

TRAVEL GRANTS

- **American Psychological Association** Student Travel Award: \$300 (2013)
- **Northwestern University** Conference Travel Grant: \$1,150 (2013; 2016)
- **Society for Personality and Social Psychology** Diversity Fund Graduate Travel Award: \$500 (2018)
- **Society for Personality and Social Psychology** Graduate Travel Award: \$500 (2018)
 - I won this award, but had to decline receiving it because I also won the Diversity Fund Graduate Travel Award in the same year and was not allowed to receive both.
- **University of California – Berkeley** Conference Travel Grant: \$500 (2012)

PUBLICATIONS

- Miller, D. I.,** Nolla, K. M., Eagly, A. H., & Uttal, D. H. (in press). The development of children's gender-science stereotypes: A meta-analysis of five decades of U.S. Draw-A-Scientist studies. *Child Development*.
- Atit, K., **Miller, D. I.,** Newcombe, N. S., & Uttal, D. H. (in press). Teachers' spatial skills across disciplines and education levels: Exploring nationally representative data.
- Hsu, K. J., Rosenthal, A. M., **Miller, D. I.,** & Bailey, J. M. (2017). Sexual arousal patterns of autogynephilic male cross-dressers. *Archives of Sexual Behavior, 46*, 247-253. doi:10.1007/s10508-016-0826-z
- Eagly, A. H., & **Miller, D. I.** (2016). Scientific eminence: Where are the women? *Perspectives in Psychological Science, 11*, 899-904. doi:10.1177/17456916166663918
- Miller, D. I.** (2016). Sex difference research and cognitive abilities. In N. A. Naples (Ed.), *The Wiley-Blackwell Encyclopedia of Gender and Sexuality Studies*. New York, NY: John Wiley & Sons, Ltd. doi:10.1002/9781118663219.wbegss098
- Hsu, K. J., Rosenthal, A. M., **Miller, D. I.,** & Bailey, J. M. (2016). Who are gynandromorphophilic men? Characterizing men with sexual interest in transgender women. *Psychological Medicine, 46*, 819–827. doi:10.1017/S0033291715002317
- Miller, D. I.,** Eagly, A. H., & Linn, M. C. (2015). Women's representation in science predicts national gender-science stereotypes: Evidence from 66 nations. *Journal of Educational Psychology, 107*, 631-644. doi:10.1037/edu0000005
- Miller, D. I.,** & Wai, J. (2015). The bachelor's to Ph.D. STEM pipeline no longer leaks more women than men: A 30-year analysis. *Frontiers in Psychology, 6*, 36. doi:10.3389/fpsyg.2015.00037
- Miller, D. I.,** & Halpern, D. F. (2014). The new science of cognitive sex differences. *Trends in Cognitive Sciences, 18*, 37-45. doi:10.1016/j.tics.2013.10.011
- Miller, D. I.,** & Halpern, D. F. (2013). Can spatial training improve long-term outcomes for gifted STEM undergraduates? *Learning and Individual Differences, 26*, 141-152. doi:10.1016/j.lindif.2012.03.012
- Uttal, D. H., **Miller, D. I.,** & Newcombe, N. S. (2013). Exploring and enhancing spatial thinking: Links to STEM achievement? *Current Directions in Psychological Science, 22*, 367-373. doi:10.1177/0963721413484756

PEER-REVIEWED CONFERENCE PROCEEDINGS

- Lakkaraju, H., Aguiar, E., Shan, C., **Miller, D. I.,** Bhanpuri, N., Ghani, R., & Addison, K. L. (2015). A machine learning framework to identify students at risk of adverse academic outcomes. In *Proceedings of the 21st ACM SIGKDD Conference on Knowledge Discovery and Data Mining*. Sydney, Australia: Association for Computing Machinery.

