

# 2012 PUBLICATIONS

*All peer-reviewed publications listed are submitted by BMI core members.*

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1. **Ansari, D.**, De Smedt, B. & Grabner, R.H. (2012). "Neuroeducation" – a critical overview of an emerging field. *Neuroethics*, 5, 105-117.
2. Vogel, S.E. & **Ansari, D.** (2012). Neurokognitive Grundlagen der typischen und atypischen Zahlenverarbeitung (Neurocognitive foundations of typical and atypical number processing). *Lernen und Lernstörungen (Learning and Learning Disorders)*, 1, 135-149.
3. Karmiloff-Smith, A., D'Souza, D., Dekker, T.M., Van Herwegen, J., Xu, F., Rodic, M. & **Ansari, D.** (2012). Genetic and environmental vulnerabilities in children with neurodevelopmental disorders. *Proceedings of the National Academy of Sciences (USA)*, 16, 17261-17265.
4. Lyons, I.M., **Ansari, D.** & Beilock, S.L. (2012). Symbolic estrangement: Evidence against a strong association between numerical symbols and the quantities they represent. *Journal of Experimental Psychology: General*, 141, 635-641.
5. Bugden, S., Price, G.R., McLean, A. & **Ansari, D.** (2012). The role of the left intraparietal sulcus in the relationship between symbolic number processing and children's arithmetic competence. *Developmental Cognitive Neuroscience*, 2, 448-457.
6. Price, G.R., Palmer, D., Battista, C. & **Ansari, D.** (2012). Nonsymbolic numerical magnitude comparison: Reliability and validity of different task variants and outcome measures, and their relationship to arithmetic achievement in adults. *Acta Psychologica*, 17, 50-57.
7. **Ansari, D.** (2012). Culture and education: New frontiers in brain plasticity. *Trends in Cognitive Sciences*, 16, 93-95.
8. Zebian, S. & **Ansari, D.** (2012). Differences between literates and illiterates on symbolic but not non-symbolic numerical magnitude processing. *Psychonomic Bulletin and Review*, 19, 93-100.
9. Coch, D. & **Ansari, D.** (2012). Constructing connection: The evolving field of mind, brain and education. S. Della Sala & M. Anderson (Eds.) *Neuroscience in Education: The Good, the Bad and the Ugly*. Oxford: Oxford University Press, 33-47.
10. Price, G.R. & **Ansari, D.** (2012). Developmental dyscalculia: A case for neuroscience in education. *British Journal of Educational Psychology Monograph: "Educational Neuroscience"*. The British Psychological Society, Leicester, UK, 45-63.
11. **Ansari, D.**, De Smedt, B. & Grabner, R.H. (2012). Introduction to the Special Section on "Numerical and mathematical processing". *Mind, Brain and Education*, 6, 147-155.
12. Van Opstal, F. Santens, S. & **Ansari, D.** (2012). The Numerate Brain: Recent findings and theoretical reviews on the neurocognitive foundations of number processing (editorial for special issue). *Frontiers of Human Neuroscience*, 6: 201.

