Matthew w. miller

**Contact Information**

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Kinesiology Building

Auburn University

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**Research Interests**

My general objective is to enhance motor performance and health. More specifically, I seek to uncover the bases of motor learning and performance, as well as how to capitalize on these bases in order to enhance learning and performance. Additionally, I strive to understand why people choose and, more often, don't choose to engage in physical activity. I currently employ psychophysiological (e.g., electroencephalography) and behavioral (e.g., accelerometry) techniques to address my research aims.

**Education**

Ph.D., Neuroscience and Cognitive Science (May 2012)

University of Maryland, College Park, MD

Advisor: Dr. Bradley D. Hatfield

Dissertation Title: A programmatic research approach to understanding the impact of team environment on cerebral cortical dynamics and attention

M.S., Exercise, Fitness, and Health Promotion (2008)

George Mason University, Manassas, VA

B.A., Political Science (2005)

Elizabethtown College, Elizabethtown, PA

**Employment**

Assistant Professor, School of Kinesiology (2012 – present)

Joint Appointment, Department of Psychology (2012 - present)

Auburn University, Auburn, AL

**Academic/Professional Honors and Awards**

* Southeastern Conference Visiting Faculty Travel Program Recipient (2015)
* Outstanding Paper of the Year in *Sport, Exercise, and Performance Psychology* (Miller et al., [2014]).
* James A. Humphrey Award for Most Outstanding Publication by a Graduate Student in the University of Maryland Department of Kinesiology (received in 2012 for Miller, Rietschel, McDonald, & Hatfield, 2011)
* University of Maryland Graduate Research Interaction Day First-Place Poster Presentation in the *Education: Pedagogy and Learning* Category (2012)

* Induction as a Lifetime Member into the University of Maryland School of Public Health Gamma Zeta Chapter of Delta Omega, the Honorary Society of Public Health (2012)
* University of Maryland Center for Teaching Excellence Graduate Fellowship (2011 - 2012)
* Distinguished Teaching Assistant Award, University of Maryland (2011)
* F. Daniel Wagner Most Outstanding Physical Activity Teacher Award, University of Maryland (2011) - *first person to win award multiple times since the award’s inception in 1988.*
* F. Daniel Wagner Most Outstanding Physical Activity Teacher Award, University of Maryland (2010)
* University of Maryland, College Park First-Year University Fellowship Award (2009 – 2010)