- Aguiar, E., Lakkaraju, H., Bhanpuri, N., **Miller, D. I.**, Yuhas, B., Addison, K., ... , Ghani, R. (2015). Who, when, why: A machine learning approach to prioritizing students at risk of not graduating high school on time. In *Proceedings of the 5th International Conference on Learning Analytics and Knowledge*. Poughkeepsie, NY: Society for Learning Analytics Research.
- Matuk, C. F., McElhane, K. W., **Miller, D. I.**, Chen, J. K., Lim-Breitbart, J., Terashima, H., ... , Linn, M. C. (2013). Reflectively prototyping a tool for exchanging ideas. In *Proceedings of the 10th International Conference on Computer Supported Collaborative Learning* (pp. 101-104). Madison, WI: International Society of the Learning Sciences.
- McElhane, K. W., Matuk, C. F., **Miller, D. I.**, & Linn, M. C. (2012). Using the Idea Manager to promote coherent understanding of inquiry investigations. In *Proceedings of the 11th International Conference of the Learning Sciences*. Sydney, Australia: International Society of the Learning Sciences.
- Matuk, C. F., McElhane, K. W., Chen, J. K., **Miller, D. I.**, Lim-Breitbart, J., & Linn, M. C. (2012). The Idea Manager: A tool to scaffold students in documenting, sorting, and distinguishing ideas during science inquiry. In *Proceedings of the 11th International Conference of the Learning Sciences*. Sydney, Australia: International Society of the Learning Sciences.
- Miller, D. I.**, & Halpern, D. F. (2011). Spatial thinking in physics: Longitudinal impacts of 3-D spatial training. In L. Carlson, C. Hoelscher, & T. Shipley (Eds.), *Proceedings of the 33rd Annual Conference of the Cognitive Science Society* (pp. 3465-3470). Austin, TX: Cognitive Science Society. [This research was turned into a full-length journal article in *Learning and Individual Differences* – see publications]

POPULAR PRESS ARTICLES

- Miller, D. I.** (2017, February 1). Stereotypes can hold boys back in school, too. *The Conversation*. Retrieved from <https://theconversation.com/stereotypes-can-hold-boys-back-in-school-too-72035>
- Miller, D. I.** (2016, June 15). LGBT equality doesn't exist – but here's how to fight for it. *The Conversation*. Retrieved from <https://theconversation.com/lgbt-equality-doesnt-exist-but-heres-how-to-fight-for-it-60977>
- Miller, D. I.** (2016, February 4). Intersectionality: how gender interacts with other social identities to shape bias. *The Conversation*. Retrieved from <https://theconversation.com/intersectionality-how-gender-interacts-with-other-social-identities-to-shape-bias-53724>
- Wai, J., & **Miller, D. I.** (2015, December 1). Here's why academics should write for the public. *The Conversation*. Retrieved from <https://theconversation.com/heres-why-academics-should-write-for-the-public-50874>
- Miller, D. I.** (2015, October 13). Men and women biased about studies of STEM gender bias – in opposite directions. *The Conversation*. Retrieved from <https://theconversation.com/men-and-women-biased-about-studies-of-stem-gender-bias-in-opposite-directions-48924>
- Miller, D. I.** (2015, July 10). Tech companies spend big money on bias training—but it hasn't improved diversity numbers. *The Conversation*. Retrieved from <https://theconversation.com/tech-companies-spend-big-money-on-bias-training-but-it-hasnt-improved-diversity-numbers-44411>
- Miller, D. I.** (2015, June 9). Beliefs about innate talent may dissuade students from STEM. *The Conversation*. Retrieved from <https://theconversation.com/beliefs-about-innate-talent-may-dissuade-students-from-stem-42967>
- Miller, D. I.** (2015, May 28). Most people think 'man' when they think 'scientist' – how can we kill the stereotype? *The Conversation*. Retrieved from <https://theconversation.com/most-people-think-man-when-they-think-scientist-how-can-we-kill-the-stereotype-42393>

- Miller, D. I.** (2015, April 16). Some good news about hiring women in STEM doesn't erase sex bias issue. *The Conversation*. Retrieved from <https://theconversation.com/some-good-news-about-hiring-women-in-stem-doesnt-erase-sex-bias-issue-40212>
- Miller, D. I.** (2015, March 3). A metaphor to retire. *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/views/2015/03/03/essay-calls-ending-leaky-pipeline-metaphor-when-discussing-women-science>

DATA AND PROGRAMMING SKILLS

- **Data analysis environments:** R/RStudio, SPSS, Stata
- **Data collection software:** Amazon Mechanical Turk, Inquisit, Qualtrics
- **Data visualization:** D3.js, Shiny (R package)
- **Online curriculum development:** Web-based Inquiry Science Environment
- **Other web development:** HTML5, CSS3, JavaScript, jQuery

