB)	1.07 [0.20; 1.94]
Halbower 2006 (SDB)	0.07 [-0.70; 0.85]
Halbower 2006 (SDB)	0.87 [0.06; 1.68]
Brockmann 2018 (Mild OSA)	-0.37 [-1.07; 0.32]
Beebe 2004 (Mild OSA)	1.10 [0.23; 1.97]
Beebe 2004 (Mild OSA)	0.70 [-0.13; 1.54]
Beebe 2004 (Mild OSA)	0.06 [-0.75; 0.87]
Beebe 2004 (MS OSA)	0.71 [-0.24; 1.67]
Beebe 2004 (MS OSA)	0.89 [-0.08; 1.86]
Beebe 2004 (MS OSA)	0.23 [-0.70; 1.17]
Yuan 2012 (MS OSA)	0.62 [-0.30; 1.55]
Yuan 2012 (MS OSA)	0.88 [-0.06; 1.82]
Yuan 2012 (MS OSA)	0.55 [-0.37; 1.47]
Lewin 2002 (Severe OSA)	0.73 [-0.38; 1.84]
	0.49 [0.33; 0.65]
Insomnia disorders	
Sawyer 2009 - sleep problems	-0.49 [-0.87; -0.12]
Central disorders of hypersomnolence	
Gagnon 2023 (Narcolepsy)	0.43 [-0.20; 1.05]
Sleep-related neurological disorders	
Holley 2014 (Epilepsy)	0.75 [0.24; 1.26]
Baglietto 2001 (Epilepsy)	2.05 [0.88; 3.22]
Sawyer 2009 (ADHD and sleep problems)	0.35 [-0.04; 0.75]
	0.84 [0.16; 1.53]
Total (95% CI)	**0.38 [0.25; 0.51]**

Heterogeneity: $Tau^2 = 0.2$; $Chi^2 = 188.97$, df = 63 ($P < 0.001$); $I^2 = 67\%$

Test for subgroup differences: $Chi^2 = 75.43$, df = 12 ($P < 0.001$)