S. EMLEN METZ

Postdoctoral Scholar

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EDUCATION

**University of Pennsylvania**

*Ph.D., Psychology, March 2017*

* Dissertation: *Epistemic Practices in Adults and Adolescents*
* Advisor: Jonathan Baron, Psychology

*Doctoral-Level Work in Philosophy*

* Philosophy of Science Working Group, 2013-2016
* 6 Graduate Level Courses in Philosophy
* Advisor: Michael Weisberg, Philosophy

**Swarthmore College**

*B. A., double major in Philosophy and Psychology, 2009*

* High Honors with preparations in Cognitive Psychology, Ancient Philosophy, Moral Philosophy, & Language and Meaning.

TEACHING COMPETENCIES

**Introductory Courses**

Introduction to Psychology, Social Psychology, Cognitive Psychology, Personality and Individual Differences, Psychology of Judgment and Decision Making, Positive Psychology, Scientific Thinking for Non-Science Majors (interdisciplinary).

**Advanced Seminars**

Personality and Individual Differences, Social Psychology, Cognitive Psychology, Psychology of Judgment and Decision Making, Ways of Knowing (interdisciplinary), History and Philosophy of Psychology (interdisciplinary).

**Methods Courses**

Research Methods for Psychology, Scale Construction.

TEACHING EXPERIENCE

**University of California, Berkeley**

*Curriculum Development Coordinator, Sense & Sensibility & Science* [Spring 2016-present]

* Developed & refined learning goals for interdisciplinary course on scientific thinking & how to make better decisions as individuals and groups, co-taught by a physicist, a psychologist, & a philosopher.
* Coordinated teams of graduate & undergraduate students developing & piloting new activities & assessments.
* Developed materials for website to expand course to other universities.

**University of Pennsylvania**

*Teaching Assistant, Animal Behavior* [Fall 2012, 2013, 2014]

* Taught twice-weekly discussion sessions on classic & current research articles in animal behavior, with an eye to developing understanding of evolutionary theory and science as a way of knowing.
* Developed & graded free-response assessments requiring novel application of evolutionary concepts.
* Average teaching evaluation in the one year for which evaluations were collected: **4.7/5**.

*Teaching Assistant, Cognitive Science*  [Fall 2015]

* Taught twice-weekly sessions on problem sets requiring mathematical and logical reasoning.

*Teaching Assistant, Social Psychology* [Spring 2013]

* Guest Lecturer on stereotyping, bias, & in-group/out-group effects
* Developed & graded assessments.

**Prince Royal College, Chiang Mai, Thailand**

*Teacher*[Fall 2009]

* English as a Foreign Language, Grades 7-8

**Swarthmore College**

*Founder and Moderator, Apple Pie Discussion Group* [Fall 2005-Spring 2009]

* Established and moderated an interdisciplinary philosophical discussion group for fellow undergraduates.

*Teacher, Swarthmore Quaker Meetinghouse First Day School (Sunday School)* [Spring 2009]

* Ran weekly philosophical discussion group for adolescents.

RESEARCH INTERESTS

* *Psychology of Epistemology:* How do people conceptualize disagreement within and between social groups? How does social or religious affiliation affect what people take as legitimate justifications for beliefs? How do different answers to these questions affect what beliefs people hold?
* *Actively Open-Minded Thinking:* How does actively open-minded thinking manifest in children, adolescents, and adults? How can we use actively open-minded thinking as a framework for improving perspective-taking, active listening, and critical thinking?
* *Public Understanding of Science:* How does understanding of scientific theories and methods affect attitudes and reasoning about scientific ideas, especially controversial ones like evolution, climate change, and vaccines?
* *Philosophy of Psychology:* What is the ontology of mental attributes like *belief*? How can we shape the norms of our discipline to support more self-aware and less biased epistemic practices?

RESEARCH EXPERIENCE

**Postdoctoral Scholar, University of California, Berkeley**

*Sense & Sensibility & Science* [SSS]

(PIs: Saul Perlmutter & Alicia Alonzo) [10/2016-present]

* SSS is an interdisciplinary Big Ideas course at UC Berkeley focused on teaching scientific thinking and how to avoid or catch ourselves in errors of reasoning. It is co-taught by a physicist (Saul Perlmutter), a psychologist (Tania Lombrozo), and a philosopher (John Campbell).
* Project lead for developing and analyzing multi-modal instruments to investigate students’ thinking.
* Project lead for adapting material to scaffold reasoning about uncertainty and under conditions of uncertainty for undergraduate & high school science classrooms.