ADVANCED STATISTICAL TRAINING

- **Courses taken in graduate school:**
 - Latent variable modeling (instructor: William Revelle)
 - Meta-analysis (instructor: Larry V. Hedges)
 - Multilevel modeling (instructor: Sophia Rabe-Hesketh)
- **Workshops attended at conferences:**
 - Causal inference with quasi-experimental designs (AERA 2012 conference, facilitator: Joseph R. Cimpian)
 - Longitudinal exploratory data mining (APS 2013 conference, facilitator: John J. McArdle)
 - Network modeling (APS 2011 conference, facilitator: Lourens J. Waldorp)
- **Training institutes:**
 - Two-day course on causal analysis using international data (AERA 2015 Institute on Statistical Analysis for Education Policy, facilitator: William Schmidt)
 - Week-long course on causal inference using non-experimental data (2015 Northwestern-Duke Causal Inference Workshop, facilitators: Bernie Black, Jens Hainmueller, Stephen Morgan, Don Rubin)

PRESENTATIONS TO POLICY AUDIENCES

- Miller, D. I.,** Nolla, K. M., Eagly, A. H., & Uttal, D. H. (2016, February 14). How have U.S. children's stereotypes about scientists changed over time? Oral presentation at the 2016 American Association for the Advancement of Science Annual Meeting, Washington, DC.
- Miller, D. I.** (2015, December 13). Panel discussant for the "Innovations in North America / Europe" session at the Salzburg Global Seminar on "Untapped Talent: Can better testing and data accelerate creativity in learning and societies?", Salzburg, Austria.
- Miller, D. I.** (2015, November 12). Increasing women's access to training in science and technology. Invited keynote address at the 2015 VHTO Higher Education Gender & STEM Conference, Amsterdam, The Netherlands.
- Miller, D. I.** (2015, July 2). Using women's potential for science and technology career. Invited oral presentation at the Public Policy Exchange forum on "Driving Forward Gender Equality in Europe: Combating Discrimination in the Workplace and Beyond," Brussels, Belgium.

SYMPOSIUM ORGANIZED

- Miller, D. I.** (2013, May 26). New research directions on gender stereotypes in science, math, and engineering. Lead organizer and chair for symposium at the 35th Association for Psychological Science (APS) Annual Convention, Washington, DC. Presenters: **David I. Miller**, Diane F. Halpern (discussant), Frederick L. Smyth, Greg M. Walton, Toni Schmader.
- Miller, D. I., & Linn, M. C.** (2013, May 1). Using visual and spatial thinking in science education. Lead organizer for symposium at the 2013 Meeting of the American Education Research Association (AERA), San Francisco, CA. Presenters: David H. Uttal, **David I. Miller**, Edward Pan, Kevin W. McElhane, Marcia C. Linn (chair), Mary Hegarty, Nora S. Newcombe (discussant).
- Miller, D. I.** (2012, May 27). Spatial thinking and social psychology: How can they inform each other? Lead organizer and chair for symposium at the 34th Association for Psychology Science (APS) Annual Convention, Chicago, IL. Presenters: **David I. Miller**, Elizabeth A. Gunderson, Keith B. Maddox, Stephanie A. Gagnon, Susan C. Levine (discussant).

