

JONATHAN WAI

Assistant Professor and Endowed Chair in Education Policy
Department of Education Reform
College of Education and Health Professions
Courtesy Appointment, Department of Psychology
University of Arkansas
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September 10 2018

ACADEMIC APPOINTMENTS AND EDUCATION

2018- Assistant Professor, Dept. of Education Reform, University of Arkansas
2018- 21st Century Endowed Chair in Education Policy, University of Arkansas
2018- Joint (Courtesy) Appointment, Dept. of Psychology, University of Arkansas
2017-2018 Research Fellow, Autism & Developmental Medicine Institute, Geisinger
2013-2018 Visiting Researcher, Dept. of Psychology, Case Western Reserve University
2016-2017 Faculty Affiliate, Berger Institute, Claremont McKenna College
2011-2017 Research Scientist, Talent Identification Program, Duke University
2009-2011 Postdoctoral Researcher, Duke University
2003-2009 Ph.D., M.S., Quantitative Methods for Psychology, Vanderbilt University
2002-2003 M.A., Cognitive Psychology and Evaluation, Claremont Graduate University
1998-2002 B.A., Psychology and Mathematics, Claremont McKenna College

HONORS AND AWARDS

Mensa Awards for Research Excellence, 2006, 2010, 2011, 2012, 2013, 2016, 2018
Research and writing profiled by Rotman Management Magazine, University of Toronto, 2015
Von Brock Postdoctoral Research Fellow, Duke University, 2009-2011
Susan Gray Award for Excellence in Scholarly Writing, Vanderbilt University, 2010
New Voice Scholar in Creativity and Intelligence (Chosen by Field Leaders), University of Kansas, 2009
Society of Multivariate Experimental Psychology (SMEP) Dissertation Award, 2007
Peabody Honor Scholar, 2003-2007
Vanderbilt University Graduate Fellow, 2003-2007
Uhlmann Scholar, Merit Scholarship, Claremont McKenna College, 1998-2002
Washington Scholar, Waived Tuition, Western Washington University Summer Courses, 1998-2002

PROFESSIONAL MEMBERSHIP AND NATIONAL BOARD SERVICE

Association for Psychological Science
American Psychological Association (Division 15: Educational Psychology)
International Society for Intelligence Research
National Association for Gifted Children (NAGC; Research and Evaluation and STEM Networks)
Association for Public Policy, Analysis, & Management
Board of Directors, Chair, Evaluation/Nomination Committees, MATHCOUNTS Foundation, 2011-2014

PUBLICATIONS

JOURNAL ARTICLES

Wai, J., Brown, M. I., & Chabris, C. F. (2018). Using standardized test scores to include general cognitive ability in education research and policy. *Journal of Intelligence*, 6, 37. doi: <https://doi.org/10.3390/jintelligence6030037>