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13. Ansari, D. (2012). Why the 'symbol grounding problem' for number symbols is still problematic. Commentary on Coolidge, F.L & Overmann, K.A. Numerosity, Abstractions and the Emergence of Symbolic Thinking. *Current Anthropology*, 53, 204-225.
14. Matejko, A. & Ansari, D. (2012). Developmental Cognitive Neuroscience and Learning. In N.M. Seel (Ed.) *Encyclopedia of the Sciences of Learning*. Springer, 1949-1950.
15. Holloway, I.D. & Ansari, D. (2012). Learning Numerical Symbols. In N.M. Seel (Ed.) *Encyclopedia of the Sciences of Learning*. Springer, 961-963.
16. Celle, S., Annweiler, C., Pichot, V., Bartha, R., Barthélémy, J.C., Roche, F. & Beauchet, O. (2012). Association between ambulatory 24-hour blood pressure levels and brain volume reduction: a cross-sectional elderly population-based study. *Hypertension*, 60, 1324-31.
17. Annweiler, C., Beauchet, O., Celle, S., Roche, F., Annweiler, T., Allali, G., Bartha, R., Montero-Odasso, M. & WALK Team (Working group Angers-London for Knowledge). (2012). Contribution of brain imaging to the understanding of gait disorders in Alzheimer's disease: a systematic review. *American Journal of Alzheimer's Disease & Other Dementias*, 27, 371-380.
18. Suchý, M., Li, A.X., Milne, M., Bartha, R. & Hudson, R.H. (2012). DOTAM-type ligands possessing arginine pendant groups for use in PARACEST MRI. *Contrast Media and Molecular Imaging*, 7, 441-449.
19. Annweiler, C., Montero-Odasso, M., Bartha, R. & Beauchet, O. (2012). Comment on: Nutrient biomarker patterns, cognitive function, and MRI measures of brain aging. *Neurology*, 78, 1281; author reply 1281-1282. PMID 22508852
20. Khan, A.F., Drozd, J.J., Moreland, R.K., Ta, R.M., Borrie, M.J. & Bartha, R. (2012). Alzheimer's Disease Neuroimaging Initiative. A novel MRI-compatible brain ventricle phantom for validation of segmentation and volumetry methods. *Journal of Magnetic Resonance Imaging*, 36, 476-482
21. Kowalczyk, I., Duggal, N. & Bartha, R. (2012). Proton magnetic resonance spectroscopy of the motor cortex in cervical myelopathy. *Brain*, 135, 461-8.
22. Milne, M., Chicas, K., Li, A., Bartha, R. & Hudson, R.H. (2012). ParaCEST MRI contrast agents capable of derivatization via "click" chemistry. *Organic and Biomolecular Chemistry*, 10, 287-292.
23. Feldman, R.E., Odegaard, J., Handler, W.B. & Chronik, B.A. (2012). Simulation of Head-Gradient-Coil Induced Electric Fields in a Human Model. *Magnetic Resonance in Medicine*, 68, 1973-82.
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25. Cepek, J., Chronik, B.A., Lindner, U., Trachtenberg, J. & Fenster, A. (2012). Development of an MRI-compatible device for prostate focal therapy. *Lecture Notes in Computer Science*, 7510, 455-462.

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26. Harris, C.T., Handler, W.B. & **Chronik, B.A.** (2012). Design study to investigate the effect of curvature on gradient coil performance for localized regions of interest. *Concepts in Magnetic Resonance Part B: Magnetic Resonance Engineering*, 41B, 62-71.
27. German, T. C. & **Cohen, A.S.** (2012). A cue-based approach to ‘theory of mind’: Re-examining the notion of automaticity. *British Journal of Developmental Psychology*, 30, 45-58.
28. Farshadmanesh, F., Byrne, P., Yan, X., Wang, H., **Corneil, B.D.** & Crawford, J.D. (2012). Relationships between neck muscle electromyography and three dimensional head kinematics during centrally-induced torsional head movements. *Journal of Neurophysiology*, 108, 2867-2883.
29. Goonetilleke, S.C., Wong, J.P. & **Corneil, B.D.** (2012). Validation of a within-trial measure of the oculomotor stop process. *Journal of Neurophysiology*, 108, 760-770.
30. Buchholz, V.N., Goonetilleke, S.C., Medendorp, W.P. & **Corneil, B.D.** (2012). Greater benefits of multisensory integration during complex sensorimotor transformations. *Journal of Neurophysiology*, 107, 3135-3143.
31. **Corneil, B.D.**, Goonetillek, S.C., Peel, T.R., Green, K.A. & Welch, I. (2012). Ultrasound-guided insertion of intramuscular electrodes into suboccipital muscles in the non-human primate. *Journal of Electromyography and Kinesiology*, 22, 553-559.
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33. Farshadmanesh, F., Byrne, P., Keith, G.P., Wang, H., **Corneil, B.D.** & Crawford, J.D. (2012). Cross-validated models of the relationships between neck muscle electromyography and three-dimensional head kinematics during gaze behaviour. *Journal of Neurophysiology*, 107, 573-590.
34. Hutchison, R.M., Gallivan, J.P., **Culham, J.C.**, Gati, J.S., **Menon, R.S.** & **Everling, S.** (2012). Functional connectivity of the frontal eye fields in humans and macaque monkeys investigated with resting-state fMRI. *Journal of Neurophysiology*, 107, 2463-2474.
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36. Naci, L., Taylor, K.I., **Cusack, R.** & Tyler, L.K. (2012). Are the senses enough for sense? Early high-level feedback shapes our comprehension of multisensory objects. *Frontiers in Integrative Neuroscience*, 6, 10.3389/fnint.2012.00082.
37. Peelle, J.E., **Cusack, R.** & Henson, R.N.A. (2012). Adjusting for global effects in voxel-based morphometry: Gray matter decline in normal aging. *Neuroimage*, 60, 1503-16.
38. **Cusack, R.**, Veldsman, R., Naci, L., Mitchell, D.J. & Linke, A. (2012). Seeing different objects in different ways: Measuring ventral visual tuning to sensory and semantic features with dynamically adaptive imaging. *Human Brain Mapping*, 33, 387-397.

