

Marc G. Berman

The University of Chicago
Associate Professor of Psychology

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Education:

University of Michigan
Interdisciplinary Ph.D. (Psychology and I.O.E. advisors: John Jonides and Yili Liu) August 2010

University of Michigan
M.S.E, 2006 (I.O.E.)

University of Michigan
B.S.E, Industrial and Operations Engineering (I.O.E.) 2004 (Summa Cum Laude; 3.87/4.00)

Awards/Honors:

APA Distinguished Scientific Award for Early Career Contributions to Psychology, 2019
Fellow, Association for Psychological Science (APS)
U.Chicago App Challenge winning app (ReTUNE: Restoring Through Urban Natural Experiences), 2018
APS Spence Award for Transformative Early Career Contributions to Psychological Science, 2018
Neubauer Faculty Development Fellowship for excellence in teaching and mentorship, 2017-2018
NSF Alan T. Waterman Award Nominee, 2015
Association for Psychological Science (APS) Rising Star, 2013
National Science Foundation (NSF) Graduate Research Fellowship, 2006-2009
National Institutes of Health (NIH) Graduate Student Research Festival Invitee, 2010
Industrial Operations and Engineering Departmental Graduate Fellowship
Myun Lee Scholarship Award Winner
Clyde Johnson Scholarship Award Winner

Professional Organizations and Affiliations:

American Psychological Association (APA) Science Student Council (APASSC)
Psychonomics Society
Human Factors and Ergonomics Society (HFES)
Organization for Human Brain Mapping

Cognitive Neuroscience Society
Society for Neuroscience
Psi Chi Psychology Honor Society
Tau Beta Pi Engineering Honor Society
Eta Kappa Nu Electrical Engineering Honor Society

Previous/Current Positions:

Visiting Professor, University of Toronto, Computer Science Department (2019-2020)
Associate Professor (with tenure) of Psychology, University of Chicago (2019-)
University of Chicago, Faculty Senate (2018-2020)
Interim Director, Masters of Computational Social Sciences Program (2018-)
Editorial Board Member, Scientific Reports (Neuroscience section) (2016-)
Associate Editor, Frontiers in Environmental Psychology (2016-)
Fellow, Computation Institute, University of Chicago (2015-)
Member, Grossman Institute for Neuroscience, Quantitative Biology and Human Behavior, University of Chicago (2015-)
University of Chicago, Assistant Professor of Psychology (2014-)
Special Topics Editor, *Frontiers in Psychology*
University of South Carolina, Assistant Professor of Psychology (2012 - 2014)
University of South Carolina, Affiliated Professor, Institute of Mind and Brain (2012 - 2014)
University of South Carolina, Affiliated Professor of Environment and Sustainability Program (2012 - 2014)
University of Toronto Rotman Research Institute Post-Doc (advisor: Randy McIntosh August 2011 – December 2012)
University of Michigan Research Consultant (School of Nursing and Psychology)
Post-Doc in the Cognitive Neuroscience Lab (advisor John Jonides August 2010 - August 2011)
2008-2009 Psychology Department Associate
APASSC chair 2008
Department of Defense, Summer Research Intern 2002, 2003
University of Michigan HFES President-Elect 2006-2007 (Student Chapter)
Ad-hoc reviewer for *Journal of Experimental Psychology: Learning Memory and Cognition*, *Journal of Abnormal Psychology*, *Journal of Cognitive Neuroscience*, *Proceedings of the National Academy of Sciences*, *Cognitive Affective and Behavioral Neuroscience*, *Trends in Cognitive Sciences*, *Cortex*, *American Psychologist*, *Behavioural Brain Research*, *Preventive Medicine*, *Environment & Behavior*, *Emotion*, *Journal of Personality and Social Psychology*, *PLoS ONE*, *Human Brain Mapping*, *Journal of Experimental Social Psychology*, *Neuron*, *Journal of Experimental Psychology: Human Perception and Performance*, *Journal of Psychiatric Research*, *Journal of Applied Psychology*, *Biological Psychiatry*, *Perception*, *Environmental Science and Technology*, *Journal of Environmental Psychology*, *Cerebral Cortex*, *Journal of Neuroscience*, *Psychological Science*, *Journal of Personality and Social Psychology*

Departmental and University Service

Member, Dean's committee on graduate student education
Member, Dean's committee on computational services
Member, Dean's committee on Doctoral Program Review
Member, Provost's Crime Prevention Committee

Member, of 2 Psychology Search committees
Councilor, Chicago Society for Neuroscience (SfN), U. Chicago representative
Executive Committee, Center for Gesture and Sign (U. of Chicago)
Executive Committee, Computational Social Science M.A. Program (U. of Chicago)
Website Committee, Department of Psychology (U. of Chicago)
Grossman Neuroscience Institute Membership Committee (U. of Chicago)
Neuroethics Workshop Series Planning Committee (U. of Chicago)
Cognitive Brown Bag Organizer 2014-15, 2015-16 (U. of Chicago)
Member of Experimental Psychology Curriculum Committee (U. of South Carolina)

Patents

Application for U.S. Patent: “Routing in Navigation Applications based on Restorative Score”
filed on June 6th, 2018.

Publications (a *indicates a student/advisee in my lab)

[83] Moore, T.M., Kaczurkin, A.N., Durham, E.L., Jeong, H.E., McDowell, M.G., Dupont, R.M., Applegate, B., Tackett, J.L., *Cardenas-Iniguez, C., *Kardan, O., *Akcelik, G., *Stier, A.J., Rosenberg, M.D., Hedeker, D., **Berman, M.G.**, & Lahey, B.B. (in press). “Criterion Validity and Relationships between Alternative Hierarchical Dimensional Models of General and Specific Psychopathology.” *Journal of Abnormal Psychology*

[82] *Kardan, O., Adam, K.C.S., Mance, I., Churchill, N.W., Vogel, E.K. & **Berman, M.G.** (2020). “Distinguishing cognitive effort and working memory load using scale-invariance and alpha suppression in EEG.” *NeuroImage*

[81] Koselka, E. P., Weidner, L. C., Minasov, A., **Berman, M. G.**, Leonard, W. R., Santoso, M. V., de Brito, J. N., Pope, Z. C., Pereira, M. A. & Horton, T. H. (2019). Walking green: Developing an evidence base for nature prescriptions. *International journal of environmental research and public health*, 16(22), Article 4338.