**Journal Publications**

┼ = Indicates Co-First Author

**\* =** Indicates Student Mentee Author

Indicates Publication Received Award

* Daou, M.\*, Buchanan, T. L. \*, Lindsey, K. R. \*, Lohse, K. R., & **Miller, M. W.** (2016). Expecting to teach enhances learning: Evidence from a motor learning paradigm. *Journal of Motor Learning and Development*, *4*, 197 – 207. doi: 10.1123.jmld.2015-0036.
* Costanzo, M. E., VanMeter, J., Janelle, C. M., Braun, A., **Miller, M. W.**, Oldham, J., Russell, B. A. H., & Hatfield, B. D. (2016). Neural efficiency in expert cognitive-motor performers during affective challenge. *Journal of Motor Behavior*, *48*, 573 – 588. doi: 10.1080/00222895.2016.1161591.
* Meadows, C. C.\*, Gable, P. A**.**, Lohse, K. R., & **Miller, M. W.** (2016). Motivation and motor cortical activity can independently affect motor performance. *Neuroscience*, *339*, 174 – 179. doi: 0.1016/j.neuroscience.2016.09.049.
* Daou, M.\*, Lohse, K. R., & **Miller, M. W.** (2016). Expecting to teach enhances motor learning and information processing during practice. *Human Movement Science*, *49*, 336 – 345. doi: 10.1016/j.humov.2016.08.009.
* Lohse, K. R., Buchanan, T. L.\*, & **Miller, M. W.** (2016). Under-powered and over-worked: Problems with data analysis in motor learning studies. *Journal of Motor Learning and Development*, *4*, 37 – 58. doi: 10.1123/jmld.2015-0010.
* Leiker, A. M., Bruzi, A. T., **Miller, M. W.**, Nelson, M., Wegman, R., & Lohse, K. R. (2016). The effects of autonomous difficulty selection on engagement, motivation, and learning in a motion-controlled video game task. *Human Movement Science*, *49*, 326 – 335. doi: 10.1016/j.humov.2016.08.005.
* Iso-Ahola, S. E., & **Miller, M. W.** (2016). Contextual priming of a complex behavior: Exercise. *Psychology of Consciousness: Theory, Research, and Practice*, *3*, 258 – 269. doi: 10.1037/cns0000078.
* Iso-Ahola, S. E., Dotson, C. O., Jagodinsky, A. E., Clark, L. C. **\***, Smallwood, L. L., Wilburn, C., Weimar, W. H., & **Miller, M. W.** (2016). Improving performance by anchoring movement and “nerves”. *Human Movement Science*, *49*, 239 – 247. doi: 10.1016/j.humov.2016.07.008.
* Meadows, C. C.\*, ┼, Gable, P. A**. ┼**, Lohse, K. R., & **Miller, M. W.** (2016). The effects of reward magnitude on reward processing: An averaged and single trial event-related potential study. *Biological Psychology*, *118*, 154 – 160. doi: 10.1016/j.biopsycho.2016.06.002.
* Leiker, A. M. **┼**, **Miller, M. W. ┼**, Brewer, L. E., Nelson, M., Siow, M., & Lohse, K. R. (2016). The relationship between engagement and neurophysiological measures of attention in motion-controlled video games: A randomized controlled trial. *Journal of Medical Internet Research: Serious Games*, *4*, e4*.* doi: 10.2196/games.5460.
* Grand, K. F.\*, Bruzi, A. T., Dyke, F. B.\*, Godwin, M. M.\*, Leiker, A. M.\*, Thompson, A. G.\*, Buchanan, T. L.\*, & **Miller, M. W.** (2015). Why self-controlled feedback enhances motor learning: Answers from electroencephalography and indices of motivation. *Human Movement Science*, *43*, 23 – 32. doi: 10.1016/j.humov.2015.06.013.
* Dyke, F. \*, Leiker, A.\*, Grand, K.\*, Godwin, M. M.\*, Thompson, A. G.\*, Rietschel, J. C., McDonald, C. G., & **Miller, M. W.** (2015). The efficacy of auditory probes in indexing cognitive workload is dependent on stimulus complexity. *International Journal of Psychophysiology*, *95*, 56 – 62. doi: 10.1016/j.ijpsycho.2014.12.008.
* Rietschel, J. C., McDonald, C. G., Goodman, R. N., **Miller, M. W.**, Jones-Lush, L. M., Wittenberg, G. F., & Hatfield, B. D. (2014). Psychophysiological support of increasing attentional reserve during the development of a motor skill. *Biological Psychology*, *103*, 349 – 356. doi: 10.1016/j.biopsycho.2014.10.008.
* Dyke, F. **┼,** \*, Godwin, M. M. **┼,** \*, Goel, P., Rehm, J., Rietschel, J. C., Hunt, C. A., & **Miller, M. W.** (2014). Cerebral cortical activity associated with nonexperts’ most accurate motor performance. *Human Movement Science*, *37*, 21 – 31. doi: 10.1016/j.humov.2014.06.008.
* **Miller, M. W.,** Pressaco, A., Groman, L. J.\*, Bur, S.\*, Rietschel, J. C., Gentili, R. J., McDonald, C. G., Iso-Ahola, S. E., & Hatfield, B. D. (2014). The effects of team environment on cerebral cortical processes and attentional reserve. *Sport, Exercise, and Performance Psychology*, *3*, 61 – 74. doi: 10.1037/spy0000001. *OUTSTANDING PAPER OF THE YEAR IN SPORT, EXERCISE, AND PERFORMANCE PSYCHOLOGY*.
* Schmitt, K. R. B. **┼**, Larsen, E. **┼**, **Miller, M. W.**, Andrews, A., Badawy, A. A., Dougherty, M., Hrapczynski, K., Robertson, B., Taylor, A., Williams, A., Kramer, S., & Benson, S. (2013). A survey tool for assessing student expectations early in a semester. *Journal of Microbiology and Biology Education*, *14*, 255 – 257. doi: 10.1128/jmbe.v14i2.581.
* Palmer, K. K.**┼**, **Miller, M. W.┼**, & Robinson, L. E. (2013). Acute exercise enhances preschoolers’ ability to sustain attention. *Journal of Sport and Exercise Psychology*, *35*, 433 - 437.
* **Miller, M. W.**, Groman, L. J.\*, Rietschel, J. C., McDonald, C. G., Iso-Ahola, S. E., & Hatfield, B. D. (2013). The effects of team environment on attentional resource allocation and cognitive workload. *Sport, Exercise, and Performance Psychology, 2*, 77 – 89. doi: 10.1037/a0030586.
* Rietschel, J. C. ┼, **Miller, M. W┼.**, Gentili, R. J., Goodman, R. N., McDonald, C. G., & Hatfield, B. D. (2012). Cerebral-cortical networking and activation increase as a function of task difficulty. *Biological Psychology, 90*, 127 – 133. doi: 10.1016/j.biopsycho.2012.02.022.
* **Miller, M. W┼.**,Rietschel, J. C. ┼, McDonald, C. G., & Hatfield, B. D. (2011). A novel approach to the physiological measurement of mental workload. *International Journal of Psychophysiology, 80*, 75 – 78. doi: 10.1016/j.ijpsycho.2011.02.003.

**Manuscripts under Review**

* Grand, K. F.\*, Daou, M. \*, Lohse, K. R., & **Miller, M. W.** (under review). Investigating the mechanisms of an incidental choice on motor learning. *Journal of Motor Learning and Development*.
* Daou, M.\*, Wilson, G. J., Sassi, J. M., Gonzalez, A. M., & **Miller, M. W.** (under review). Effects of a multi-ingredient energy supplement on attention, cognitive performance and cerebral-cortical activation. *Nutritional Neuroscience*.

**Manuscripts in Preparation**

**Book Chapters**

* Hastie, P. A., **Miller, M. W**., Oliver, G. D., & Weimer, W. H. (2014). Curves are in. In K. Armour (Ed.). *Pedagogical Cases in Sport, Exercise, and Movement. Volume 1: Physical Education and Youth Sport*. New York, NY: Routledge.

**Technical Reports**

* Hatfield, B. D., Gentili, R. J., Rietschel, J. C., Lo, L., Oh, H., Jaquess, K. J., **Miller, M.**, & Tan, Y. Y. (2013). Objective assessment of cognitive workload and attentional reserve in pilots during varying degrees of task difficulty. *Final Report for Lockheed Martin Corporation*.

