Matthew w. miller

**Contact Information**

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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 to enhance learning and performance. Additionally, I strive to understand why people choose and, more often, do not 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**

Associate Professor, School of Kinesiology (2017 – present)

Center for Neuroscience (2018 – present)

Joint Appointment, Department of Psychological Sciences (2017 - present)

Auburn University, Auburn, AL

Assistant Professor, School of Kinesiology (2012 – 2017)

Joint Appointment, Department of Psychology (2012 - 2017)

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

* **Miller, M. W.**, Bacelar, M. F. B.**\***, Feiss, R. S., Daou, M.\*, Alderman, B. L., & Ekkekakis, P. (2020). P3b as an electroencephalographic index of automatic associations of exercise-related images. *International Journal of Psychophysiology*, *158*, 114 – 122. doi: 10.1016/j.ijpsycho.2020.10.004.
* Cabral, D. A. R.**\*,** ┼, Daou, M. ┼, Bacelar, M. F. B. **\***, Parma, J. O. **\***, & **Miller, M. W.** (in principle acceptance). Does learning a skill with the expectation of teaching it impair the skill’s execution under psychological pressure if the skill is learned with analogy instructions? *Psychology of Sport and Exercise*. doi: 10.1016/j.psychsport.2020.101757.
* Cheval, B., Daou, M., Cabral, D. A. R.\*, Bacelar, M. F. B. \*, Parma, J. O.\*, Forestier, C., Orsholits, D., Sander, D., Boisgontier, M. P., & **Miller, M. W.** (2020). Higher inhibitory control is required to escape the innate attraction to effort minimization. *Psychology of Sport and Exercise*, *51*. doi: 10.1016/j.psychsport.2020.101781.
* Brush, C. J., Foti, D., Bocchine, A. J., Muniz, K. M., Gooden, M. J., Spaeth, A. M., **Miller, M. W.**, & Alderman, B. L. (2020). Aerobic exercise enhances positive emotional reactivity in individuals with depressive symptoms: Evidence from neural responses to reward and emotional content. *Mental Health and Physical Activity*, *19*. doi: 10.1016/j.mhpa.2020.100339.
* Boisgontier, M. P., Orsholits, D., von Arx, M., Sieber, S., **Miller, M. W.**, Courvoisier, D., Iversen, M., Cullati, S., & Cheval, B. (2020). Adverse childhood experiences, depressive symptoms, functional dependence, and physical activity: A moderated mediation model. *Journal of Physical Activity and Health*, *17*, 790 – 799. doi: 10.1123/jpah.2019-0133.
* Bacelar, M. F. B.\*, Lohse, K. R., & **Miller, M. W.** (in press). The effect of rewards and punishments on learning action selection and execution components of a motor skill. *Journal of Motor Learning and Development*. doi:10.1123/jmld.2019-0039.
* Cheval, B., **Miller, M. W.**, Orsholits, D., Berry, T., Sander, D., & Boisgontier, M. P. (2020). Physically active individuals look for more: an eye tracking study of attentional bias. *Psychophysiology*, *57*, e13582. doi: 10.1111/psyp.13582.
* Brinkerhoff, S. A., Murrah, W. M., Hutchison, Z., **Miller, M.**, & Roper, J. A. (in press). Words matter: Instructions dictate “self-selected” walking speed in young adults. *Gait and Posture*.