[80] Scrivner, C., *Choe, K. W., Henry, J., *Lyu, M., Maestripieri, D., & **Berman, M. G.** (2019). Violence reduces attention to faces and draws attention to points of contact. *Scientific reports*, 9(1), Article 17779.

[79] **Berman M. G.**, *Stier A. J., *Akcelik G. N. (2019) “Environmental neuroscience.” *American Psychologist*, 74, Article 1039–52.

[78] *Choe, K. W., Jenifer, J. B., Rozek, C. S., **Berman, M. G.**, & Beilock, S. L. (2019). “Calculated avoidance: Math anxiety predicts math avoidance in effort-based decision-making.” *Science Advances*, 5(11), Article eaay1062.

[77] *Meidenbauer, K.L., *Stenfors, C.U.D., *Ingram, M.P. & **Berman, M.G.** (2019). “A tablet-based task for assessing environmental preferences in children and adults.” *MethodsX*, 6, 1901–1906.

- [76] Necka, E.A., *Kardan, O., Puts, D.A., Faig, K.E., **Berman, M.G.** & Norman, G.J. (2019). “Visual cues to fertility are in the eye (movements) of the beholder.” *Hormones and Behavior*, 115, Article 104562.
- [75] Bratman, G.N., Anderson, C.B., **Berman, M.G.**, Cochran, B., De Vries, S., Flanders, J., Folke, C., Frumkin, H., Gross, J.J., Hartig, T., Kahn, P.H., Kuo, M., Lawler, J.J., Levin, P.S., Lindahl, T., Meyer-Lindenberg, A., Mitchell, R., Ouyang, Z., Roe, J., Scarlett, L., Smith, J.R., Bosch, M. van den, Wheeler, B.W., White, M.P., Zheng, H., & Daily G.C. (2019). “Nature and Mental Health: An Ecosystem Service Perspective.” *Science Advances*, 5(7), Article eaax0903.
- [74] *Meidenbauer, K.L., *Stenfors, C.U.D., *Young, J., *Layden, E.A., *Schertz, K.E., *Kardan, O., Decety, J. & **Berman, M.G.** “The gradual development of the preference for natural environments.” *Journal of Environmental Psychology*, 65, Article 101328. (Berman is senior author)
- [73]*Stenfors, C.U.D., *Van Hedger, S.C., *Schertz, K.E., *Meyer, F.A.C., Smith, K.E.L., Norman, G.J., Bourrier, S.C., Enns, J.T., *Kardan, O., Jonides, J., & **Berman, M.G.** (2019). “Positive Effects of Nature on Cognitive Performance Across Multiple Experiments: Test Order but Not Affect Modulates the Cognitive Effects” *Frontiers in Psychology*, 10, Article 1413. (Berman is senior author)
- [72] *Schertz, K.E. & **Berman, M.G.** (2019). “Understanding Nature and Its Cognitive Benefits.” *Current Directions in Psychological Science*, 28(5), 496-502.
- [71]*Van Hedger, S.C., Nusbaum, H.C., Heald, S.L.M, Huang, A., *Kotabe, H.P. & **Berman M.G.** (2019). “The Aesthetic Preference for Nature Sounds Depends on Sound Object Recognition.” *Cognitive Science*, 43(5), Article e12734. (Berman is senior author)
- [70] *Layden, E.A., *Schertz, K.E., London, S.E., **Berman, M.G.** (2019). “Interhemispheric functional connectivity in the zebra finch brain, absent the corpus callosum in normal ontogeny” *NeuroImage*, 195, 113–127. (Berman is senior author)
- [69] **Berman, M.G.**, *Kardan, O., *Kotabe, H.P., Nusbaum, H.C., & London, S.E. (2019) “The Promise of Environmental Neuroscience” *Nature Human Behaviour*, 3, 414-417.
- [68] *Coburn, A., *Kardan, O., *Kotabe, H.P., Steinberg, J., Hout, M.C., Robbins, A., MacDonald, J., Hayn-Leichsenring & **Berman, M.G.** (2019). “Psychological Responses to Natural Patterns in Architecture.” *Journal of Environmental Psychology*, 62, 133–145. (Berman is senior author)
- [67] *Kardan, O., Reuter-Lorenz, P.A., Peltier, S., Churchill, N.W., Masic, B., Askren, M.K., Jung, M.S., Cimprich, B., & **Berman, M.G.** (2019). “Brain connectivity tracks effects of chemotherapy separately from behavioral measures.” *NeuroImage: Clinical*, 21, Article 101654. (Berman is senior author)