OTHER CONFERENCE PRESENTATIONS

- Miller, D. I., Wai, J., & Uttal, D. H.** (2018, April). Gender differences in joining STEM during college. Oral presentation at the 2018 Meeting of the American Educational Research Association (AERA), New York, NY.
- Miller, D. I., Nolla, K. M., Eagly, A. H., & Uttal, D. H.** (2018, March 2). The development of children's gender-science stereotypes: A meta-analysis of five decades of U.S. Draw-A-Scientist studies. Poster presentation at 2018 Society for Personality and Social Psychology (SPSP) Annual Convention, Atlanta, GA.
- Miller, D. I.** (2016, January 28). How gender bias relates to career progression in STEM. Invited oral presentation at the Gender Preconference at the 2016 Society for Personality and Social Psychology (SPSP) Annual Convention, San Diego, CA.
- Lakkaraju, H., Aguiar, E., Shan, C., **Miller, D. I.**, Bhanpuri, N., Ghani, R., & Addison, K. L. (2015, August 12). A machine learning framework to identify students at risk of adverse academic outcomes. Oral presentation at the 21st ACM SIGKDD Conference on Knowledge Discovery and Data Mining, Sydney, Australia.
- Aguiar, E., Lakkaraju, H., Bhanpuri, N., **Miller, D. I.**, Yuhas, B., Addison, K., ... , Ghani, R. (2015, March 18). Who, when, why: A machine learning approach to prioritizing students at risk of not graduating high school on time. Oral presentation at the 5th International Learning Analytics & Knowledge Conference, Poughkeepsie, NY.
- Miller, D. I., Uttal, D. H., & Eagly, A. H.** (2015, February 26). How communal goals contribute to STEM employment. Poster presentation at the 16th Society of the Personality and Social Psychology (SPSP) Annual Meeting, Long Beach, CA.
- Miller, D. I., Wai, J., & Uttal, D. H.** (2014, September 18). How spatial skills relate to movement into and out of STEM. Poster presentation at the 2014 Spatial Cognition conference, Bremen, Germany.
- Aguiar, E., Lakkaraju, H., Bhanpuri, N., **Miller, D. I.**, & Yuhas, B. (2014, August 26). Identifying students at risk accurately and early. Oral and poster presentation at the 20th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, New York, NY.
- Miller, D. I., Nolla, K., Eagly, A. H., & Uttal, D. H.** (2014, February 14). How have children's gender-science stereotypes changed over time? A meta-analysis. Poster presentation at the 15th Society of the Personality and Social Psychology (SPSP) Annual Meeting, Austin, TX.

- Miller, D. I.,** Wai, J., & Uttal, D. H. (2014, February 3). Replacing the leaky STEM pipeline metaphor. Oral presentation at the 7th Inter-Science of Learning Center Student and Post-Doc Conference, Pittsburgh, PA.
- Miller, D. I.,** Eagly, A. H., & Linn, M. C. (2013, August 3). Women's representation in science predicts national gender-science stereotypes. Poster presentation at the 121st American Psychological Association (APA) Annual Convention, Honolulu, HI.
- Matuk, C. F., McElhaney, K. W., **Miller, D. I.,** Chen, J. K., Lim-Breitbart, J., Terashima, H., ... , Linn, M. C. (2013, June 18). Reflectively prototyping a tool for exchanging ideas. Oral presentation at the 10th International Conference on Computer Supported Collaborative Learning, Madison, WI.
- Miller, D. I.,** Maloney, E., Beilock, S. L., & Uttal, D. H. (2013, May 26). Comparing gender stereotypes across cognitive intelligences: Spatial stereotypes matter. Oral symposium presentation at the 35th Association for Psychological Science (APS) Annual Convention, Washington, DC.
- Miller, D. I.,** & Linn, M. C. (2013, May 1). How does traditional science education assess visual and spatial thinking? Oral symposium presentation at the 2013 Meeting of the American Educational Research Association (AERA), San Francisco, CA.
- Miller, D. I.,** Maloney, E., Beilock, S. L., & Uttal, D. H. (2013, February 22). How do gender stereotypes impact spatial thinking? Poster presentation at the 6th Inter-Science of Learning Center Student and Post-Doc Conference, Philadelphia, PA.
- Miller, D. I.** (2012, September 2). Broadening spatial thinking by investigating its role in scientific practices. Oral presentation at the 2012 Spatial Cognition conference, Bavaria, Germany.
- McElhaney, K. W., Matuk, C. F., **Miller, D. I.,** & Linn, M. C. (2012, July 5). Using the Idea Manager to promote coherent understanding of inquiry investigations. Oral presentation at the 2012 International Conference of the Learning Science (ICLS), Sydney, Australia.
- Matuk, C. F., McElhaney, K. W., Chen, J. K., **Miller, D. I.,** Lim-Breitbart, J., & Linn, M. C. (2012, July 4). The Idea Manager: A tool to scaffold students documenting, sorting, and distinguishing ideas in science inquiry. Poster presentation at the 2012 International Conference of the Learning Science (ICLS), Sydney, Australia.
- Miller, D. I.** (2012, May 27). Removing stereotype threat substantially boosts women's spatial performance: A meta-analysis. Oral symposium presentation at the 34th Association for Psychological Science (APS) Annual Convention, Chicago, IL.
- Miller, D. I.,** McElhaney, K. W., & Linn, M. C. (2012, April 14). Can a bridging visualization help chemistry students integrate observable and molecular views? Poster presentation at the 2012 Meeting of the American Educational Research Association (AERA), Vancouver, Canada.
- Miller, D. I.,** & Halpern, D. F. (2011, July 23). Spatial thinking in physics: Longitudinal impacts of 3-D spatial training. Poster presentation at the 33rd Cognitive Science Society Annual Conference, Boston, MA.
- Miller, D. I.,** & Halpern, D. F. (2011, May 28). Longitudinal impacts of 3-D spatial training among gifted STEM undergraduates. Oral award address and poster presentation at the 23rd Association for Psychological Science (APS) Annual Convention, Washington, DC.
- Miller, D. I.,** & Halpern, D. F. (2010, August 13). Spatial training improves mathematical physics problem-solving. Poster presentation at the 118th American Psychological Association (APA) Annual Convention, San Diego, CA.
- Miller, D. I.,** Halpern, D. F., & Saeta, P.N. (2010, July 21). Can spatial skills training improve students' understanding of introductory physics? Oral presentation at the Summer Meeting of the American Association of Physics Teachers (AAPT), Portland, OR.