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41. Chiniforooshan, E., **Daley, M.**, Ibarra, O.H., Kari, L. & Seki, S. (2012). One-reversal counter machines and multihead automata: revisited. *Theoretical Computer Science*, 454, 81-87.
42. **Daley, M.**, Jürgensen, H., Kari, L. & Mahalingam, K. (2012). Relativized codes. *Theoretical Computer Science*, 429, 54-64.
43. Phillips, J.M. & **Everling, S.** (2012). Neural activity in the macaque putamen associated with saccades and behavioral outcome. *PLoS ONE* 7(12).
44. Shen, K., Bezgin, G., Hutchison, R.M., Gati, J., **Menon, R.S.**, **Everling, S.** & McIntosh, A. (2012). Information processing architecture of functionally defined clusters in the macaque cortex. *The Journal of Neuroscience*, 32, 17465-17476.
45. Skoblenick, K.S. & **Everling, S.** (2012). NMDA antagonist ketamine reduces task-selectivity in macaque dorsolateral prefrontal neurons and impairs performance of randomly interleaved pro- and anti-saccades. *The Journal of Neuroscience*, 32, 12018-12027.
46. Hutchison, R.M. & **Everling, S.** (2012). Monkey in the middle: Why nonhuman primates are needed to bridge the gap in resting-state investigations. *Frontiers in Neuroanatomy* 6:29.
47. Hutchison, R.M., Womelsdorf, T., Gati, J.S., Leung, L.S., **Menon, R.S.** & **Everling, S.** (2012). Resting-state connectivity identifies distinct functional networks in macaque cingulate cortex. *Cerebral Cortex*, 22, 1294-1308.
48. Hutchison, R.M., Gallivan, J.P., Culham, J.C., Gati, J.S., **Menon, R.S.** & **Everling, S.** (2012). Functional connectivity of the frontal eye fields in humans and monkeys investigated with resting-state fMRI. *Journal of Neurophysiology*, 107: 2463-2474.
49. Hutchison, R.M., Womelsdorf, T., Gati, J.S., **Everling, S.** & **Menon, R.S.** (2012). Resting-state networks show dynamic functional connectivity in awake humans and anesthetized macaques. *Human Brain Mapping*, 34, 2154-2177.
50. Buckingham, G., Ranger, N.S., & **Goodale, M.A.** (2012). Handedness, laterality and the size-weight illusion. *Cortex*, 59, 2941-2951.
51. Chouinard, P.A. & Goodale, M.A. (2012). FMRI-adaptation to highly-rendered color photographs of animals and manipulable artifacts during a classification task. *Neuroimage*, 59, 2941-2951.
52. Chouinard, P.A., Striemer, C.L., Ryu, W.H., Sperandio, I., **Goodale, M.A.**, Nicolle, D.A., Rotenberg, B., & Duggal, N. (2012). Retinotopic organization of the visual cortex before and after decompression of the optic chiasm in a patient with pituitary macroadenoma. *Journal of Neurosurgery*, 117, 218-224.