**Conference Symposia**

* Co-Chair: **Miller, M. W.** (2016). Doing it right: Neural correlates of action preparation, performance monitoring, and learning. *Society for Psychophysiological Research’s Annual Meeting*, Minneapolis, MN.
* Discussant: **Miller, M. W.** (2016). Psychophysiological evidence on the significant and interdependent relationship between health behaviors and cognitive functioning. *Society for Psychophysiological Research’s Annual Meeting*, Minneapolis, MN.
* Participant: **Miller, M. W.** (2015). Attentional focus in endurance performance. *North American Society for the Psychology of Sport and Physical Activity Annual Meeting,* Portland, OR.

**Invited Conference Presentations**

* **Miller, M. W.**, & Daou, M. (2017). Enhancing motor skill acquisition by preparing to teach. *The 2017 Sports Science Summit*. Streamed Live on Internet.
* Oh, H., Hatfield, B. D., Jacquess, K. J., Lo, L., Tan, Y. Y., Prevost, M. C., Mohler, J. M., Postlethwaite, H., Rietschel, J. C., **Miller, M. W.**, Blanco, J. A., Chen, S., & Gentili, R. J. (2015). A composite cognitive state and load assessment system in pilots under various task demands. *Paper invited for presentation at the 17th Conference on Human-Computer Interaction*, Los Angeles, CA.
* **Miller, M. W.** (2013). The effects of team environment on the brain and psychomotor performance. *Oral presentation invited for the 2013 Mid-Atlantic Regional Chapter of the American College of Sports Medicine Conference*, Harrisburg, PA.
* Rietschel, J. C.┼,& **Miller, M. W.** ┼(2013).The development and application of a novel physiological metric of cognitive workload. *Paper invited for presentation at the 15th Conference on Human-Computer Interaction,* Las Vegas, NV.

**Conference Presentations**

* Lohse, K. R., Daou, M.\*, Rhoads, J. A.\*, Meadows, C. C.\*, & **Miller, M. W.** (2016). An exploratory analysis of the effects of task engagement on feedback processing: An ERP investigation. *Poster presented at the Society for Psychophysiological Research’s Annual Meeting*, Minneapolis, MN.
* Meadows, C. C.\*, ┼, Gable, P. A. ┼, Lohse, K. R., & **Miller, M. W.** (2016). The effects of reward magnitude on reward processing: An averaged and single-trial event-related potential study. *Poster presented at the Society for Psychophysiological Research’s Annual Meeting*, Minneapolis, MN.
* Dyke, F. B. \*, Buchanan, T. L. \*, Crawford, B.\*, & **Miller, M. W.** (2016).Does a single bout of ‘green exercise’ facilitate engagement in future exercise behavior? A one-year pilot study. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Montreal, Canada.
* Daou, M.\*, Buchanan, T. L. \*, Lindsey, K. R. \*, Lohse, K. R., & **Miller, M. W.** (2016). Expecting to teach enhances learning: Evidence from a motor learning paradigm. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Montreal, Canada.
* Iso-Ahola, S. E., Dotson, C. O., Jagodinsky, A. E., Clark, L. C. **\***, Smallwood, L. L., Wilburn, C., Weimar, W. H., & **Miller, M. W.** (2016). Improving performance by anchoring movement and “nerves”. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Montreal, Canada.
* Lohse, K. R., Leiker, A., Bruzi, A., Wegman, R., Nelson, M., & **Miller, M. W.** (2016). Self-selected difficulty, engagement, and intrinsic motivation in an interactive computer game: An exploratory analysis. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Montreal, Canada.
* Lohse, K. R. ┼, **Miller, M. W.** ┼, Grand, K. F. \*, Robinson, J. L. (2016). Neural correlates of attentional focus: A high-resolution fMRI study. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Montreal, Canada.
* Meadows, C. C.\*, ┼, Gable, P. A**. ┼**, Lohse, K. R., & **Miller, M. W.** (2016). Motivation and motor-preparatory brain activity independently affect premotor time. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Montreal, Canada.
* **Miller, M. W.** ┼, Lohse, K. R. ┼, Grand, K. F. \*, Robinson, J. L. (2016). Neural correlates of choking under pressure: A high-resolution fMRI study. *Oral presentation delivered at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Montreal, Canada.
* Leiker, A., Bruzi, A., Nelson, M., Wegman, R., **Miller, M. W.**, Lohse, K. R. (2016). The effects of self-controlled difficulty progression on engagement and learning in a computer gaming task. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Montreal, Canada.
* Robinson, J. L., Denney, T. S., **Miller, M.**, Lohse, K., Grand, K., Kirby, L. A. J., Murphy, J. E., Graap, K., & Macy, A. (2016). Psychophysiological recording in ultra high field environments: A 7T investigation . *Poster presented at the International Society for Magnetic Resonance in Medicine Ultra High Field MRI Workshop*, Heidelberg, Germany.
* Meadows, C. C.\*, ┼, Gable, P. A**. ┼**, Lohse, K. R., & **Miller, M. W.** (2016). Potential reward modulates feedback processing: An event-related potential study. *Poster presented at the Cognitive Neuroscience Society Annual Meeting*, New York, NY.
* Kirby, L. A., **Miller, M.**, Lohse, K., Grand, K. \*, Murphy, J. E., Graap, K., Macy, A., & Robinson, J. L. (2016). Choking under pressure: A neuropsychophysiological investigation at 7T. *Poster presented at the Annual Meeting for the Social and Affective Neuroscience Society*, New York, NY.
* Shaw, E. P., Rietschel, J. C., McDonald, C. G., **Miller, M. W.**, Gentili, R. J., & Hatfield, B. D. (2015). A real-time objective assessment of cognitive workload during ambulation. *Poster presented at the Society for Neuroscience’s Annual Meeting*, Chicago, IL.
* Grand, K.\*, Bruzi, A. T., Dyke, F. B. \*, Godwin, M. M. \*, Leiker, A. M. \*, Thompson, A. G. \*, Buchanan, T. L. \*, Daou, M. \*, Lohse, K. R., & **Miller, M. W.** (2015). Feedback-related negativity predicts generalization of a newly learned motor skill. *Poster presented at the Society for Psychophysiological Research’s Annual Meeting*, Seattle, WA.
* Robinson, J. L., **Miller, M. W.**, Lohse, K. Grand, K. \*, Hill, A. C., Murphy, J. E., Kirby, L. A. J., Graap, K., & Macy, A. (2015). Psychophysiological measures at ultra high field: A 7T fMRI study of motor performance under pressure. *Poster presented at the Society for Psychophysiological Research’s Annual Meeting*, Seattle, WA.
* Grand, K.\*, Bruzi, A. T., Dyke, F. B. \*, Godwin, M. M. \*, Leiker, A. M. \*, Thompson, A. G. \*, Buchanan, T. L. \*, Daou, M. \*, Lohse, K. R., & **Miller, M. W.** (2015). Why self-controlled feedback enhances motor learning: Answers from electroencephalography and self-report questionnaire. *Oral presentation delivered at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Portland, OR.
* Dyke, F. B. \*, Buchanan, T. L. \*, Crawford, B. Z. \*, & **Miller, M. W.** (2015).Does a single bout of ‘green exercise’ enhance the affective experience and future exercise behavior? A pilot study. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Portland, OR.
* Lohse, K. R., Buchanan, T. L.\*, & **Miller, M. W.** (2015). Under-powered and over-worked: Problems with data in motor learning studies. *Oral presentation delivered at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Portland, OR.
* Robinson, J. L., **Miller, M. W.**, Lohse, K., Beyers, R., Grand, K.\*… Graap, K. (2015). Neuropsychophysiological mapping: Concurrent psychophysiological recording and fMRI at 7T. *Poster presented at the Annual Meeting of the Organization for Human Brain Mapping*, Honolulu, HI.