* Lohse, K. R., **Miller, M. W.**, Daou, M. \*, Valerius, W. \*, & Jones, M. (2020). Dissociating the contributions of reward-prediction errors to trial-level adaptation and long-term learning. *Biological Psychology*, *149*. doi: 10.1016./j.biopsycho.2019.107775.
* Shaw, E. P., Rietschel, J. C., Hendershot, B. D., Pruziner, A. L., Wolf, E. J., Dearth, C. L., **Miller, M. W.**, Hatfield, B. D., & Gentili, R. J. (2019). A comparison of cognitive workload in individuals with transtibial and transfemoral lower limb loss during dual-task walking under varying demand. *Journal of the International Neuropsychological Society*, *25*, 985 – 997. doi: 10.1017/S1355617719000602.
* Cheval, B., Rebar, A. L., **Miller, M. W.**, Sieber, S., Orsholits, D., Baranyi, G., Courvoisier, D., Cullati, S., Sander, D., Chalabaev, A., Boisgontier, M. P. (2019). Cognitive resources moderate the adverse impact of poor perceived neighborhood conditions on self-reported physical activity in older age. *Preventive Medicine*, *126*, 105741. doi: 10.1016/j.ypmed.2019.05.029.
* Wilhelm, R. A., **Miller, M. W.**, Gable, P. A. (2019). Neural and attentional correlates of intrinsic motivation resulting from social performance expectancy. *Neuroscience*, *416*, 137 – 146. doi: 10.1016/j.neuroscience.2019.07.039.
* Shaw, E. P., Rietschel, J. C., Shuggi, I. M., Xu, Y., Chen, S., **Miller, M. W.**, Hatfield, B. D., & Gentili, R. J. (2019). Cerebral cortical networking for mental workload assessment under various demands during dual-task walking. *Experimental Brain Research*, *237*, 2279 – 2295. doi: 10.1007/s00221-019-05550-x.
* Cheval, B. ┼, Boisgontier, M. P. ┼, Bacelar, M. F. B.**\***, Feiss, R., & **Miller, M. W.** (2019). Opportunities to sit and stand trigger equivalent reward-related brain activity. *International Journal of Psychophysiology*, *141*, 9 – 17. doi: 10.1016/j.ijpsycho.2019.04.009.
* Daou, M. \*, Rhoads, J. A. \*, Jacobs, T\*., Lohse, K. R., & **Miller, M. W.** (2019). Does limiting pre-movement time during practice eliminate the benefit of practicing while expecting to teach? *Human Movement Science*, *64*, 153 – 163. doi: 10.1016/j.humov.2018.11.017.
* Pruziner, A. L., Shaw, E. P., Rietschel, J. C., Hendershot, B. D., **Miller, M. W.**, Wolf, E. J., Hatfield, B. D., Dearth, C. L., & Gentili, R. J.(2019). Biomechanical and neurocognitive performance outcomes of walking with transtibial limb loss while challenged by a concurrent task. *Experimental Brain Research*, *237*, 477 – 491. doi: 10.1007/s00221-018-5419-8.
* Rhoads, J. A.\*, Daou, M.\*, Lohse, K. R., & **Miller, M. W.** (2019). The effects of expecting to teach and actually teaching on motor learning. *Journal of Motor Learning and Development*, *7*, 84 – 105. doi: 10.1123/jmld.2017-0052.
* Daou, M. \*, Hutchison, Z. \*, Bacelar, M. \*, Rhoads, J. A. \*, Lohse, K. R., & **Miller, M. W.** (2019). Learning a skill with the expectation of teaching it impairs the skill’s execution under psychological pressure. *Journal of Experimental Psychology: Applied*, *25*, 219 – 229. doi: 10.1037/xap0000191.