Miller, D. I., & Halpern, D. F. (2010, April 23). Spatial training narrows gender differences in spatial skills. Poster presentation at the 90th Western Psychological Association (WPA) Annual Meeting, Cancun, Mexico.

INVITED LABORATORY GROUP PRESENTATIONS

Miller, D. I. (2013, May 3). Gender-STEM stereotypes: From the sociocultural to cognitive. Invited presentation at Sian Beilock's Human Performance Laboratory Group Meeting at University of Chicago, Chicago, IL.

Miller, D. I. (2013, April 9). Spatial thinking in STEM education: How do cognitive strategies and stereotypes interact? Invited presentation at Mike Stieff's Research Group at University of Illinois at Chicago, Chicago, IL.

Miller, D. I. (2012, September 19). How does conceptual knowledge and psychosocial factors influence spatial thinking? Invited presentation at Susan Levine's Research Group Meeting at University of Chicago, Chicago, IL.

Miller, D. I., & Halpern, D. F. (2011, July 12). Longitudinal impacts of 3-D spatial training among gifted STEM undergraduates. Invited presentation at the Mary Hegarty's Spatial Thinking Laboratory meeting at University of California at Santa Barbara, Santa Barbara, CA.

Miller, D. I., & Halpern, D. F. (2011, May 31). Longitudinal impacts of 3-D spatial training among gifted STEM undergraduates. Invited presentation at Nora Newcombe's Research in Spatial Cognition (RISC) Laboratory meeting at Temple University, Philadelphia, PA.

PHYSICS PROFESSIONAL PRESENTATIONS

Huisman, F.M., Van Cleve, E., **Miller, D. I.**, & Taborek, P. (2010, March 19). Low temperature pressure gauge based on a quartz tuning fork. Oral presentation at the 2010 American Physical Society Annual Meeting, Portland, OR.

Miller, D. I., & Hemmick, T.K. (2008, August 8). Electron counting algorithm for Hadron Blind Detector – Hub and spoke. Oral presentation at the annual 2008 Physics/Astronomy REU Student Symposium, Stony Brook, NY.

Miller, D. I., & Hemmick, T.K. (2008, August 5). Hub and spoke counting algorithm – Simulation results and future directions. Invited oral presentation at Brookhaven National Laboratory's August 5th Hadron Blind Detector (HBD) group meeting, Stony Brook, NY.

Miller, D. I., & Mandushev, G. (2007, August 8). The open cluster Berkeley 70 and its association with Cepheid variable Auriga 45. Oral presentation at the annual 2007 Astronomy REU Student Symposium, Flagstaff, AZ.

PHYSICS RESEARCH EXPERIENCE

Physics Intern – Low-Temperature Physics Laboratory

University of California - Irvine

Irvine, CA

June 2009 – August 2009

- Collaborated with a team of two graduate students and professor to implement a quartz crystal tuning fork as a sensitive pressure gauge in a vacuumed cryostat at operating temperature <2 K.
- Communicated results to laboratory group through oral presentation and written report.