*Public Editor*

(Directors: Nicholas Adams & Saul Perlmutter) [6/2017-present]

* Public Editor is a collaboration between UC Berkeley, local tech experts, and Los Angeles film editors to develop a platform for crowdsourcing argument-checking of news using a trained crowd.
* Member of Leadership Committee.
* Project lead for developing credibility indicators to scaffold the evaluation of news articles.
* Project lead for developing online training for undergraduates & interested members of the public to evaluate news more effectively, including interactive training modules, videos, and assessments.

**Doctoral Student, University of Pennsylvania**

*Public Understanding of Evolution*

(PIs: Michael Weisberg & Deena Skolnick Weisberg) [2/2015-12/2016]

* Project lead for developing, administering, & analyzing interviews on conceptions of science and the origin of species.
* Member of team developing and testing multiple-choice items to gauge understanding of evolution in nationally representative surveys.
* Member of team developing mini-documentaries on intra-species variation and adaptation.

*Character Development in Adolescence*

(PI: Angela Duckworth) [3/2014-12/2016]

* Developed quantitative & qualitative measures of actively open-minded thinking, administered longitudinally to over 1000 adolescents over 2 years.
* Interviewed adolescents on four additional character strengths: grit, self-control, gratitude, and pro-social purpose.

*Reasoning and Actively Open-Minded Thinking*

(PI: Jonathan Baron) [8/2011-6/2014]

* Helped develop interactive online task to measure bias and depth of search in problem-solving.
* Developed and piloted problems to test analogical reasoning and transfer of problem-solving techniques to novel problems with different surface structures.

*Moral Reasoning Lab*

 (PI: Geoffrey Goodwin) [6/2012-12/2017]

* Member of lab group studying moral reasoning, with a focus on character judgments, punishment, and altruism.

*Good Judgment Lab*

(PI: Philip Tetlock)[8/2011-5/2013]

* Member of team developing optimal methods of crowdsourcing predictions about real-world political events (Our method of crowdsourcing won an IARPA-funded tournament among academic & private competitors for the best predictor).
* Investigated which individual differences best predicted high performance.

**Research Assistant, Graduate School of Education, University of California, Berkeley**

*Scaffolding Children’s Understanding of Evolution*

(PI: Kathleen Metz) [5/2010-6/2011]

* Conducted & analyzed interviews with 2nd-3rd graders about microevolution pre- and post-curricular intervention, to develop a learning progression model & evaluate curriculum reform model.

PUBLICATIONS

**Metz, S. E.;** Weisberg, D. S.; & Weisberg, M. (2018). Non-scientific criteria for belief sustain counter-scientific beliefs. *Cognitive Science,*

Weisberg, D. S.; Landrum, A.; **Metz, S. E.;** & Weisberg, M. E. (2018). No missing link: Knowledge predicts acceptance of evolution in the United States. *BioScience, 8 (3),* 212-222.

Metz, K. E.; Cardace, A.; Berson, E.; Ly, U.; Wong, N.; Sisk-Hilton, S.; **Metz, S. E.;** Wilson, M. R. (*under review*). A learning progression approach to the challenge of teaching evolution: Developing second and third graders understanding of natural selection. *Journal of the Learning Sciences.*

**Metz, S.** **E.** & Duckworth, A. L. (*under review*). Democratic attitudes to knowledge: Actively open-minded thinking in American adolescents.

**Metz, S. E;** Eichstaedt, J.E.;Yaden, D.; Smith, L.; Buffone, A.; & Mellers, B. (*in preparation*). Here, we listen: Using Twitter language to characterize and measure actively open-minded thinking across the United States.