* Leiker, A. M. ┼, Pathania, A. ┼, **Miller, M. W.**, & Lohse, K. R. (2019). Exploring the neurophysiological effects of self-controlled practice in motor skill learning. *Journal of Motor Learning and Development*, *7*, 13 – 34. doi: 10.1123/jmld.2017-0051.
* Pathania, A., Leiker, A. M., Euler, M., **Miller, M. W.**, & Lohse, K. R. (2019). Challenge, motivation, and effort: Neural and behavioral correlates of self-control of difficulty during practice. *Biological Psychology*, *141*, 52 – 63. doi: 10.1016/j.biopsycho.2019.01.001.
* Jaquess, K. J., Lo, L., Oh, H., Lu, C., Ginsberg, A., Tan, Y. Y., Lohse, K. R., **Miller, M. W.**, Hatfield, B. D., & Gentili, R. J.(2018). Changes in mental workload and motor performance throughout multiple practice sessions under various levels of task difficulty. *Neuroscience*, *393*, 305 – 318. doi: 10.1016/j.neuroscience.2018.09.019.
* Daou, M. \*, Lohse, K. R., & **Miller, M. W.** (2018). Does practicing a skill with the expectation of teaching alter motor preparatory cortical dynamics? *International Journal of Psychophysiology*, *127*, 1 – 10. doi: 10.1016/j.ijpsycho.2018.02.013.
* Daou, M. \*, Sassi, J. M., **Miller, M. W.**, & Gonzalez, A. M. (2018). Effects of a multi-ingredient energy supplement on cognitive performance and cerebral-cortical activation. *Journal of Dietary Supplements*, *13*, 1 – 12. doi: 10.1080/19390211.2018.1440686.
* Gentili, R. J., Jaquess, K. J., Shuggi, I. M., Oh, H., Lo, L., Tan, Y. Y., Domingues, C. A., Blanco, J. A., Rietschel, J. C., **Miller, M. W.**, & Hatfield, B. D. (2018). Combined assessment of attentional reserve and cognitive effort under various levels of challenge with a dry EEG system. *Psychophysiology*, *55*, e13059. doi: 10.1111/psyp.13059.
* Shaw, E. P., Rietschel, J. C., Hendershot, B. D., Pruziner, A. L., **Miller, M. W.**, Hatfield, B. D., & Gentili, R. J. (2018). Measurement of attentional reserve and mental effort for cognitive workload assessment under various task demands during dual-task walking. *Biological Psychology*, *134*, 39 – 51. doi: 10.1016/j.biopsycho.2018.01.009.
* Grand, K. F.\*, Daou, M. \*, Lohse, K. R., & **Miller, M. W.** (2017). Investigating the mechanisms of an incidental choice on motor learning. *Journal of Motor Learning and Development*, *5*, 207 – 226. doi: 10.1123/jmld.2016-0041.
* Daou, M.\*,Lohse, K. L., & **Miller, M. W.** (2017). To take the stairs or not to take the stairs? Employing the Reflective-Impulsive Model to predict spontaneous physical activity. *Sports*, *5*, e1 – 9. doi: 10.3390/sports5040075.
* Jaquess, K. J., Gentili, R. J., Lo, L., Oh, H., Zhang, J., Rietschel, J. C., **Miller, M. W.**, Tan, Y. Y., & Hatfield, B. D.(2017). Empirical evidence for the relationship between cognitive workload and attentional reserve. *International Journal of Psychophysiology*, *121*, 46 – 55. doi: 10.1016/j.ijpsycho.2017.09.007.
* 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 cognitive-motor 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.