* Grand, K. F.\*, Bruzi, A. T., Dyke, F. B.\*, Godwin, M. M.\*, Leiker, A. M.\*, Thompson, A. G.\*, Buchanan, T. L.\*, Daou, M.\*, Lohse, K. R., & **Miller, M. W.** (2015). Feedback-related negativity predicts adaptation of a newly learned skill to novel task constraints. *Poster presented at the Cognitive Neuroscience Society Annual Meeting*, San Francisco, CA.
* Gentili, R., Rietschel, J., Jaquess, K., Lo, L., Prevost, M., **Miller, M.**, Mohler, J., Oh, H., Tan, Y. Y., Hatfield, B. (2014). Brain biomarkers based assessment of cognitive workload in pilots under various task demands. *Paper presented at the IEEE Engineering in Medicine and Biology Society Conference*, Chicago, IL.
* Schmitt, K. R. B., Badawy, A. A., Kramer, S. S., Hrapczynski, K., Larsen, E. A., Taylor, A. C., Andrew, A. A., Dougherty, M., **Miller, M. W.**, Robertson, B., Williams, A. Y., & Benson, S. S. (2014). A failing grade for CS faculty: Comparing faculty perceptions of student expectations and reality. *Paper presented at the Consortium for Computing Sciences in Colleges Eastern Regional Conference*, York, PA.
* Dyke, F. \*, Leiker, A.\*, Grand, K.\*, Godwin, M. M.\*, Thompson, A. G.\*, Rietschel, J. C., McDonald, C. G., & **Miller, M. W.** (2014). The efficacy of auditory probes in indexing cognitive workload is dependent on stimulus complexity and magnitude of attentional orienting. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Atlanta, GA.
* Dyke, F. **┼,** \*, Godwin, M. M. **┼,** \*, Goel, P.\*, Rehm, J.\*, Rietschel, J. C., Hunt, C., & **Miller, M. W.** (2014). Cognitive processes associated with novices’ best motor performances: An electroencephalographic investigation. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Atlanta, GA.
* Robinson, J. L., **Miller, M. W.**, Beyers, R., Grand, K.\*, Kirby, L. A. J….& Graap, K. (2014). Neurophysiological mapping: Concomitant psychophysiological recording and submillimeter functional magnetic resonance imaging (fMRI) at 7T. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Atlanta, GA.
* Jacquess, K. J., Rietschel, J. C., Lo, L., **Miller, M. W.**, Oh, H., Tan, Y. Y… Gentili, R. J. (2014). Objective assessment of cognitive workload during varying degrees of task difficulty using a dry EEG system: Relevance for ecological validity. *Poster presented at the Annual Meeting of the Society for Neuroscience*, Washington, D. C.
* Hatfield, B. D., Gentili, R. J., Jaquess, K. J., Lo, L., **Miller, M. W.**, Mohler, J. M… Tan, Y. Y. (2014). Objective assessment of cognitive workload and attentional reserve in pilots during varying degrees of task difficulty and mental stress. *Poster presented at the Annual Meeting of the Society for Neuroscience*, Washington, D. C.
* Rietschel, J. C.**┼**, Godwin, M. M. **┼,** \*, Dyke, F.,\*, Buchanan, T.\*, Harrington, S.\*, Hunt, C., Jha, A. P., & **Miller, M. W.** (2014). Dispositional mindfulness is positively related to physical force consistency, but eight minutes of mindful breathing is not. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Minneapolis, MN.
* **Miller, M. W. ┼**, Baker, R. E. ┼, & Shannon, D. M. (2014). Coaches’ idealized influence predicts their ability to develop successful collegiate athletic teams from teams previously lacking success. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Minneapolis, MN.
* Palmer, K. K.,Irwin, J. M.,Monroe, B. A.,**Miller, M. W.**, & Robinson, L. E. (2014). Children's executive function is correlated with their locomotor skills. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, Minneapolis, MN.
* Leiker, A. \*, Grand, K. \*, Thompson, A. G. \*, Dyke, F. \*, Godwin, M. M. \*, Rietschel, J. C., McDonald, C. G., & **Miller, M. W.** (2014). Comparing the orienting of attention to two types of task-irrelevant auditory stimuli under varying levels of task load: Implications for measuring attentional reserve. *Poster presented at the Cognitive Neuroscience Society Annual Meeting*, Boston, MA.
* Dyke, F. **┼,** \*, Godwin, M. M. **┼,** \*, Goel, P., Rehm, J., Rietschel, J. C., Hunt, C., & **Miller, M. W.** (2013). Advice for the casual athlete’s mind: Brain activity associated with nonexpert golfers’ best putts. *Poster presented at the Annual Meeting of the Society for Neuroscience*, San Diego, CA.
* Dyke, F.**┼**, \*, Godwin, M. M.**┼**, \*, Rietschel, J. C., McDonald, C. G., & Miller, M. W. (2013). Capturing attentional resources: Comparing the effectiveness of two types of task-irrelevant stimuli in indexing attentional reserve. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Florence, Italy.