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53. Milner, A.D., Ganel, T., & **Goodale, M.A.** (2012). Does grasping in patient D.F. depend on vision? *Trends in Cognitive Sciences*, 16, 256-257.
54. Sperandio, I., Chouinard, P.A., & **Goodale, M.A.** (2012). Retinotopic activity in V1 reflects the perceived not the retinal size of an after-image. *Nature Neuroscience*, 15, 540-542.
55. Sperandio, I., Lak, A., & **Goodale, M.A.** (2012). Afterimage size is modulated by size-contrast illusions. *Journal of Vision*, 12(2).
56. Thaler, L., Schütz, A.C., **Goodale, M.A.**, & Gegenfurtner, K.R. (2013). What is the best fixation target? The effect of target shape on stability of fixational eye movements. *Vision Research*, 76, 31-42.
57. **Grahn, J.A.** & Schuit, D. (2012). Individual differences in rhythmic abilities: behavioural and fMRI investigations. *Psychmusicology: Music, Mind and Brain*, 20, 105-121.
58. **Grahn, J.A.** & Manly, T. (2012). Common neural recruitment across diverse sustained attention tasks. *PLOS ONE* 7(11): e49556.
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60. **Grahn, J.A.** & Rowe, J.B. (2012). Finding and feeling the musical beat: Striatal dissociations between detection and prediction of regularity. *Cerebral Cortex*, 23, 913-921.
61. **Grahn, J.A.** (2012). Neural mechanisms of rhythm perception: Current findings and future perspectives. *Topics in Cognitive Science*, 4, 585-606.
62. **Grahn, J.A.** (2012). Advances in neuroimaging techniques: implications for the shared syntactic integration resource hypothesis. *Language and Music as Cognitive Systems* (Rebuschat, P., Rohrmeier, M., Hawkins, J. & Cross, I., eds). Oxford: Oxford University Press.
63. Wong, J.D., Kistemaker, D.A., Chin, A. & **Gribble, P.L.** (2012). Can proprioceptive training improve motor learning? *Journal of Neurophysiology*, 108, 3313-3321.
64. Williams, A. & **Gribble, P.L.** (2012). Observed Effector-Independent Motor Learning by Observing. *Journal of Neurophysiology*, 107, 1564-70.
65. Olino, T.M., Durbin, C.E., Klein, D.N. & **Hayden, E.P.** (2012). Gender differences in young children's temperament traits: An observational study. *Journal of Personality*, 81, 119-129.
66. Smith, H.J., Sheikh, H.I., Dyson, M.W., Olino, T.M., Laptook, R.S., **Hayden, E.P.**, Singh, S.M., & Klein, D.N. (2012). Parenting and child DRD4 genotype interact to predict children's early emerging effortful control. *Child Development*, 83, 1932-1934.
67. Meyer, A., Klein, D.N., Torpey, D.C., Kujawa, A.J., **Hayden, E.P.**, Sheikh, H.I., Singh, S.M. & Hajcak, G. (2012). Additive effects of the dopamine D2 receptor (DRD2) and dopamine transporter (DAT1) gene on the error-related negativity (ERN) in young children. *Genes, Brain, and Behavior*, 11, 695-703.