**Journal Articles Under Review**

* **Miller, M. W. ┼**, Cheval, B. **┼**, Bacelar, M. F. B.**\***, Cabral, D. A. R.\*, Feiss, R. S., Parma, J. O.\*, Sander, D., Krigolson, O. E., & Boisgontier, M. P. (under review). The relationship between reward-related brain activity and to opportunities to sit. *Cortex*.

**Journal Articles In Preparation**

**Books**

* Gable, P. A., **Miller, M. W.**, & Bernat, E. M., Eds. (under contract).The Oxford Handbook of EEG Frequency Analysis. New York, NY: Oxford University Press.

**Book Chapters**

* Lohse, K. R., **Miller, M. W**, Bacelar, M.\*, & Krigolson, O. E. (2019). Errors, rewards, and the neurophysiology of reinforcement in motor skill learning. In N. J. Hodges & A. M. Williams (Eds.). *Skill Acquisition in Sport: Research, Theory and Practice* (3rd ed.). New York, NY: Routledge.
* 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**

* **Miller, M. W.** (2019). Using electroencephalography to investigate attitudes toward exercise. Conceptual, theoretical and methodological advances in exercise motivation research: affect and automaticity (Featured Symposium). Brand, R., & Ekkekakis, P. (Co-Chairs). *15th European Congress of Sport & Exercise Psychology*. Münster, Germany.
* **Miller, M. W.** (2018). The effects of team environment on cognitive resource allocation. Cognitive-motor and psychophysiological mechanisms underlying motor control and learning in a social context: From human-human to human-robot dynamics. Gentili, R. J. & **Miller, M. W.** (Co-Chairs.) *North American Society for the Psychology of Sport and Physical Activity.* Denver, CO.
* **Miller, M. W.** & Grand, K. F.\* (2016). The effects of autonomy during practiced on feedback processing and motor learning. Doing it right: Neural correlates of action preparation, performance monitoring, and learning. Gable, P. A., & **Miller, M. W.** (Co-Chairs.) *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. Carbine, K. (Chair.) *Society for Psychophysiological Research’s Annual Meeting*, Minneapolis, MN.
* Rietschel, J. C., Godwin, M. M.\*, Dyke, F. B.\*, Lindsey, K. R.\*, Meadows, C. C.\*, Sullivan, Z. V.\*, Rietschel, C. H., & **Miller, M. W.** (2015). The effects of mindfulness on endurance: How trait mindfulness and brief mindfulness induction interact to affect muscular endurance. Attentional focus in endurance performance. Schücker, L. (Chair.) *North American Society for the Psychology of Sport and Physical Activity Annual Meeting,* Portland, OR.

**Invited Presentations**

* Ste-Marie, D., Lohse, K. Carter, M., & **Miller, M.** How do we navigate the demands for open, transparent, and rigorous research in an academic world that demands productivity? *North American Society for the Psychology of Sport and Physical Activity Motor Learning and Control Seminar Series*.
* **Miller, M. W.** (2020). The effects of practicing a motor skill with the expectation of teaching it: Findings from basic and applied cognitive neuroscience and social psychology research. *University of Ottawa School of Human Kinetics Distinguished Speaker Series*.
* **Miller, M. W.** (2019). Using EEG reinforcement learning brain signals to understand learning and physical activity behavior. *Brigham Young University*.
* **Miller, M. W.** (2019). The effects of practicing a motor skill with the expectation of teaching it: Findings from basic and applied cognitive neuroscience and social psychology research. *University of British Columbia School of Kinesiology Distinguished Speaker Series*.
* **Miller, M. W.**, & Daou, M. (2017). Enhancing motor skill acquisition by preparing to teach. *The 2017 Sports Science Summit*. Streamed Live on Internet.
* **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.