* Badawy, A. A., Andrews, A., Dougherty, M., Hrapczynski, K., Larsen, E., **Miller, M. W.**, Robertson, B., Schmitt, K. R. B., Taylor, A., Kramer, S., & Benson, S. (2013). Expectations of computing and other STEM students: A comparison for different class levels, or (CSE ≠ STEM – CSE) ǀ Class Level. *Oral presentation delivered at the 2013 Frontiers in Education Conference*, Oklahoma City, OK.
* Rietschel, J. C., Hunt, C., Godwin, M. M.\*, Dyke, F.,\*, Jha, A. P., & **Miller, M. W.** (2013). Dispositional mindfulness is positively related to the quality of motor performance. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, New Orleans, LA.
* Palmer, K. K.**┼**, , **Miller, M. W.┼**, & Robinson, L. E. (2013). Acute physical activity enhances preschoolers’ ability to sustain attention. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity Annual Meeting*, New Orleans, LA.
* Iso-Ahola, S. E., & **Miller, M. W.** (2013). Nonconscious and conscious priming of a complex behavior: Exercise. *Poster presented at the Annual Meeting of the Society for Personality and Social Psychology*, New Orleans, LA.
* **Miller, M. W.**, Pressaco, A., Groman, L. J.\*, Bur, S.\*, Rietschel, J. C., Gentili, R. J., McDonald, C. G., Iso-Ahola, S. E., & Hatfield, B. D. (2012). The effect of team environment on arousal and cerebral cortical activation. *Poster presented at the Annual Meeting of the Society for Neuroscience*, New Orleans, LA.
* Rietschel, J. C., McDonald, C. G., Goodman, R. N., **Miller, M. W.**, Jones-Lush, L. M., Wittenberg, G. F., & Hatfield, B. D. (2012). Psychophysiological investigation of attentional processes during motor skill learning. *Poster presented at the Annual Meeting of the Society for Neuroscience*, New Orleans, LA.
* **Miller, M. W.** ┼, Rietschel, J. C. ┼, McDonald, C. G., & Hatfield, B. D. (2012). Perception of teammate competence during task performance alters neurophysiological correlate of motivation orientation. *Poster presented at the Annual Meeting of the Society for Social Neuroscience*, New Orleans, LA.
* **Miller, M. W.**, Pressaco, A., Groman, L. J.\*, Bur, S.\*, Rietschel, J. C., Gentili, R. J., McDonald, C. G., Iso-Ahola, S. E., & Hatfield, B. D. (2012). The impact of team environment on attentional reserve. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, New Orleans, LA.
* Andrews, A., Badawy, A. A., Dougherty, M., Hrapczynski, K., Larsen, E., **Miller, M. W.**, Robertson, B., Schmitt, K. R. B., Taylor, A., Kramer, S., & Benson, S. (2012). Analysis of student and faculty course expectations. *Oral presentation delivered at the 2012 Lilly Conference on College & University Teaching*, Washington, D.C.
* **Miller, M. W.**, Pressaco, A., Groman, L. J.\*, Bur, S.\*, Rietschel, J. C., Gentili, R. J., McDonald, C. G., Iso-Ahola, S. E., & Hatfield, B. D. (2012). The effect of team environment on the allocation of attentional resources to novel stimuli. *Poster presented at the Annual Meeting of the Social and Affective Neuroscience Society*, New York, NY.
* Rietschel, J. C. ┼, **Miller, M. W.** ┼, Gentili, R. J., Goodman, R. N., McDonald, C. G., & Hatfield, B. D. (2011). Cerebral-cortical networking and activation increase as a function of task-difficulty. *Poster presented at the Society for Neuroscience Annual Meeting*, Washington, D.C.
* **Miller, M. W.**, Groman, L. J.\*, Rietschel, J. C., McDonald, C. G., Iso-Ahola, S. E., & Hatfield, B. D. (2011). The effects of team environment on attentional resource allocation and cognitive workload. *Oral presentation delivered at the Mid-Atlantic Regional Chapter of the American College of Sports Medicine Conference*, Harrisburg, PA.
* **Miller, M. W.** ┼, Rietschel, J. ┼, McDonald, C., Pangelinan, M., Bush, L., & Hatfield, B. (2010). EEG assessment of cognitive workload under ecologically valid conditions. *Poster presented at the Society for Neuroscience Annual Meeting,* SanDiego, CA.
* Costanzo, M. E., Beatty, G., Breeden, A., Fawver, B., Hancock, G., Janelle, C., **Miller, M.,** Oldham, J., Russell, B., Van Meter, J., & Hatfield, B. D. (2010).Examination of brain processes underlying emotion regulationwithin a stressresilient population. *Poster presented at the Annual Meeting of the Social &* *Affective Neuroscience Society*, Chicago, IL.
* Kelly-Woessner, A., & **Miller, M. W.** (2005).Personality and participation: How psychological predispositions impact civic engagement. *Paper presented at the International Society of Political Psychology Annual Meeting,* Toronto, Canada.