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68. Archibald, L.M.D. & **Joanisse, M.F.** (2012). Atypical neural responses to phonological detail in children with developmental language impairments. *Developmental Cognitive Neuroscience*, 2, 139-151.
69. Sutton, J.E., Twyman, A.D., **Joanisse, M.F.** & Newcombe, N.S. (2012). Geometry three ways: An fMRI investigation of geometric information processing during reorientation. *Journal of Experimental Psychology: Learning Memory and Cognition*. 38, 6, 1530-1541.
70. Welcome S.E. & **Joanisse M.F.** (2012). Individual differences in skilled adult readers reveal dissociable patterns of neural activity associated with component processes of reading. *Brain and Language*, 120: 3, 360-71.
71. Malins, J.G. & **Joanisse, M.F.** (2012). Setting the Tone: An ERP Investigation of the Influences of Phonological Similarity on Spoken Word Recognition in Mandarin Chinese. *Neuropsychologia*, 50, 2032-2043.
72. Friesen, D. C. & **Joanisse, M.F.** (2012). Homophone effects in deaf readers: Evidence from lexical decision. *Reading and Writing: An Interdisciplinary Journal*, 25, 375-388.
73. Wayne, R.V. & **Johnsrude, I.S.** (2012). The role of visual speech information in supporting perceptual learning of degraded speech. *Journal of Experimental Psychology: Applied*, 18, 419-435.
74. Wild, C.J., Yusuf, A., Wilson, D., Peelle, J.E., Davis, M.H. & **Johnsrude, I.S.** (2012). Effortful listening: The processing of degraded speech depends critically on attention. *The Journal of Neuroscience*, 32, 14010-14021.
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76. Hervais-Adelman, A., Carlyon, R.P., **Johnsrude, I.S.** & Davis, M.H. (2012). Brain regions recruited for the effortful comprehension of noise-vocoded words. *Language and Cognitive Processes*, 28, 1145-1166.
77. Huyck, J.J. & **Johnsrude, I.S.** (2012). Rapid perceptual learning of noise-vocoded speech requires attention. *Journal of the Acoustical Society of America—Express Letters*, 131, EL236-42.
78. Wild, C.J., Davis, M.H. & **Johnsrude, I.S.** (2012). Human auditory cortex is sensitive to the perceived clarity of speech. *NeuroImage*, 60, 1490-1502.
79. Rodd, J.M., **Johnsrude, I.S.** & Davis, M.H. (2012). Dissociating frontotemporal contributions to semantic ambiguity resolution in spoken sentences. *Cerebral Cortex*, 22, 1761-1773.
80. Tahmasebi, A.M., Davis, M.H., Wild, C.J., Rodd, J.M., Hakyemez, H. & **Johnsrude, I.S.** (2012). Is the link between anatomical macrostructure and function equally strong at all cognitive levels of processing? *Cerebral Cortex*, 22, 1593-1603.

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81. Martin, C.B., Mirsattari, S.M., Pruessner, J.C., Pietrantonio, S., Burneo, J.G., Hayman-Abello, B. & **Köhler, S.** (2012). Déjà vu in unilateral temporal-lobe epilepsy is associated with selective familiarity impairments on experimental tasks of recognition memory. *Neuropsychologia*, 50, 2981-2991.
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85. **Lomber, S.G.**, Meredith, M.A. & Kral, A. (2012). What is the auditory brain doing in the absence of acoustic input? *Canadian Hearing Report*, 7, 21-25.
86. Malek, N., Mendoza-Halliday, D., & **Martinez-Trujillo, J.C.** (2012). Binocular rivalry of spirals and linear moving random dot patterns in human observers. *Journal of Vision* 12(10):16.
87. **Martinez-Trujillo, J.C.** & Treue, S. (2012). Der Scheinwerferkegel der Aufmerksamkeit: Verschiebung, Größenänderung und Teilung rezeptiver Felder bei der Verarbeitung visueller Bewegung. *Neuroforum* 3, 2012.
88. Khalkhali, S., Wammes, J. & **McRae, K.** (2012). Integrating words that refer to typical sequences of events. *Canadian Journal of Experimental Psychology*, 66, 106-114.
89. **McRae, K.**, Khalkhali, S. & Hare, M. (2012). Semantic and associative relations: Examining a tenuous dichotomy. V. F. Reyna, S. B. Chapman, M. R. Dougherty, & J. Confrey (Eds.), *The Adolescent Brain: Learning, Reasoning, and Decision Making* (pp. 39-66), Washington, DC: APA.
90. Metusalem, R., Kutas, M., Urbach, T.P., Hare, M., **McRae, K.** & Elman, J.L. (2012). Generalized event knowledge activation during on-line language comprehension. *Journal of Memory & Language*, 66, 545-567.
91. Belliveau, J.-G., Gilbert, K.M., Abou-Khousa, M. & **Menon, R.S.** (2012). Quantifying Specific Absorption Rate of Shielded RF Coils through Electromagnetic Simulations for 7-T MRI. *Medical Physics*, 39, 4626.
92. Gilbert, K., Belliveau, J.G., Curtis, A., Gati, J., Klassen, L.M. & **Menon, R.S.** (2012). A Conformal Transceive Array for 7-T Neuroimaging. *Magnetic Resonance Medicine*, 67, 1487-1496.
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94. Curtis, A.T., Gilbert, K.M., Klassen, L.M., Gati, J.S. & **Menon, R.S.** (2012). Slice-by-slice B1+ Shimming at 7 Tesla. *Magnetic Resonance Medicine*, 68, 1109-1116.