**Conference Presentations**

* **Miller, M. W.**, Bacelar, M. F. B.\*, Feiss, R. S., Daou, M., Alderman, B. L., & Ekkekakis, P. (2020). P3b as an electroencephalographic index of automatic associations of exercise-related images. *Virtual presentation delivered at the Annual Meeting of the Society for Psychophysiological Research*.
* Bacelar, M.\*, Parma, J.\*, McClure, M.\*, Barnes, B.\*, Holley, J.\*, Cabral, D.\*, Daou, M., Lohse, K., & **Miller, M.** (2020). Error estimation during practice may hinder motor learning: evidence from a self-controlled feedback paradigm. *Virtual presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*.
* Cheval, B., Daou, M., Cabral, D.\*, Bacelar, M.\*, Parma, J.\*, Forestier, C., Orsholits, D., Sander, D., Boisgontier, M., & **Miller, M.** (2020). Response inhibition to physical inactivity stimuli in an affective go/no-go task. *Virtual presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*.
* **Miller, M.**, Bacelar, M. \*, Feiss, R., Daou, M., Alderman, B., & Ekkekakis, P. (2020). P3b as an electroencephalographic index of automatic associations of exercise-related images. *Virtual presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*.
* Parma, J. \*, Zona, V. \*, Bacelar, M. \*, Cabral, D. \*, & **Miller, M. W.** (2020). The effect of distinct settings and types of exercise images on the automatic processing of non-exercisers. *Virtual presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*.
* Shuggi, I., Galway, W., Shaw, E., Gaskins, C., Shaver, A., **Miller, M.**, Oh, H., & Gentili, R. (2020). Mental workload, performance and psychological processes under various levels of team interdependence. *Virtual presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*.
* Thomas, J., Fawver, B., Taylor, S., **Miller, M.**, Williams, A. M., & Lohse, K. (2020). Do error estimations drive learning effects during randomized practice conditions? *Virtual presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*.
* Brush, C., Foti, D., **Miller, M.**, Bocchine, A., Muniz, K., Gooden, & Alderman, B. (2019). Acute aerobic exercise boosts emotional reactivity to pleasant images but does not impact reward processing. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Washington, D. C.
* Shaw, E., Rietschel, J., Kahl, S., Hendershot, B., Pruziner, A., Wolf, E., Dearth, C., **Miller, M.**, Hatfield, B., & Gentili, R. (2019). Mental workload assessment during the performance of ecologically-valid tasks under various cognitive-motor demands. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Washington, D. C.
* Cheval, B. ┼, Boisgontier, M. P. ┼, Bacelar, M. F. B.\*, Feiss, R., & **Miller, M. W.** (2019). Opportunities to sit and stand trigger equivalent reward-related brain activity. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Washington, D. C.
* Cheval, B. ┼, Boisgontier, M. ┼, Bacelar, M.\*, Feiss, R., Zona, V.\*, & **Miller, M**. (2019). Does lower energy expenditure increase reward pursuit and reward-related cerebral cortical activity? *Oral presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Baltimore, MD.
* Bacelar, M.\*,Murphy, S.\*, Legget, H.\*, Lohse, K., & **Miller, M.** (2019). The effect of rewards and punishments on action selection and action execution. *Oral presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Baltimore, MD.
* Daou, M., Rhoads, J., **\*,** Jacobs, T., Lohse, K., **Miller, M. W.** (2019). Does limiting pre-movement time during practice eliminate the benefit of practicing while expecting to teach? *Oral presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Baltimore, MD.
* Rhoads, J.\*, Hulebak, G.\*, Sanstrom, P.\*, Simpson, W.\*, & **Miller, M. W.** (2019). *Poster presented at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Baltimore, MD.
* Shaw, E. P., Rietschel, J. C., Shuggi, I. M., Xing, Y.,. Chen, S., **Miller, M. W.**, Hatfield, B. D., & Gentili, R. J. (2019). Cerebral cortical networking for mental workload assessment under various demands during dual-task walking in individuals with transtibial limb loss. *Oral presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Baltimore, MD.
* Gaskins, C., Kontson, K. L., Shaw, E. P., Shuggi, I. M., Ayoub, M. J., Rietschel, J. C., **Miller, M. W.**, & Gentili, R. J. (2019). Cognitive-motor performance assessment during upper limb body powered bypass prosthesis performance under various conditions of challenge. *Poster presented at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Baltimore, MD.
* Wilhelm, R., Lacey, M., Gable, P., & **Miller, M.** (2018). The influence of intrinsic motivation on beta-suppression and cognitive narrowing. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Quebec City, Canada.
* Shaw, E., Rietschel, J., Hendershot, B., Pruziner, A., **Miller, M.**, Wolf, E., Dearth, C., Hatfield, B., & Gentili, R. (2018). A combined biomechanical and neurocognitive examination for cognitive workload assessment in individuals with lower-limb loss during dual-task walking. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Quebec City, Canada.
* Rhoads, J. A.\*, Bacelar, M.\*, Daou, M. \*, Valerius, W. \*, Carter, B. \*, Scaglione, L. \*, Lohse, K. R., & **Miller, M. W.** (2018). Investigating whether resting EEG coherence between central midline and other sites across scalp topography predicts manual wheelchair skill acquisition and learning. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Quebec City, Canada.

* Lohse, K. R., Daou, M. \*, Valerius, W. \*, Jones, M., & **Miller, M. W.** (2018). Exploring engagement in trial and error category learning: Comparing aggregate and single-trial event-related potentials. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Quebec City, Canada.