- [66] Van Hedger, K., Keedy, S.K., *Schertz, K.E., **Berman, M.G.**, de Wit, H. (2019). “Effects of methamphetamine on neural responses to visual stimuli.” *Psychopharmacology*, 236(6), 1741–1748.
- [65] *Jung, M., Gradus-Pizlo, I., **Berman, M. G.**, Moser, D. K., Rogers, J. L., Boyles, M. J., & Pressler, S. J. (2018). Feasibility of a Novel Virtual Reality-based Cognitive Intervention to Improve Attention in People with Heart Failure. *Journal of Cardiac Failure*, 24(8), S74–S75.
- [64]*Van Hedger, S.C., Nusbaum, H.C., *Clohisy, L., Jaeggi, S.M., Buschkuehl, M., & **Berman, M.G.** (2018). “Of cricket chirps and car horns: The effect of nature sounds on cognitive performance” *Psychonomic Bulletin & Review*, 26(2), 522–530.
- [63]Bourrier, S.C., **Berman, M.G.**, & Enns, J.T. (2018). “Cognitive strategies and natural environments interact in influencing executive function.” *Frontiers in Psychology*, 9, Article 1248.
- [62] *Jung, M., Jonides, J., **Berman, M.G.**, Northouse, L., Koelling, T.M., & Pressler, S.J. (2018). “Construct Validity of the Multi-Source Interference Task to Examine Attention in Heart Failure.” *Nursing Research*, 67(6), 465-472.
- [61]*Schertz, K.E., Sachdeva, S., *Kardan, O., *Kotabe, H.P., Wolf, K.L., & **Berman, M.G.** (2018). “A thought in the park: The influence of naturalness and low-level visual features on expressed thoughts.” *Cognition*, 174, 82–93. (*Berman is senior author*)
- [60]Chang, H., *Sprute, L., Maloney, E., Beilock, S.L, & **Berman, M.G.** “Simple arithmetic: not so simple for highly math anxious individuals.” (2017) *Social, Cognitive and Affective Neuroscience*, 12(12), 1940–1949. (*Berman is senior author*)
- [59]*Whan Choe, K., *Kardan, O., *Kotabe, H., Henderson, J.M., & **Berman, M.G.** (2017). “To search or to like: Mapping fixations to differentiate two forms of incidental scene memory.” *Journal of Vision*, 17(12), 8, 1-22. (*Berman is Senior Author*)
- [58]*Kardan, O., Shneidman, L., Krogh-Jespersen, S., Gaskins, S., **Berman, M.G.**, & Woodward, A. (2017). “Cultural and Developmental Influences on Overt Visual Attention to Videos.” *Scientific Reports*, 7(1), Article 11264. (*Berman is co-corresponding author*)
- [57]*Kotabe, H.P., *Kardan, O., & **Berman, M.G.** (2017). “The nature-disorder paradox: A perceptual study on how nature is disorderly yet aesthetically preferred.” *Journal of Experimental Psychology: General*, 146(8), 1126-1142. (*Berman is senior author*)
- [56]*Kardan, O., Cannon, C.H., & **Berman, M.G.** (2017). “Re: The Natural Capital of City Trees.” *Science* eletter June 19, 2017. (*Berman is senior author*)
- [55]Dimitroff, S.J., *Kardan, O., Necka, E.A., Decety, J., **Berman, M.G.**, & Norman, G.J. (2017). “Physiological Dynamics of Stress Contagion.” *Scientific Reports*, 7(1), Article 6168.

- [54] Moser, J.S., Dougherty, A., Mattson, W.I., Katz, B., Moran, T.P., Guevarra, D., Shablack, H., Ayduk, O., Jonides, J., **Berman, M.G.**, & Kross, E. (2017). "Third-person self-talk facilitates emotional control without engaging cognitive control: Converging evidence from ERP and fMRI." *Scientific Reports*, 7(1), Article 4519.
- [53] *Ibarra, F.F., *Kardan, O., Hunter, M.R., *Kotabe, H.P., *Meyer, F.A., & **Berman, M.G.** (2017). "Image Feature Types and Their Predictions of Aesthetic Preference and Naturalness." *Frontiers in Psychology*, 8, Article 632.
- [52] *Jung, M., Jonides, J., **Berman, M.G.**, Northouse, L., Koelling, T.M., & Pressler, S.J. (2017). "Randomized Crossover Study of the Natural Restorative Environment Intervention to Improve Attention and Mood in Heart Failure." *Journal of Cardiovascular Nursing*, 32(5), 464-479.
- [51] *Kotabe, H.P., *Kardan, O., & **Berman, M.G.** (2016). "The Order of Disorder: Deconstructing Visual Disorder and its Effect on Rule-Breaking." *Journal of Experimental Psychology: General*, 145(12), 1713–1727. (Berman is senior author)
- [50] Cloutier, J., Li, T., Masic, B., Correll, J. & **Berman, M.G.** (2016). "Brain Network Activity During Face Perception: The Impact of Perceptual Familiarity and Individual Differences in Childhood Experience." *Cerebral Cortex*, 27(9), 4326–4338. (Berman is senior author)
- [49] Churchill, N.W., Spring, R., Grady, C., Cimprich, B., Askren, M.K., Reuter-Lorenz, P.A., Jung, M.S., Peltier, S., Strother, S.C. & **Berman, M.G.** (2016). "The suppression of scale-free fMRI brain dynamics across three different sources of effort: aging, task novelty and task difficulty." *Scientific Reports*, 6, Article 30895. (Berman is senior and co-corresponding author)
- [48] *Jung, M., Northouse, L., Jonides, J., **Berman, M.G.**, Koelling, T.M., & Pressler, S.J. (2016). "How to Improve Attention in Patients with Heart Failure: A Psychological Approach." *Journal of Cardiac Failure*, 22(8), S6.
- [47] *Woods, W., *Hayes, D., *Meyer, F., *Kardan, O., **Berman, M.G.** (2016). "Dynamic effects on elite and amateur performance." *Sport, Exercise and Performance Psychology*, 5(4), 308–323. (Berman is senior author)
- [46] *Kardan, O., Henderson, J.M., *Yourganov, G., & **Berman, M.G.** (2016). "Observers' cognitive states modulate how visual inputs relate to gaze control." *Journal of Experimental Psychology: Human Perception and Performance*, 42(9), 1429–1442. (Berman is senior author)
- [45] Jung, M.S., Zhang, M., Askren, M.K., **Berman, M.G.**, Peltier, S., Hayes, D.F., Therrien, B., Reuter-Lorenz, P.A. & Cimprich, B. (2016). "Cognitive Dysfunction and Symptom Burden in Women Treated for Breast Cancer: A Prospective Behavioral and fMRI Analysis." *Brain Imaging and Behavior*, 11(1), 86–97.
- [44] *Kotabe, H. P., *Kardan, O., & **Berman, M. G.** (2016). "Can the High-Level Semantics of a Scene be Preserved in the Low-Level Visual Features of that Scene? A Study of Disorder and

Naturalness.” *Proceedings of the 38th Annual Conference of the Cognitive Science Society*, 1721-1726.