**Mass Media**

* Palmer, Miller, and Robinson (2013) cited on page 213 in December 2013 issue of *Parents* magazine.
* Quoted in *The Wall Street Journal:* Helliker, K. (2012, December 20). Stop mocking the gym majors. *The Wall Street Journal*.

**Funded Grants and Contracts**

* *Funding Agency*: Maximum Human Performance (MHP)

*Role*: Principal Investigator

*Dates*: 2016

*Title*: Effect of MHP’s new pre-workout to enhance focus, concentration, mood, energy, cognitive and athletic performance

*Total Costs*: $22,976

*Description*: The project investigates whether a supplement developed by MHP enhances mood, cognitive function, brain activity, and athletic performance.

* *Funding Agency*: Auburn University Undergraduate Research Fellowship Program

*Role*: Advisor (Lily Clark is advisee)

*Dates*: 2016

*Title*: Can an instance of spontaneous physical activity be explained by the Dual-Process Model?

*Total Costs*: $500.00 + $1,000.00 student stipend

*Description*: The project investigates whether cognitive control determines whether impulses or reflections influence spontaneous physical activity.

* *Funding Agency*: Auburn University Undergraduate Research Fellowship Program

*Role*: Advisor (Caroline Meadows is advisee)

*Dates*: 2015

*Title*: Does motor-preparatory brain activity mediate the relationship between motivation and motor performance?

*Total Costs*: $500.00 + $1,000.00 student stipend

*Description*: The project investigates whether the positive relationship between motivation and motor performance can be explained by adaptive motor-preparatory brain activity.

* *Funding Agency*: Lockheed Martin

*Role*: Co-Investigator

*Dates*: 2014 – 2015

*Title*: Objective assessment of cognitive workload in flight tasks as a result of flight simulation demand and expertise

*Total Costs*: $150,000

*Description*: The aim of the project is to provide a valid biomarker of cognitive workload, derived from electroencephalography (EEG), eye tracking, and cardiovascular activity under conditions of varying mental challenge, which is robust for employment in operational environments.

* *Funding Agency*: Auburn University College of Education Seed Grants Program

*Role*: Principal Investigator

*Dates*: 2013 – 2014

*Title*: Examining the neural correlates of attention orientation while performing under pressure

*Total Costs*: $4,688.80

*Description*: To employ fMRI to characterize neural correlates of internal and external orientations of attention and to test the hypothesis that attention becomes internally oriented when one performs under psychological pressure.

* *Funding Agency*: Department of Defense

*Role*: Co-Investigator

*Dates*: 2013 – 2014

*Title*: Volunteer investigations for mounted and head-supported mass in dismounted operations.

*Total Costs*: $91,000

*Description*: The goal of this research is to assess the effects of transportation in various warfighter vehicles over various terrains on warfighters’ physiology and psychology.

* *Funding Agency*: Department of Defense

*Role*: Consultant

*Dates*: 2012 – 2014

*Title*: Biomechanical variability with changes in cognitive demand during ambulation for service members with lower limb amputations

*Total Costs*: $150,000

*Description*: The purpose of this study is to determine (a) the cognitive load imposed on Service Members with lower limb amputations while engaging in a real-world scenario, and (b) the biomechanical adaptations that occur with increasing cognitive load.

* *Funding Agency*: Lockheed Martin

*Role*: Co-Investigator

*Dates*: 2012 – 2013

*Title*: Cognitive workload

*Total Costs*: $100,000

*Description*: The general purpose of the research plan is to facilitate effective decision-making and cognitive-motor performance of human operators and to provide a valid and robust biomarker of attention reserve, derived from electroencephalography (EEG), under conditions of varying cognitive workload.

**Pending Grants and Contracts**

* *Funding Agency*: Office of the Director of National Intelligence

*Role*: Key Personnel

*Dates*: 2017 – 2020

*Title*: Developing biometric assessments of job performance in dynamic contexts

*Total Costs*: $99,230.00 (costs associated with my effort)

*Description*: My effort will involve examining the effects of interpersonal trust on biomarkers of individuals’ cognitive workload while they engage in visuomotor tasks of varying difficulty.

* *Funding Agency*: Maximum Human Performance

*Role*: Principal Investigator

*Dates*: 2017

*Title*: Effect of MHP’s new pre-workout to enhance sport skill learning

*Total Costs*: $20,000

*Description*: This clinical trial will examine and quantify the ability of MHP’s new pre-workout supplement to enhance sport skill learning.

**Unfunded Grants and Contracts**

* *Funding Agency*: Auburn University Intramural Grants Program

*Role*: Co-Principal Investigator

*Dates*: 2015 – 2016

*Title*: The effects of dispositional mindfulness on emotional eating

*Total Costs*: $17,679.00

*Description*: The project investigates the relationship between dispositional mindfulness and (1) emotional eating as well as (2) neural correlates of food processing during psychological stress.