* Daou, M. \*, Hutchison, Z. \*, Bacelar, M. \*, Rhoads, J. A. \*, Lohse, K. R., & **Miller, M. W.** (2018). Those who expect to teach cannot do under high pressure. *Oral presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Denver, CO.
* Rhoads, J. A.\*, Bacelar, M.\*, Daou, M. \*, Valerius, W. \*, Carter, B. \*, Scaglione, L. \*, Lohse, K. R., & **Miller, M. W.** (2018). Improving acquisition of manual wheelchair skills: An EEG study using motor learning principles. *Oral presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Denver, CO.
* Lohse, K. R., Pathania, A., Leiker, A., & **Miller, M. W.** (2018). Measuring cortical 1/f noise in a motor learning paradigm: Effects of difficulty, performance, and time. *Oral presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Denver, CO.
* Pathania, A., Leiker, A., Euller, M., **Miller, M. W.**, & Lohse, K. R. (2018). Exploring the neurophysiological mechanisms determining the regulation of difficulty in self-controlled practice. *Oral presentation delivered at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Denver, CO.
* Dyke, F. B., Rhoads, J. A.\*, Hall, T., & **Miller, M. W.** (2018).Trait mindfulness as a moderator of green exercise and attention restoration. *Poster presented at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Denver, CO.
* Gaskins, C., Kontson, K. L., Shaw, E. P., Shuggi, I. M., Ayoub, M. J., Rietschel, J. C., **Miller, M. W.**, & Gentili, R. J. (2018). Mental workload assessment during simulated upper extremity prosthetic performance under various conditions of cognitive and motor challenge. *Poster presented at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Denver, CO.
* Jaquess, K., Lo, L., Oh, H., Lu, C., Ginsberg, A., Tan, Y. Y., Lohse, K., **Miller, M.**, Hatfield, B., & Gentili, R. (2018). Cortical correlates underlying changes in mental workload and motor performance during multiple training sessions under various levels of challenge. *Poster presented at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Denver, CO.
* Shaw, E. P., Rietschel, J. C., Shuggi, I. M., Xing, Y., Hendershot, B. D., Pruziner, A. L., Chen, S., **Miller, M. W.**, Hatfield, B. D., & Gentili, R. J. (2018). Evaluation of cerebral cortical networking as a measure of cognitive workload during dual-task walking under various levels of challenge. *Poster presented at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity*, Denver, CO.

* Gaskins, C., Kontson, K., Shaw, E. P., Shuggi, I. M., Ayoub, M. J., Rietschel, J. C., **Miller, M. W.**, & Gentili, R. J. (2018). Mental workload assessment during simulated upper extremity prosthetic performance. *Poster presented at American Congress of Rehabilitation Medicine*, Dallas, TX.
* Dyke, F. B., Rhoads, J. A.\*, O’Neil, J., & **Miller, M. W.** (2017). The effects of nature images on directed attention: an ERP experiment. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Vienna, Austria.
* Daou, M. \*, Lohse, K. R., & **Miller, M. W.** (2017). Examining motor preparatory neural activity when practicing with the expectation of teaching. *Poster presented at the Annual Meeting of the Society for Psychophysiological Research*, Vienna, Austria.
* Grand, K. F. \*, Daou, M. \*, Lohse, K. R., & **Miller, M. W.** (2017). Investigating the mechanisms underlying the effects of an incidental choice on motor learning. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity’s Annual Meeting*, San Diego, CA.
* Daou, M. \*, Lohse, K. R., & **Miller, M. W.** (2017). Employing the Reflective-Impulsive Model to predict spontaneous physical activity behavior. *Oral presentation delivered at the North American Society for the Psychology of Sport and Physical Activity’s Annual Meeting*, San Diego, CA.
* Daou, M. \*, Rhoads, J. A. \*, Lohse, K. R., & **Miller, M. W.** (2017). Expecting to teach enhances motor learning and information processing during practice. *Oral presentation delivered at the North American Society for the Psychology of Sport and Physical Activity’s Annual Meeting*, San Diego, CA.
* Rhoads, J. A.\*, Daou, M. \*, Dyke, F. B. \*, Lohse, K. R., & **Miller, M. W.** (2017). Examining a motor learning paradigm: To teach or not to teach. *Poster presented at the North American Society for the Psychology of Sport and Physical Activity’s Annual Meeting*, San Diego, CA.
* 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.
* 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 verbally presented at the 17th Conference on Human-Computer Interaction*, Los Angeles, CA.
* 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.┼,& **Miller, M. W.** ┼(2013).The development and application of a novel physiological metric of cognitive workload. *Paper verbally presented at the 15th Conference on Human-Computer Interaction,* Las Vegas, NV.
* 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*: Federal Aviation Association

*Role*: Co-Principal Investigator

*Dates*:2019 – 2021

*Title*: Retooling pilot workforce development for digital natives

*Total Costs*: $595,860

*Description*: The purpose of this research is to provide scientific and technical data on effective training and checking methods for the current and projected pilot workforce, with emphasis on pilot information management, decision-making, and command judgment. These data will support updates to guidance for FAA inspectors and operators.