[43]*Hayes, D.J. & **Berman, M.G.** (2016). “Editorial: Nature and the Environment: The Psychology of Its Benefits and Its Protection.” *Frontiers in Psychology*, 6, Article 1804.

[42]Misic, B., Betzel, R.F., de Reus, M. A., van den Heuvel, M.P., **Berman, M.G.**, McIntosh, R., & Sporns, O. (2016) “Network-level structure-function relationships in human neocortex” *Cerebral Cortex*, 26(7), 3285–3296.

[41]Misic, B., Dunkley, B.T., Sedge, P.A., Fatima, Z., **Berman, M.G.**, Doesburg, S.M., McIntosh, A.R., Grodecki, R., Jetly, R., Pang, E.W. & Taylor, M.J. (2016). “Post-Traumatic Stress Constrains the Dynamic Repertoire of Neural Activity.” *Journal of Neuroscience*, 36(2) 419-431.

[40]*Kardan, O., **Berman, M.G.**, *Yourganov, G., Schmidt, J., & Henderson, J.M. (2015). “Classifying Mental States From Eye Movements During Scene Viewing. *Journal of Experimental Psychology: Human Perception and Performance*, 41(6), 1502–1514. (Berman is co-corresponding author)

[39]Kardan, O., Demiralp, E., Hout, M. C., Hunter, M.R., Karimi, H., Hanayik, T., *Yourganov, G., Jonides, J. & **Berman, M.G.** (2015). “Is the preference of natural versus man-made scenes driven by bottom-up processing of the visual features of nature?” *Frontiers in Psychology*, 6, Article 471. (Berman is a co-corresponding author)

[38]*Kardan, O., Gozdyra, P., Misic, B., Moola, F., Palmer, L., Paus, T. & **Berman, M.G.** (2015) “Neighborhood greenspace and health in a large urban center.” *Scientific Reports* 5, Article 11610 (Berman is co-corresponding author)

Altmetric score in the 99th percentile (ranked 51st) of the 227,348 tracked articles of a similar age in all journals. Altmetric score in the 99th percentile (ranked 1st) of the 1,768 tracked articles of a similar age in Scientific Reports

[37]Shen, K., Misic, B., Cipollini, B. N., Bezgin, G., Buschkuhl, M., Hutchison, R.M., Jaeggi, S.M., Kross, E., Peltier, S.J., Everling, S., Jonides, J., McIntosh, A.R. & **Berman, M.G.** (2015). “Stable long-range interhemispheric coordination is supported by direct anatomical projections.” *Proceedings of the National Academy of Sciences (PNAS)*, 112(20), 6473-6478 (Berman is the senior author)

[36]Mišić, B., Fatima, Z., Askren, M.K., Buschkuhl, M., Churchill, N.W., Cimprich, B., Deldin, P.J., Jaeggi, S.M., Jung, M.S., Korostil, M., Kross, E., Krpan, K.M., Petlier, S., Reuter-Lorenz, P.A., Strother, S.C., Jonides, J. McIntosh, A.R., & **Berman, M.G.** (2014) “The Functional Connectivity Landscape of the Human Brain” *PLoS ONE*, 9(10), Article e111007. (co-corresponding author is Berman)

- [35]*Yourganov, G., Schmah, T., Churchill, N.W., **Berman, M.G.**, Grady, C.L., Strother, S.C. (2014). "Pattern classification of fMRI data: Applications for analysis of spatially distributed cortical networks." *NeuroImage*, *96*, 117-132.
- [34]**Berman, M.G.**, Hout, M., *Kardan, O., Hunter, M.R., *Yourganov, G., Hanayik, T., Karimi, H. & Jonides J. (2014). The perception of naturalness correlates with low-level visual features of environmental scenes. *PLoS ONE*, *9*(12), Article e114572.
- [33]Churchill, N.W., Cimprich, B., Askren, M.K., Reuter-Lorenz, P.A., Jung, M.S., Peltier, S., **Berman, M.G.** (2014). "Scale-free brain dynamics under physical and psychological distress: pre-treatment effects in women diagnosed with breast cancer" *Human Brain Mapping*, *36*(3), 1077-1092 (Berman is senior author)
- [32]**Berman, M.G.**, Mišić, B., Buschkuehl, M., Kross, E., Deldin, P.J., Peltier, S., Jaeggi, S.M., Vokorin, V., McIntosh, A.R., & Jonides, J. (2014). "Does resting-state connectivity reflect depressive rumination? A tale of two analyses" *NeuroImage*, *103*, 267–279.
- [31]Askren, M.K., Jung, M.S., **Berman, M.G.**, Zhang, M., Peltier, S., Hayes, D.F., Reuter-Lorenz, P.A., & Cimprich, B. (2014). "Neuromarkers of Fatigue and Cognitive Complaints Following Chemotherapy for Breast Cancer: A Prospective fMRI Investigation" *Breast Cancer Research and Treatment*, *147*(2), 445–455.
- [30]**Berman, M.G.**, *Yourganov, G., Askren, M.K., Ayduk, O., Casey, B.J., Gotlib, I.H., Kross, E., McIntosh, A.R., Strother, S.C., Wilson, N.L., Zayas, V., Mischel, W., Shoda, Y., & Jonides, J. (2013). "Dimensionality of brain networks linked to life-long individual differences in self-control." *Nature Communications* *4*(1), Article 1373.
- [29]**Berman, M.G.**, Askren, M.K., Cimprich, B., Misook, J.S., Therrien, B., Peltier, S., Noll, D.C., Zhang, M., Osher, L., Hayes, D.F., Reuter-Lorenz, P.A. (2013). "Pretreatment Worry and Neurocognitive Responses in Women with Breast Cancer." *Health Psychology*, *33*(3), 222-231.
- [28]Krupan, K.M., Kross, E., **Berman, M.G.**, Deldin, P.J., Askren, M.K. & Jonides, J. (2013). "An everyday activity as a treatment for depression: The benefits of expressive writing for people diagnosed with major depressive disorder." *Journal of Affective Disorders*, *150*(3), 1148–1151.
- [27]Craig, K.S., **Berman, M.G.**, Jonides, J. & Lustig, C. (2013). "Escaping the recent past: Which stimulus dimensions influence proactive interference?" *Memory & Cognition*, *41*(5), 650-670.
- [26]Nee, D.E., Brown, J.W., Askren, M.K., Krawitz, A., Demiralp, E., **Berman, M.G.**, and Jonides, J. (2013) "A meta-analysis of executive components of working memory." *Cerebral Cortex*, *23*(2), 264–282.