* *Funding Agency*: National Collegiate Athletic Association

*Role*: Co-Principal Investigator

*Dates*: 2014 – 2015

*Title*: Investigating the effects of a mindfulness-based stress reduction course on student-athletes’ well-being and mental health

*Total Costs*: $40,919

*Description*: The project proposes to create and implement a mindfulness-based stress reduction course specifically designed for student-athletes, and research its effects on their well-being and mental health.

* *Funding Agency*: National Institute for Disability Rehabilitation and Research

*Role*: Co-Investigator

*Dates*: 2014 – 2018

*Title*: Health and function outcomes of adapted sport participation

*Total Costs*: $2,462,649.00

*Description*: The project will focus on the effects of adapted sport on the health and function of people with disabilities. The primary concern of this project is determining the potential benefits of integrating people with and without disabilities in sport.

* *Funding Agency*: Auburn University Intramural Grants Program

*Role*: Co-Principal Investigator

*Dates*: 2014 – 2015

*Title*: Establishing guidelines for step-count programs and understanding program adherence decisions

*Total Costs*: $54,404.04

*Description*: The objective of the proposed work is to establish step-count program guidelines and elucidate the mechanisms underlying program adherence decisions.

* *Funding Agency*: Auburn University Intramural Grants Program

*Role*: Co-Principal Investigator

*Dates*: 2013 – 2015

*Title*: Examining the neural correlates of attention orientation while performing under pressure

*Total Costs*: $50,021.66

*Description*: To employ simultaneous EEG-fMRI to characterize neural correlates of internal and external orientations of attention and to test the hypothesis that attention becomes internally oriented when one performs under psychological pressure.

* *Funding Agency*: Department of Education

*Role*: Co-Investigator

*Dates*: 2013 – 2017

*Title*: Moving to achieve: The role of physical education and physical activity policies to academic achievement

*Total Costs*: $1,600,000

*Description*: The purpose of this project is to discover how the implementation of school physical activity policies, students’ physical activity behaviors and fitness levels relate to academic achievement and neurocognitive function over time.

**Manuscript and Textbook Reviewer**

* *American Journal of Psychology*
* *Basic and Applied Social Psychology*
* *Current Directions in Psychological Science*
* *Experimental Brain Research*
* *Frontiers in Human Neuroscience*
* *Frontiers in Psychology*
* *International Journal of Psychophysiology*
* *International Journal of Sport Psychology*
* *International Journal of Sports Sciences & Coaching*
* *Journal of Applied Social Psychology*
* *Journal of the International Neuropsychological Society*
* *Journal of Motor Learning and Development*
* *Sport, Exercise, and Performance Psychology*
* *Medicine and Science in Sport and Exercise*
* *PeerJ*
* *PLoS One*
* *Psychology of Sport and Exercise*
* *Scientific Reports*
* *Sport Neuroscience and Psychophysiology Handbook*

**Sponsored Research Application Reviewer**

* Research Foundation-Flanders (Fonds Wetenschappelijk Onderzoek-Vlaanderen, FWO)

* U.S. Army Natick Soldier Research, Development and Engineering Center (NSRDEC)

**Scientific and Professional Memberships**

* Cognitive Neuroscience Society (active)
* North American Society for the Psychology of Sport and Physical Activity (active)
* Society for Psychophysiological Research (active)
* Society for Neuroscience
* Society for Social and Affective Neuroscience
* American College of Sports Medicine
* Southeast Chapter of the American College of Sports Medicine

**Teaching Philosophy**

In no particular order of importance, my objectives as a teacher are to cultivate students’ motivation for learning, effectively convey course content, and foster students’ critical thinking skills. I believe that each of these objectives is crucial for students’ success. While the importance of effectively conveying course content is self-evident, I believe that, in order for students to be receptive to teaching, they must first be motivated to learn. My experience as a teacher has been that, if students are inspired to learn subject matter, then they will comprehend the material at levels beyond which they would otherwise. I believe that, while motivating students to learn and effectively transmitting course content is important, helping them to develop critical thinking skills is equally crucial. The development of critical thinking skills provokes students to think about issues both comprehensively and from the perspectives of other people from diverse backgrounds. By genuinely contemplating issues, students develop core values based on the results of their deep deliberations, and, by considering the viewpoints of others, students prepare themselves for participation in a global society.