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95. Menon, R.S. (2012). Mental chronometry with fMRI. *NeuroImage*, 62, 1068-1071.
96. Miles, S.J. & Minda, J.P. (2012). Perceptual fluency can be used as a cue for categorization decisions. *Psychonomic Bulletin & Review*, 19, 737-742.
97. Han, T., Alders, G., Greening, S.G., Neufeld, R.W., & Mitchell, D.G.V. (2012). Do fearful eyes activate empathy related brain regions in individuals with callous traits? *Social Cognitive and Affective Neuroscience*, 7, 958-968.
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99. Wilk, H.A. & Morton, J.B. (2012). Developmental changes in patterns of brain activity associated with moment-to-moment adjustments in control. *NeuroImage*, 63, 475-484.
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102. Jordan, P.L. & Morton, J.B. (2012). Perseveration and the status of children's knowledge in a card-sorting task: Evidence from studies involving congruent flankers. *Journal of Experimental Child Psychology*, 111, 52-64.
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104. Hampshire, A., Chaudry, A., Owen, A.M. & Roberts, A. (2012). Dissociable roles for Lateral Orbitofrontal Cortex and Lateral Prefrontal Cortex during preference driven reversal learning. *NeuroImage*, 59, 4102-4112.
105. Cruse, D., Chennu, S., Chatelle, C., Fernández-Espejo, D., Bekinschtein, T. A., Pickard, J.D., Laureys, S. & Owen, A.M. (2012). The relationship between aetiology and covert cognition in the minimally conscious state. *Neurology*, 78, 816-822.
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108. Chatelle, C., Chennu, S., Noirhomme, Q., Cruse, D., Owen, A.M. & Laureys, S. (2012). Brain-computer interfacing in disorders of consciousness. *Brain Injury*, 26, 1510-1522.

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109. Naci, L., Monti, M., Cruse, D., Kubler, A., Sorger, B., Goebel, R., Kotchoubey, B. & **Owen, A.M.** (2012). Brain computer interfaces for communication with non-responsive patients. *Annals of Neurology*, 72, 312-323.
110. Cruse, D., Chennu, S., Fernandez-Espejo, D., Payne, W.L., Young, B. & **Owen, A.M.** (2012). Detecting Awareness in the Vegetative State: Electroencephalographic Evidence for Attempted Movements to Command. *Plos One*, 7(11): e49933.
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112. **Owen, A.M.** (2012). When thoughts become actions: Neuroimaging in non-responsive patients. S. Edwards, S. Richmond, G. Rees (Eds) *I know what you are thinking: brain imaging and mental privacy*. Oxford University Press, 6, 73-87.
113. Martin, I., Kamen, M., **Pirouz, D.M.**, Grover, A., Mukherjee, S., Haws, K., Mirabito, A.M., Davis, S. & Rapp, J. (2012). On the Road to Addiction: The Facilitative and Preventative Role of Marketing Cues. *Journal of Business Research*, 66, 1219-1226.
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116. **Pruszyński, J.A.** & Scott, S.H. (2012). Optimal feedback control and the long-latency stretch response. *Experimental Brain Research*, 218, 341-59.
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