[25]Foland-Ross, L.C., Hamilton, J.P., Joormann, J., **Berman, M.G.**, Jonides, J., & Gotlib, I.H. (2012). “The neural basis of difficulties disengaging from negative irrelevant material in major depression.” *Psychological Science*, 24(3), 334–344.

[24]**Berman, M.G.**, Kross, E., Krpan, K.M., Askren, M.K., Burson, A., Kaplan, S., Deldin, P.J., Sherdell, L., Gotlib, I.H., & Jonides, J. (2012) “Interacting with nature improves cognition and affect for individuals with depression.” *Journal of Affective Disorders* 140(3), 300–305.

Cited by the CBC, the Atlantic, Global TV and others

[23]Kross, E., **Berman, M.G.**, Mischel, W., Smith, E.E., & Wager, T.D. (2011) “Social Rejection Shares Somatosensory Representations with Physical Pain” *Proceedings of the National Academy of Sciences (PNAS)* 108(15), 6270–6275.

Selected by the Faculty of 1000 (F1000) for post-publication peer review

Top cited article in PNAS for 2011

[22]Kross, E., **Berman, M.G.**, Mischel, W., Smith, E.E., & Wager, T.D. (2011). Reply to Iannetti and Mouraux: What functional MRI responses to physical pain tell us about why social rejection ‘hurts.’” *Proceedings of the National Academy of Sciences (PNAS)*, 108(30), E344–E344.

[21]**Berman, M.G.** & Jonides, J. (2011). “Ruminating on Rumination.” *Biological Psychiatry*, 70(4), 310–311.

[20]**Berman, M.G.**, Peltier, S., Nee, D.E., Kross, E., Deldin, P.J., & Jonides, J. (2011). “Depression, Rumination and the Default Network.” *Social Cognitive and Affective Neuroscience*, 6(5), 548–555.

[19]**Berman, M.G.**, Nee, D.E., Casement, M., Kim, H.S., Deldin, P.J., Kross, E., Gonzalez, R., Demiralp, E., Gotlib, I.H., Hamilton, P., Joormann, J., Waugh, C., & Jonides, J. (2011). “Neural and Behavioral Effects of Interference Resolution in Depression and Rumination.” *Cognitive Affective and Behavioral Neuroscience*, 11(1), 85–96.

[18]Casey, B.J., Somerville, L.H., Gotlib, I.H., Ayduk, O., Franklin, N.T., Askren, M.K., Jonides, J., **Berman, M.G.**, Wilson, N.L., Teslovich, T., Glover, G., Zayas, V., Mischel, W. & Shoda, Y. (2011). “Behavioral and neural correlates of delay of gratification 40 years later.” *Proceedings of the National Academy of Sciences (PNAS)*, 108(36), 14998–15003.

[17]Liu, Y., Wu, C., & **Berman, M.G.** (2011). “Computational Neuroergonomics” *NeuroImage*, 59(1), 109–116.

[16]Atkins A.L., **Berman, M.G.**, Reuter-Lorenz, P.A., Lewis, R.L., & Jonides, J. (2011). “Resolving Semantic and Proactive Interference in Short-Term Memory” *Memory & Cognition*, 39(5), 806–817. [Atkins and Berman are co-first authors]

- [15]Joormann, J., Nee, D.E., **Berman, M.G.**, Jonides, J., & Gotlib, I. (2010). "Interference Resolution in Major Depression." *Cognitive, Affective and Behavioral Neuroscience*. 10(1): 21-33
- [14]Mischel, W., Ayduk, O., **Berman, M.G.**, Casey, B.J., Gotlib, I.H., Jonides, J., Kross, E., Teslovich, T., Wilson, N., Zayas, V., & Shoda, Y. (2010) "'Willpower' over the life span: decomposing self-regulation." *Social Cognitive and Affective Neuroscience*, 6(2), 252–256.
Featured in the New Yorker Magazine, May 18th, 2009
- [13]**Berman, M.G.**, Park, J., Gonzalez, R., Polk, T.A., Gehrke, A., Knaffla, K., & Jonides, J. (2010). "Evaluating Functional Localizers: The Case of the FFA." *NeuroImage*, 50(1), 56–71.
[Figures from our results were the journal's cover art]
- [12]Kaplan, S., & **Berman, M.G.** (2010). "Directed Attention as a Common Resource for Executive Functioning and Self-Regulation." *Perspectives in Psychological Science*, 5(1), 43–57.
- [11]Gonzalez, R. & **Berman, M.G.** (2010) "The value of brain imaging in psychological research." *Acta Psychologica Sinica*, 42(01), 111–119.
- [10]**Berman, M.G.**, Jonides, J., & Lewis, R.L. (2009). "In Search of Decay in Verbal Short-term Memory." *Journal of Experimental Psychology: Learning, Memory and Cognition*, 35(2), 317–333. [This was the lead article]
- [9]Jaeggi, S.M., **Berman, M.G.**, & Jonides, J. (2009) "Training Attentional Processes." *Trends in Cognitive Sciences*, 13(5), 191–192.
- [8]Cimprich, B., Reuter-Lorenz, P., Nelson, J., Clark, P.M., Therrien, B., Normolle, D., **Berman, M.G.**, Hayes, D.F., Noll, D.C., Peltier, S., & Welsh, R.C. (2009). "Prechemotherapy alterations in brain function in women with breast cancer." *Journal of Clinical and Experimental Neuropsychology*, 32(3), 324–331.
- [7]Barch, D.M., **Berman, M.G.**, Engle, R., Hurdelbrink Jones, J., Jonides, J., MacDonald III, A., Nee, D.E., Redick, T.S., & Sponheim, S.R. (2008). "CNTRICS Final Task Selection: Working Memory." *Schizophrenia Bulletin*, 35(1), 136–152.
- [6]Jonides, J., Lewis, R.L., Nee, D.E., Lustig, C.A., **Berman, M.G.**, & Moore, K.S. (2008). "The Mind and Brain of Short-Term Memory." *The Annual Review of Psychology*, 59(1), 193–224.
- [5]Nee, D.E., **Berman, M.G.**, Moore, K.S., & Jonides, J. (2008). "Neuroscientific Evidence About the Distinction Between Short- and Long-Term Memory." *Current Directions in Psychological Science*, 17(2), 102–106.

