

Curriculum Vitae

Rachel A. Myer

Department of Psychology
Temple University
1701 North 13th St
Philadelphia, PA, 19122
Email: rachel.myer@temple.edu

Education

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| Current | Temple University , Philadelphia, PA
PhD: Psychology, Cognition and Neuroscience
Concentration: Quantitative Methods
Graduate Advisor: Dr. Thomas F. Shipley |
| 2010-2014 | Franklin and Marshall College , Lancaster, PA
B.A.: Psychology and Physics, May 2014 |

Research Interests

I have worked in transdisciplinary teams to understand the connection between cognition and science, technology, engineering, and mathematics (STEM) learning. I am interested in how cognition can help identify common alternate conception and inform interventions to change these conceptions. I have worked to understand how STEM novices interact with basic problems in: inferring geological histories in depositional environments in geology, reasoning about relative large and small number magnitude in mathematics, and reasoning about forces in physics.

Honors and Distinctions

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| 2020 | Dissertation Completion Grant, Temple University |
| 2018 | CLA Graduate Travel Award, Temple University |
| 2016 | Psychology Departmental Travel Award, Temple University |
| 2014 | Paul L. Whitely Prize awarded to a member of the senior class at Franklin and Marshall College for scholarly excellence in Psychology as deemed by the faculty |
| 2014 | John Kershner Scholar awarded to students at Franklin and Marshall College for their proficiency in the Department of Physics and Astronomy |
| 2013 | Psi Chi, Psychology Honors Society, Franklin and Marshall College |
| 2013 | Pi Mu Epsilon, Mathematics Honors Society, Franklin and Marshall College |
| 2013 | Sigma Pi Sigma, Physics Honors Society, Franklin and Marshall College |

Publications

Killion, A. K., Sterle, K., Bondank, E. N., Drabik, J. R., Bera, A., Alian, S., Goodrich, K. A., Hale, M., **Myer, R. A.**, Phung, Q., Shew, A. M., & Thayer, A. W. (2018). Preparing the next generation of sustainability scientists. *Ecology and Society*, 23(4). doi:10.5751/es-10395-230439

Myer, R. A., Shipley, T. F., & Davatzes, A. K. (2018). Reasoning about time from space: Visual continuity may disrupt reasoning about the passage of time within accreted materials. *Journal of Geoscience Education*, 66(2), 147-165.

Lytle, A. L., Camuccio, R., **Myer, R.**, Penfield, A., & Gagnon, E. (2016). Influence of counterpropagating light on phase matching in second-harmonic generation. *Journal of the Optical Society of America B*, 33(7), 1538-1542.

Presentations

Myer, R.A., & Shipley, T.F. (July, 2020). Novice conceptions and perception of single and two force interactions. Poster to be presented at the Cognitive Science Society Annual Meeting.

Myer, R.A., & Shipley, T.F. (November, 2018). Estimation of Large and Small Number. Poster presented at the 59th Annual Meeting of the Psychonomic Society, New Orleans, LA.

Myer, R.A., Jaeger, A.J., McLaughlin, J.A., Lombardi, D., Shipley, T.F., & Davatzes, A.K. (October, 2017). Methods for improving students' spatial reasoning about Earth's subsurface. Poster presented at the Geological Society of America Annual Meeting, Seattle, WA.

Myer, R. & Shipley, T.F. (September, 2016). Novice understanding of 3D block diagrams: Unpacking misconceptions about basic depositional environments. Oral presentation at the Geological Society of America Annual Meeting, Denver, CO.

Myer, R., Jaeger, A.J., & Shipley, T.F. (August, 2016). How do novices infer events from spatial patterns in diagrams? Unpacking misconceptions about the relationship between space and time. Poster presented at the Biennial Spatial Cognition Conference, Philadelphia, PA.

Resnick, I., Shipley, T.F., & Myer, R. (August, 2016). Which way does time go? Expert and novice spatial scaling of time at human and extreme magnitudes. Poster presented at the Biennial Spatial Cognition Conference, Philadelphia, PA.

Mentorship Experience

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| Spring 2020 | Mentored Alim Osman, Temple University undergraduate, on a project involving conceptions and perception of single and two force interactions. He presented findings at Temple University's SURC conference for undergraduates in Spring 2020. |
| Spring 2019 | Mentored Tahsina Miah, Temple University undergraduate, on a project involving adult force conceptions. She presented findings at Temple University's SURC conference for undergraduates in Spring 2019. |
| Spring 2017 | Mentored Aksana Bukhaustsava, Temple University undergraduate, on a project involving novice understanding of depositional environments. She presented findings at Temple University's SURC (then TURF) conference for undergraduates in Spring 2017. |

Teaching Experience

Fall 2019	Department of Psychology, Temple University Teaching Assistant: Brain Matters, teaching recitations for three sections once a week under primary instructor Dr. Rani Vasudeva
Summer 2019	Department of Psychology, Temple University Sole Instructor: Statistics for Psychology

Research Experience

Current	Department of Psychology, Temple University, Graduate Researcher. Advisor: Dr. Thomas F. Shipley. Research Question: How do adults understand, conceptually and perceptually, basic physical force conceptions?
2018-2019	Department of Psychology, Temple University, Graduate Research Assistant for GET Spatial Learning. Advisor: Dr. Thomas F. Shipley. Research Question: How and why do novices interpret the past connectivity of geological structures the way they do (the influence of gestalt psychology on novice understanding of geology)?
2015-2017	Department of Psychology, Temple University, Graduate Research Assistant for SILC (Spatial Intelligence and Learning Center). Advisor(s): Dr. Thomas F. Shipley and Dr. Nora Newcombe. Research Questions: 1. How do novices interpret depositional environments? 2. How do adults interpret both very large and very small number (scales from billions to trillionths)?

Service

Journal Reviewer

- Acted as a reviewer for the Journal of Geoscience Education.

Departmental Service

2019	Volunteer for Philadelphia Science Festival hosted by the Franklin Institute, assisted children in activities centered around spatial intelligence and informed parents about related research done at Temple University.
2016-2017	Volunteer for “Science after Hours” events at the Franklin Institute (May 23 rd , 2016; April 21 st , 2017; July 11 th , 2017). Taught adults about a variety of cognitive and spatial psychology topics as well as related research done at Temple University.
2016	Volunteer for Philadelphia Science Festival hosted by the Franklin Institute, assisted children in activities centered around spatial intelligence and informed parents about the topic and related research done at Temple University.

Skills

Data analysis in SPSS and Excel
Programming in Matlab and E-Prime

Multivariate statistics
Hierarchical linear modeling
Structural equation modeling