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

*Role*: Advisor (Victoria Zona is advisee)

*Dates*: 2019

*Title*: Do non-exercisers spontaneously evaluate outdoor exercise images as more positive than indoor exercise images, and sport-based exercise images as more positive than gym-based exercise images?

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

*Description*: The project uses electroencephalography to investigate whether non-exercisers have more positive attitudes toward outdoor and sport-based exercise images than indoor and gym-based exercise images.

* *Funding Agency*: Auburn University PAIR Grants Program

*Role*: Co-Investigator

*Dates*: 2018 – 2021

*Title*: Center for Neuroscience Initiative

*Total Costs*: $637,500

*Description*: Auburn researchers will work to mitigate against mental, neurological and substance use disorders, which make up a substantial proportion of the world’s disease burden. A team of experts in chemistry, physiology, development, degeneration, and imaging of the brain will collaborate to develop a neuroscience center to increase fundamental knowledge about the brain and nervous system and to use that knowledge to reduce the burden of neurological disease.

* *Funding Agency*: Auburn University Intramural Grants Program

*Role*: Co-Principal Investigator

*Dates*: 2017 – 2019

*Title*: Enhancing learning of an assistive device: manual wheelchair use

*Total Costs*: $40,000

*Description*: The first aim of our project is to investigate whether expecting to teach enhances learning how to operate a manual wheelchair. The second aim of our project is to employ neurophysiological measures in attempt to expose the mechanisms underlying the expecting to teach effect.

* *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**

**Unfunded Grants and Contracts**

* *Funding Agency*: National Science Foundation

*Role*: Co-Principal Investigator

*Dates*: 2018 – 2021

*Title*: Measuring and modelling age-related changes in reinforcement learning

*Total Costs*: $690,360

*Description*: The first goal is to examine the relationship between the reward positivity component of the electroencephalography-derived event-related potential, adaptation, and learning across the life-span. The second goal is to statistically model how individual differences in discrete cognitive functions affect reinforcement learning across the life-span.

* *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.

* *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.

**Editorial Roles**

* Associate Editor *Research Quarterly for Exercise and Sport* (Motor Behavior and Biomechanics section)

**Manuscript and Textbook Reviewer**

* *Advances in Cognitive Psychology*
* *American Journal of Psychology*
* *Basic and Applied Social Psychology*
* *Biological Psychology*
* *Cognitive, Affective, and Behavioral Neuroscience*
* *Current Directions in Psychological Science*
* *European Journal of Sports Sciences*
* *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 Cognitive Enhancement*
* *Journal of the International Neuropsychological Society*
* *Journal of Motor Learning and Development*
* *Sport, Exercise, and Performance Psychology*
* *Medicine and Science in Sport and Exercise*
* *Neuroeconomics (Chapter in A Research Agenda in Experimental Economics)*
* *Neuroscience Letters*
* *PeerJ*
* *PLoS One*
* *Psychology of Sport and Exercise*
* *Research Quarterly for Exercise and Sport*
* *Scientific Reports*
* *Sports Medicine*
* *Sport Neuroscience and Psychophysiology Handbook* (textbook)
* *Sport Psychology* (textbook)

**Sponsored Research Application Reviewer**

* Research Foundation-Flanders (Fonds Wetenschappelijk Onderzoek-Vlaanderen, FWO) (Belgium)
* Social Sciences and Humanities Research Council (Canada)

* U.S.A. Department of Veterans’ Affairs
* U.S.A. Army Natick Soldier Research, Development and Engineering Center (NSRDEC)