[4]**Berman, M.G.**, Jonides, J., & Kaplan, S. (2008). “The Cognitive Benefits of Interacting With Nature.” *Psychological Science*, 19(12), 1207–1212.

Editor’s Choice Article in *Science* 322 1611, December 2008

Cited by the New York Times, CNN, the Wall Street Journal, the Boston Globe and others

Top cited article in *Psychological Science* from 2008

[3]Nee, D.E., Jonides, J. & **Berman, M.G.** (2007). “Neural mechanisms of proactive interference-resolution.” *NeuroImage*, 38(4), 740–751.

[2]**Berman, M.G.**, Jonides, J. & Nee D.E. (2006). “Studying Mind and Brain with fMRI.” *Social, Cognitive and Affective Neuroscience*, 1(2), 158–161.

[1]Jonides, J., Nee, D.E., & **Berman, M.G.** (2006). “What has functional neuroimaging told us about the mind? So many examples, so little space.” *Cortex*, 42, 414–417.

In Review

[r1] *Schertz, K.E., *Kardan, O., & **Berman, M.G.** “Visual features influence expressed thoughts about images lacking overt semantic content” [in revision *Attention, Perception and Psychophysics* available on *PsyArXiv*]

[r2] *Lyu, M., *Choe, K.W., *Kardan, O., *Kotabe, H.P., Henderson, J.M., & **Berman, M.G.** “Scenes that produce more consistent fixation maps are more memorable.” [in-revision, *Journal of Vision* available on *PsyArXiv*]

[r3] *Layden, E.A., *Schertz, K.E., **Berman, M.G.**, & London, S.E. “Functional connectivity strength within the auditory forebrain is altered by song learning and predicts song stereotypy in developing male zebra finches.” [in revision at *NeuroImage* available on *bioRxiv*]

[r4] *Schertz, K., Saxon, J., Cardenas-Iniguez, C., Bettencourt, L., & **Berman, M. G.** “Neighborhood street activity and greenspace usage uniquely contribute to predicting crime.” [submitted to *Science Advances* available on *PsyArXiv*]

[r5] *Meidenbauer, K.L., Stenfors, C.U.D., Bratman, G.N., Gross, J., & **Berman, M.G.** “The Affective Benefits of Nature Exposure: What’s Nature Got to Do with It?” [in revision *Journal of Environmental Psychology* available on *PsyArXiv*]

[r6] *Stier, A. J., **Berman, M. G.**, & Bettencourt, L. (2020). “COVID-19 attack rate increases with city size.” [under-review *PLoS ONE* available on *arXiv* or *MedRxiv*].

Book Chapters

Berman, M.G., *Cardenas-Iniguez, C. & *Meidenbauer, K.L. (in-press). “An Environmental Neuroscience Perspective on the Benefits of Nature.” *67th Annual Nebraska Conference on Motivation*

Berman, M.G., Hayes, D.J. & Krpan, K.M. (2015). "Environmental Neuroscience." *Oxford Bibliographies in Psychology*

Berman, M.G., & Krpan, K.M. (2013). "Restorative Effects of Interacting with Nature." In A.C. Michalos (Ed.) *The Encyclopedia of Quality of Life and Well-Being Research*. New York: Springer

Wu, C., **Berman, M.G.**, & Liu, Y. (2010). "Optimization in the Brain? - Modeling Human Behavior and Brain Activation Patterns with Queuing Network and Reinforcement Learning Algorithms." In A. Chaovalitwongse, & P. Xanthopoulos (Eds.). *Computational Neuroscience* (pp. 159-179). New York: Springer

Lustig, C.A., **Berman, M.G.**, Lewis, R.L., Nee, D.E., Moore, K.S., & Jonides, J. (2009) "Psychological and Neural Mechanisms of Short-term Memory." In G. G. Berntson & J. T. Cacioppo (Eds.) *The Handbook of Neuroscience for the Behavioral Science* New York: John Wiley & Sons.