**Teaching, Mentoring, and Advising Experience**

**Auburn University, Auburn, AL (2012 - present)**

* ***Doctoral Advisor***
  + Jence A. Rhoads (2015 – present)
  + Marcos Daou (2014 – present)
  + Ford B. Dyke (2013 – present)
    - Awards
      * 2015 Auburn University This is Research Week Graduate Student Poster Award: First Place (Social Sciences and Humanities)- $750
      * 2013 – 2014 Auburn University Dennis Wilson Annual Scholarship Winner- $1,500
      * 2013 Auburn University Research Week Graduate Student Poster Award: Second Place (Sciences)- $500
  + Maurice M. Godwin (2013 – present)
    - Awards
      * Accepted offer to become assistant professor in Department of Kinesiology at California State University, San Bernardino
      * 2013 – 2016 Auburn University President’s Graduate Opportunities Program Recipient- $30,000
      * 2014 – 2015 Auburn University College of Education Alma Holladay Scholarship Recipient
      * 2013 Federation of American Societies for Experimental Biology (FASEB)/Maximizing Access to Research Careers (MARC) Program Poster/Oral Presentation Travel Award Recipient- $1,850
  + Kirk F. Grand (2013 – 2106)
    - Dissertation Title: Red or blue: Does the choice of hue influence the way you learn the things you do? A mechanistic account of the effects of incidental choice on motor learning
    - Initial Placement: Assistant Swimming and Diving Coach, Adjunct Professor, Auburn University
  + Andrew G. Thompson (2013 – 2016)
    - Dissertation Title: The influence of dispositional mindfulness on state anxiety and motor choking under pressure
    - Initial Placement: Post-doctoral researcher, Tufts University/U.S. Army’s Natick Soldier Research Development and Engineering Center
* ***Doctoral Committee Member***
  + Braden H. Romer
  + Khalil Lee
  + Amber M. Leiker
  + Justin Pruder (Reader)
  + Matt Davis (Reader)
  + Marc Jackson (Reader)
* ***Masters Committee Member***
  + Alyssa Barber
  + Taylor Buchanan
  + Brigitte Burpo
  + Thomas Chadwell
  + Abigail Dennis
  + Alexa Girard
  + Camille Huang
  + Jerraco Johnson
  + Amber Leiker
  + Alonzo Lockett
  + Jacob Lucheon
  + Kara K. Palmer
  + Anastasia Papastefan
  + Courtney Ritter
  + Brittany White
* ***Lead Instructor***
* *Advanced Motor Learning and Performance (Graduate)*
* *Advanced Sport Psychology (Graduate)*
* *Applying the Event-Related Potential Technique to Your Research (Graduate)*
* *Exercise and Sport Psychology (Undergraduate)*
* *Motor Learning and Performance (Undergraduate)*
* *Neuromotor Control (Graduate)*
* *Psychophysiology of Motor Performance (Graduate)*
* *Physical Conditioning and Speed (Undergraduate)*

**University of Maryland, College Park, MD (2009 – 2012)**

* ***Lead Instructor***
* *Beginning Basketball*
* *Beginning Bowling*
* *Intermediate Basketball*
* *Intermediate Bowling*
* *Intermediate Jogging*
* *Intermediate Volleyball*
* *Intermediate Weight-Training*
* *Online/In-Class Hybrid Beginning Weight-Training*
* *Online/In-Class Hybrid Intermediate Weight-Training*
* ***Substitute Lead Instructor***
* *Psychology of Sport*
* ***Teaching Assistant*** 
  + *Introduction to Kinesiology*
  + *Online Psychology of Sport*
  + *Physiology of Exercise*
  + *Psychology of Sport*
* ***Guest Lecturer***
* *Neural Basis of Visual Motor Learning and Adaptation*
* ***Independent Study Advisor***
  + *Electrophysiological Analysis of Cognitive Workload* with undergraduate student Tanner Nelson
  + *The Effects of Team Dynamics on Cerebral Cortical Activation, Cortical Networking, and Cognitive Workload* with undergraduate students Sean Burr and Lawrence Groman
  + *The Effects of Team Dynamics on Cognitive Workload and Attentional Resource Allocation* with undergraduate students Lawrence Groman and Tanner Nelson
* ***Advisor, Minority Student Summer Research and Training***
* Marian Sackey
* Milton Pratt

**outreach**

* Auburn University Brain Camp Participation (2016)
* Auburn University Sport Science Camp Participation (2015 – present)
* Ad hoc consulting for Auburn University Gymnastics Team (2014 – present)
* Delivered invited oral presentation “Using mindfulness to improve your academics, athletics, and life” for the *Spring 2014* *Tuskegee University Department of Athletics Life Skills Lecture Series*.
* Sport Psychology Consultant, Opelika High School Boys’ and Girls’ Track & Field Teams, 2012 – 2013

**Service**

* Auburn University School of Kinesiology Faculty Search Committee (2016 – 2017)
* Auburn University This is Research Week Judge (2016)
* Faculty Advisor, Auburn University Club Ice Hockey (2015 – 2016)
* Auburn University School of Kinesiology Graduate Program Task Force (2014)
* Auburn University School of Kinesiology Master’s Admissions Task Force Member (2014)
* Hosted Visiting Professor Dr. Alessandro Bruzi of Federal University of Lavras, Brazil (2014)

* Auburn University Graduate School Research Week Judge (2014)
* Auburn University School of Kinesiology Faculty Search Committee Member (2013 – 2014)
* Auburn University Department of Kinesiology Faculty Search Committee (2012 – 2013)
* Auburn University School of Kinesiology Guest Scholar Host (2013)
* University of Maryland School of Public Health Dean’s Student Advisory Committee Member (2011 – 2012)
* University of Maryland Neuroscience and Cognitive Science Recruitment Event Committee Member (2009 - 2012)
* University of Maryland Department of Kinesiology Faculty Search Committee Member (2010 – 2011)

**References**

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| * **Dr. Mary E. Rudisill**   Professor and Director School of Kinesiology  Auburn University  Email: rudisme@auburn.edu Phone: (334) 844-1458   * **Dr. Seppo E. Iso-Ahola**   Professor  Department of Kinesiology  University of Maryland  Email: isoahol@umd.edu  Phone: (301) 405-2505 | * **Dr. Bradley D. Hatfield**   Professor and Chair  Department of Kinesiology  University of Maryland  Email: bhatfiel@umd.edu  Phone: (301) 405-2485   * **Dr. Craig G. McDonald**   Associate Professor  Department of Psychology  George Mason University  Email: cmcdona3@gmu.edu  Phone: (703) 993-2277 |
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