**Scientific and Professional Memberships**

* Cognitive Neuroscience Society
* 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***
  + Daniel Cabral (2019 – present)
  + Juliana Parma (2019 – present)
  + Mariane Bacelar (2017 – present)
    - Awards
      * 2020 – 2021 Auburn University College of Education G. Dennis Wilson Scholarship ($1400)
      * 2019 – 2020 Auburn University College of Education Dean’s Circle—$2,480
      * 2018 Auburn University This is Research First-Place Prize Winner (Graduate Level, College of Education)-co-received with J. A. Rhoads
  + Jence A. Rhoads (2015 – 2019)
    - Dissertation Title: Distinguishing the effects of verbalizing a skill on performance and learning in novice and skilled populations
    - Awards
      * 2018 Auburn University This is Research First-Place Prize Winner (Graduate Level, College of Education)-co-received with M. Bacelar
      * 2017 – 2018 Auburn University College of Education Dean’s Circle—$1,000
  + Marcos Daou (2014 – 2018)
    - Dissertation Title: The effects of practicing a motor skill with the expectation of teaching it: Benefits to skill learning, potential underlying mechanisms, and effects on skill performance under psychological pressure
    - Initial Placement: Assistant Professor, Department of Kinesiology, Coastal Carolina University
    - Awards
      * 2019 Auburn University’s Nominee for American Kinesiology Association Scholar Award (Doctoral Student)
      * 2018 Auburn University Graduate School Distinguished Dissertation Award Winner in Social Sciences—$500
      * 2018 Auburn University’s Nominee for American Kinesiology Association Scholar Award (Doctoral Student)
      * 2017 – 2018 Auburn University College of Education Alma Holladay Scholarship Recipient—$1,600
      * 2017 North American Society for the Psychology of Sport and Physical Activity Outstanding Student Paper Award in Motor Learning and Control
  + Ford B. Dyke (2013 – 2017)
    - Dissertation Title: Trait mindfulness as a moderator of green exercise and attention
    - Initial Placement: Assistant Clinical Professor, School of Kinesiology, Auburn University
    - 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 – 2016)—Degree not completed
    - Awards
      * 2013 – 2016 Auburn University President’s Graduate Opportunities Program Recipient- $30,000
      * 2014 – 2015 Auburn University College of Education Alma Holladay Scholarship Recipient—$1,600
      * 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
    - Awards
      * 2016 Auburn University’s Nominee for the American Kinesiology Association National Writing Award (Doctoral Student)
  + 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***
  + Megan M. Burton
  + Claire Bridges
  + Kat Cler
  + Matt Davis (Reader)
  + Davis Dyke
  + Marc Jackson (Reader)
  + April D. Karlinsky (External Review for the University of British Columbia)
  + Taylor J. Langley
  + Amber M. Leiker
  + Khalil Lee
  + Brad McKay (External Review for the University of Ottawa)
  + Justin Moody
  + Justin Pruder (Reader)
  + Braden H. Romer
  + Julia Sassi
  + Isabelle Shuggi (University of Maryland)
* ***Masters Thesis Committee Member***
  + Julia Sassi
* ***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 – present)
* Auburn University Sport Science Camp Participation (2015 – present)
* Auburn University Faculty Research Symposium Poster Presentation (2017)
* 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 Graduate Program Officer (2020 – present)
* Auburn University Center for Neuroscience Initiative Retreat Poster Judge (2020)
* Habilitation à Diriger des Recherches Committee Member (Dr. Matthieu P. Boisgontier)- 2019
* Auburn University This is Research Week Judge (2018)
* Auburn University College of Education Curriculum Committee (2017 – 2018)
* Auburn University This is Research Week Judge (2017)
* Auburn University School of Kinesiology Special Lecturer Host (2017)
* Auburn University School of Kinesiology Faculty Search Committee Chair (2017)
* Auburn University Department of Psychology Brown Bag Seminar Presenter (2017)
* 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)
* Ad hoc consulting for Auburn University Gymnastics Team (2014 – present)
* 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 Special Lecturer 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)