Grants Accepted

Title: "Street Psychology: Exploring the Link Between Pedestrian Experience and Cognitive Well-Being"

Agency: U.Chicago Social Sciences Division

Role: co-PI with Emily Talen

Amount Requested: \$43,000

Title: Understanding the Chemical Basis of BOLD Functional Connectivity with Fast Interleaved fMRI-MRS

Agency: U. Chicago Grossman Neuroscience Institute

Role: PI

Amount Requested: \$15,000

Grants Submitted

Title: "SCC-IRG Track 1: Understanding the Impact of Social and Physical Environment Factors on Crime Using Urban Sensing and Machine Learning"

Agency: National Science Foundation

Role: PI

Amount Requested: \$3,434,112

Title: "CNH2-L: Utilizing urban green infrastructure (UGI) to reduce heat and increase human self-control"

Agency: National Science Foundation

Role: PI

Amount Requested: \$1,600,000

Title: "The multi-modal effects of nature perception on cognition and affect"

Agency: National Science Foundation (NSF) CAREER Program

Role: PI
Amount Requested: \$850,000

Title: Overcoming the computational challenges of combined fMRI-MRS
Agency U. Chicago Center for Data and Computation
Role: PI
Amount Requested: \$87,000

Title: “The neural network predictors of learning potential in the zebra finch and the human”
Agency: National Science Foundation (NSF)
Role: co-PI (Sarah London co-PI)
Amount Requested: \$780,232

Title: “SAGE: A Software-Defined Sensor Network”
Agency: National Science Foundation (NSF)
Role: Senior Personnel (PIs: Pete Beckman and Charlie Catlett)
Amount Requested: \$20,000,000

Grants Completed

Title: “The Relationship between Natural Environments, Fatigue, and Attention”
Agency: The National Science Foundation (NSF)
Role: Primary Investigator (PI)
Amount: \$402,182
Funding Period: August 1st, 2016 – August 1st, 2018

Title: “The Chicago Center for Practical Wisdom”
Agency: The John Templeton Foundation
Role: Co-Investigator (Co-I) (PI: Howard Nusbaum)
Amount: \$2,000,000 (sub-award \$157,181)
Funding Period: January 2016-January 2019

Title: “The mechanisms and design elements of restorative experiences at OSSP sites”
Agency: TKF Private Foundation
Role: Primary Investigator (PI)
Amount: \$653,659
Funding Period: June 2013-January 2018

Funding Period: January 2015 – January 2016
Title: “Science of Nature-based Learning Collaborative Research Network”
Agency: NSF
Amount: \$749,000
Funding Period:
Role: Co-I (PI: Cathy Jordan)

Title: “Essential Self Technologies”
Agency: Robert Wood Johnson Foundation.

Amount: \$350,000
Funding Period: 9/2015-9/2018
Role: Co-I (PIs: Howard Nusbaum and Linda Stone)

Title: “Virtue, Happiness and the Meaning of Life”
Agency: Templeton Foundation
Amount: \$2,000,000
Role: Co-I (PIs: Candace Vogler and Jennifer Frey)

Title: “How whole brain neural network connectivity predicts cognitive learning potential”
Agency: Templeton Foundation BIG Ideas Research Initiative, U. of Chicago
Amount: \$14,7000
Funding Period: 7/2015-01/2016
Role: Co-PI (with Sarah London)

Title: “The Lunar Cycle, Perceived Social Isolation and Sleep Quality”
Agency: Templeton Foundation BIG Ideas Research Initiative, U. of Chicago
Amount: \$14,7000
Funding Period: 7/2015-01/2016
Role: Co-PI (with Greg Norman)

Title: Exploring the Psychological Benefits of Nature
Agency: TKF Private Foundation
Role: Primary Investigator (PI)
Type: Planning Grant
Amount: \$50,000
Funding Period: January, 2012 – May, 2012

Title: “Nudging People Towards Rationality: Harnessing Language To Reduce Ebola Hysteria”
Agency: NSF
Role: Co-PI (PI: Ethan Kross)
Amount: \$120,000

Mentorship

Present:

Omid Kardan (Ph.D. Student)

Projects: Quantifying visual features of natural and urban environments; Relationship of scene visual features to preference, eye-movements, and neural responding

Carlos Cardenas-Iniguez (Ph.D. Student)

Projects: SES effects on brain structure and function

Kim Lewis (Ph.D. Student)

Projects: How the natural environment affects empathy and pro-social behavior; Environmental preferences over development

Elliot Layden (Ph.D. Student)

Projects: Functional and structural neural predictors of learning potential; relationship of neural functional network parameters to psychological functioning

Kathryn Schertz (Ph.D. Student)

Projects: How different environmental features affect thought content; The relationship between physical environments and crime; Routing individuals through restorative environments

Cecilia Stenfors (Post-doc)

Projects: The neural and cognitive effects of nature in combating fatigue

Stephen Van Hedger (co-advised Post-doc)

Projects: The restorative effects of nature sounds; Cognitive training

Kyoung Whan Choe (co-advised Post-doc)

Projects: Using eye-tracking to predict image memorability, cognitive and neural measures of fatigue

Miyeon Jung (co-advised post-doc)

Projects: Natural environment interventions for heart failure patients

Jaime Young (Masters Student)

Projects: The relationship between cognitive dissonance and food choices

Stuart Richardson (Masters Student)

Projects: The effects of meditation and natural environment interactions

Past:

Hiroki Kotabe (former Post-doc and Ph.D. student) Projects: Examining what makes an environment seem disorderly; Difference in perceived disorder for natural and urban environments; What makes an environment preferred?

Ivo Gyurovski (Ph.D. Student)

Projects: Financial literacy, self-control, and environmental determinants

Lisa Sprute (former co-advised Post-doc)

Assessing neural correlations of math anxiety

Grigori Yourganov (former Post-Doc)

Projects: Multivariate classification techniques as applied to fMRI; Neural network efficiency metrics; How to restore neurocognitive functioning

Maria Tecos (former Honor's Student)

Project: Interference resolution in Bipolar Disorder

Francisco Meyer (undergrad researcher/honor's student)

Projects: The restorative effects of virtual environments

Masters Thesis Advising:

Will Woods, Yanqing Li, Steven Porter, Muxuan Lyu, Jamie Young, Siyi Fan

Dissertation and Thesis Committees: Miyeon Jung, Stephen Gray, Hiroki Kotabe (Chair), Ivo Gyurovski (Chair), Courtney Fillipi, Serena Klos, Hyesang Chang, Keith Yoder (Reader), Liz Necka (Reader), Tianyi Li, Emily Slezak, Manoj Doss, Yu Ji, Jae Peiso, Kirsten Adam, Colin Quirk, Coltan Scrivner, Peter Hu, Grace Handley, Jason Sattizahn (Reader), Carlos Cardenas-Iniguez (Chair), Josh Foster (Reader), Tom Gijssels (Reader), Elliot Layden (Chair), Omid Kardan (Chair)

Conference Proceedings:

Berman, M.G., Liu, Y., & Wu C. (2007). "A 3-node Queuing Network Template of Individual Differences in Neural Activity." *Cognitive Affective and Behavioral Neuroscience*.