**Metz, S. E.** (*in preparation*). The role of explanatory power in judging what to believe about evolution.

Daeun Park, A.; Yu, A.; **Metz, S. E**.; Tsukayama, E.; Crum, A.; Duckworth, A. (2017). Beliefs about stress attenuate the relation among adverse events, perceived stress, and self-control. *Child Development,*

Baron, J., Gurcay, B. & **Metz, S. E.** (2017). Reflective thought and actively open-minded thinking. In Toplak, M & Weller, J.(Eds.) *Decision-Making Across the Lifespan.*

Baron, J., Scott, S., Fincher, K., & **Metz, S. E**. (2015). Why does the Cognitive Reflection Test (sometimes) predict utilitarian moral judgment (and other things)? *Journal of Applied Research in Memory and Cognition, Special Issue on Modeling and Aiding Intuitions in
Organizational Decision Making*, J. Marewski & U. Hoffrage, (Eds.).

Mellers, B.; Stone, E.; Atanasov, P.; Rohrbaugh, N.; **Metz, S. E.;** Ungar, L.; Bishop, M.; Horowitz, M.; Merkle, E.; & Tetlock, P. (2015). The psychology of intelligence analysis: Drivers of prediction accuracy in world politics. *Journal of Experimental Psychology: Applied, 21(1),* 1-14.

Tetlock, P. E., **Metz, S. E.,** Scott, S. E., & Suedfeld, P. (2014) Integrative complexity coding raises integratively complex issues. *Journal of Political Psychology: Special Issue.*

PRESENTATIONS

Liquin, E. G.; **Metz, S. E.;** & Lombrozo, T. (July 2018) “Explanation and its limits: Mystery and the need for explanation in science and religion.” Presented at The Society for Cognitive Science, Madison, WI.

**Metz, S. E.** (June 2016) “Non-scientific epistemic criteria support non-scientific beliefs.” Presented at the Society for Philosophy and Psychology, Durham, SC.

**Metz, S. E.** (July 2015) “Creationists’ criteria for credence: An account of the conflicting frameworks of evolution and creationism.” Presented at the International Society for History and Philosophy of Social Science and Biology, Montreal, Quebec, Canada.

**Metz, S. E.** (June 2015) “A plea for metaframeworks.” Presented at the Society for Philosophy and Psychology, Durham, SC.

**Metz, S. E.** & Tetlock, P. E. (January 2013) “The Open-minded hedgehog: Separating belief in basic principles from need for closure in the Hedgehog-Fox distinction.” Presented at the Society for Personality and Social Psychology, New Orleans, LA.

**Metz, S. E.** (November 2013) “Seeking an ontology of open-mindedness.” Presented at the Society for Judgment and Decision-Making, Toronto, Canada.

PROFESSIONAL ACTIVITIES

**Professional Memberships**

* Berkeley Institute for Data Science, UC Berkeley
* International Society for the History, Philosophy, and Social Studies of Biology
* Phi Beta Kappa Society
* Sigma Xi Research Society
* Society for Judgment and Decision-Making
* Society for Personality and Social Psychology
* Society for Philosophy and Psychology

**Ad hoc reviewer**

* *Educational Psychology*
* *Episteme*
* *European Journal of Social Psychology*
* *Journal of Judgment and Decision Making*
* *Journal of Political Psychology*
* *Society for Philosophy and Psychology*

**Additional Certifications**

* Center for Teaching and Learning Certification, University of Pennsylvania
* Certificate in English Language Teaching to Adults, Cambridge English Language Assessment

ADDITIONAL COMMUNITY OUTREACH

**MiNDWORKS**  [3/2014-1/2016]

* Consultant for MiNDWORKS, an interactive online platform for building community and conversation around big questions about society and human life. Includes readings, quizzes, and educational videos with puppets.

**Philosophy for Children, Philadelphia**  [Fall 2015]

* Philosophy outreach to public school students in Philadelphia, including helping adolescents write and present philosophical papers and give public commentaries on talks given by others.

**Citizen Schools Oakland**  [Fall 2011]

* Taught after-school course on social psychology to 6th graders at a public school in Oakland, California.

**Chester Children’s Chorus Tutoring**

* Mentored minority adolescent girls in math, science, & English. [2007-2008]

REFERENCES

**Jonathan Baron, Professor of Psychology**

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**Michael Weisberg, Professor of Philosophy**

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**Saul Perlmutter, Professor of Physics, Nobel Laureate**

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**Robert Seyfarth, Professor of Psychology**

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**Tania Lombrozo, Professor of Psychology**

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