Invited Talks:

Environmental neuroscience: Uncovering the extensive interactions between neurobiology, psychology, behavior and the environment 67th Annual Nebraska Symposium on Motivation, Lincoln, NE, April 11-12, 2019

Ambiguity of Neural Representations Mediating Perception, Paris, France, June 21-22, 2018

Toxic Stress Conference, Massachusetts Institute of Technology (MIT), May 9th, 2018

"Deconstructing Nature and Its Benefits" *Midwestern Psychological Association Annual Conference*, Chicago, IL, April, 2018

"Environmental Factors Related to Self-Control" *Society for Personality and Social Psychology Annual Conference*, Atlanta, GA, March, 2018

"Deconstructing Nature and Its Benefits." *Michael Davis Lecture, Center for Health Administrative Studies (CHAS)*, October, 2017

"Deconstructing Nature and Its Benefits." *Morton Arboretum* May, 1st, 2017

"Neural and Environmental Factors Related to Self-Control" *Computational Social Sciences (CSS) Workshop* April 27, 2017

"Neural and Environmental Factors Related to Self-Control" *Workshop on Quantitative Methods in Education, Health and the Social Sciences (QMEHSS) U. Chicago*, March 10, 2017

"Deconstructing Nature and Its Benefits," *Demography Workshop U. Chicago*, January 19th, 2017

“Deconstructing Nature and Its Benefits,” *Canadian National Tree Day*, Keynote speaker, Ottawa, ON, September, 21st, 2016

“Deconstructing Nature and Its Benefits,” *The Canadian Society for Brain, Behaviour and Cognitive Science*, Executive Symposium Speaker, Ottawa, ON, June 24th, 2016

“Deconstructing the Restorative Effects of Nature,” American Society of Landscape Architects (ASLA) Annual Meeting (November 6, 2015), Chicago, IL

“Brain Fractalness and Cognitive Effort,” University of Chicago Neuroscience Retreat, Sept. 17th, 2015

SciFoo 2015, GooglePlex, Mountain View, CA June 25-27, 2015

“The Restorative Effects of Interacting with Nature”, Midwest Faculty Seminar, April 18th, 2015, University of Chicago

“Looking at Each Other: Attention, Perception, Experience”, Panel discussion with MoMA Board of Trustees, April 12th, 2015, University of Chicago

Keynote Speaker: Toronto ABI Network, Nov. 21st, 2014

Symposium Speaker: “Vitamin E: The Natural Environment as an Active Ingredient in Psychological Treatment.” *APA Annual Conference* Washington, DC, August 2014

Symposium Speaker, “Memory in the lab and in the real world.” *24th Annual Rotman Research Institute Conference*, Toronto, ON, March, 10th, 2014.

Symposium Speaker, “Like Water for the Fish: Subtle Changes in the Environment Produce Big Effects on Cooperation, Attention, Self-Control, and Even Creativity.” *Society for Personality and Social Psychology Annual Meeting*, Austin, TX, February 13th, 2014.

Symposium Speaker, “Future Global Change and Cognition.” *Psychonomics Society Annual Meeting*, Toronto, ON, November 15th, 2013

Spotlight Speaker, “The Restorative Benefits of Interacting with Nature,” Ontario Library Conference (OLA), Toronto ON, Feb. 2nd, 2013

Straight talk about your aging brain: The impact of nature, nurturing and nutrition, Baycrest Research week (Oct. 23rd, 2012)

New Horizons Montessori, Philadelphia, PA (April, 2010)

Keynote speaker at the Sweden Stress Conference in Umea, Sweden (May 2009)

Media Coverage

Research on the Restorative Effects of Nature: The New Yorker, The Boston Globe, Science, Allure Magazine, The New York Times Magazine, The New York Times, APA GradPsych Magazine, Self Magazine, Women’s Health, Parent Magazine, Ann Arbor News, Charles Adler Show, CBC news, WWJ radio, WDIV channel 4 TV, Science Central News, 4F Radio Ireland Quest Magazine (Netherlands), The University of Michigan homepage, Scientific American Mind, The Wall Street Journal, Wisconsin Public Radio, Michigan Public Radio, Newsweek (Online), Men’s Health, Prevention Magazine, AARP bulletin, Bottom Line Health, More Magazine, Better Homes and Gardens, O, The Oprah Magazine, American Psychological Society Observer (cover story), University Daily Kansan, Sound Medicine Radio Program (Indiana University School of Medicine), CNN, Mail and Bag, Fitness Magazine, Ode Magazine Martha Stewart Living Magazine, CBC radio program “The Current”, Midwestern Life, Web MD, KRLD radio, Global TV, MSNBC, The Atlantic, Outside Magazine, The Globe & Mail, CTV’s Canada AM, The Toronto Sun, TV Ontario, Scientific American, The Guardian, The Washington Post, VOA, Chicago Magazine, Time Magazine, Baltimore Sun **Research on Delay of Gratification:** The New Yorker Magazine, The Globe & Mail, The Toronto Star, LiveScience **Research on Neural Representations of Social and Physical Pain:** CBS Evening News, Time Magazine **Research on the impact of visual disorder:** The Atlantic CityLab, Boston Globe

Blogs:

“Berman on the Brain” blog for the Huffington Post Canada (monthly) [[link](#)]

“Your Brain on Nature | Docs Talk” blog for the David Suzuki Foundation website [[link](#)]