- Wai, J., & Halpern, D. F.** (2018). The impact of changing norms on creativity in psychological science. *Perspectives on Psychological Science, 13*, 466-472. doi: 10.1177/1745691618773326
- Wai, J., & Perina, K.** (2018). Expertise in journalism: Factors shaping a cognitive and culturally elite profession. *Journal of Expertise, 1*, 57-78. ISSN 2573-2773
- Wai, J., Hodges, J., & Makel, M. C.** (2018). Sex differences in ability tilt in the right tail of cognitive abilities: A 35-year examination. *Intelligence, 67*, 76-83. doi: <https://doi.org/10.1016/j.intell.2018.02.003>
- Wai, J., & Rindermann, H. R.** (2017). What goes into high educational and occupational achievement? Education, brains, hard work, networks, and other factors. *High Ability Studies, 28*, 127-145. <http://dx.doi.org/10.1080/13598139.2017.1302874>
- Makel, M. C., **Wai, J.**, Peairs, K. F., & Putallaz, M. (2016). Sex differences in the right tail of cognitive abilities: An update and cross cultural extension. *Intelligence, 59*, 8-15. <http://dx.doi.org/10.1016/j.intell.2016.09.003>
- Wai, J., & Worrell, F. C.** (2016). Helping disadvantaged and spatially talented students fulfill their potential: Related and neglected national resources. *Policy Insights from the Behavioral and Brain Sciences, 3*, 122-128. <http://dx.doi.org/10.1177/2372732215621310>
- Wai, J., & Lincoln, D.** (2016). Investigating the right tail of wealth: Education, cognitive ability, giving, network power, gender, ethnicity, leadership, and other characteristics. *Intelligence, 54*, 1-32. <http://dx.doi.org/10.1016/j.intell.2015.11.002>
- Makel, M. C., & **Wai, J.** (2016). Does economic research in education work? For which studies? *Journal of Advanced Academics, 27*, 73-80. <https://doi.org/10.1177/1932202X15628013>
- Wai, J., & Rindermann, H. R.** (2015). The path and performance of a company leader: An historical examination of the education and cognitive ability of Fortune 500 CEOs. *Intelligence, 53*, 102-107. <http://dx.doi.org/10.1016/j.intell.2015.10.001>
- Makel, M. C., **Wai, J.**, Putallaz, M., & Malone, P. (2015). The academic gap: An international comparison of the time allocation of academically talented students. *Gifted Child Quarterly, 59*, 177-189. <http://dx.doi.org/10.1177/0016986215578746>
- Miller, D., & **Wai, J.** (2015). The bachelor's to PhD STEM pipeline no longer leaks more women than men: A 30-year analysis. *Frontiers in Psychology: Developmental, 6*, 37. <http://dx.doi.org/10.3389/fpsyg.2015.00037>
- Wai, J.** (2014). Investigating the world's rich and powerful: Education, cognitive ability, and sex differences. *Intelligence, 46*, 54-72. <http://dx.doi.org/10.1016/j.intell.2014.05.002>
- Wai, J.** (2014). What does it mean to be an expert? *Intelligence, 45*, 122-123. <http://dx.doi.org/10.1016/j.intell.2014.02.001>
- Wai, J.** (2014). Experts are born, then made: Combining prospective and retrospective longitudinal data shows that cognitive ability matters. *Intelligence, 45*, 74-80. <http://dx.doi.org/10.1016/j.intell.2013.08.009>
- Wai, J.** (2013). Investigating America's elite: Cognitive ability, education, and sex differences. *Intelligence, 41*, 203-211. <http://dx.doi.org/10.1016/j.intell.2013.08.009>
- Wai, J., Putallaz, M., & Makel, M. C.** (2012). Studying intellectual outliers: Are there sex differences, and are the smart getting smarter? *Current Directions in Psychological Science, 21*, 382-390. <http://dx.doi.org/10.1177/0963721412455052>

- Makel, M. C., Putallaz, M., & **Wai, J.** (2012). Teach students what they don't know but are ready to learn: A commentary on "Rethinking giftedness and gifted education." *Gifted Child Quarterly*, *56*, 198-201. <https://doi.org/10.1177/0016986212456073>
- Wai, J.**, & Putallaz, M. (2011). The Flynn effect puzzle: A 30-year examination from the right tail of the ability distribution provides some missing pieces. *Intelligence*, *39*, 443-455. <http://dx.doi.org/10.1016/j.intell.2011.07.006>
- Makel, M. C., Li, Y., Putallaz, M., & **Wai, J.** (2011). High ability students' time spent outside the classroom. *Journal of Advanced Academics*, *22*, 720-749. <http://dx.doi.org/10.1177/1932202X11424880>
- Wai, J.**, Cacchio, M., Putallaz, M., & Makel, M. C. (2010). Sex differences in the right tail of cognitive abilities: A 30-year examination. *Intelligence*, *38*, 412-423. <http://dx.doi.org/10.1016/j.intell.2010.04.006>
- Wai, J.**, Lubinski, D., Benbow, C. P., & Steiger, J. H. (2010). Accomplishment in science technology, engineering, and mathematics (STEM) and its relation to STEM educational dose: A 25-year longitudinal study. *Journal of Educational Psychology*, *102*, 860-871. <http://dx.doi.org/10.1037/a0019454>
- Wai, J.**, Lubinski, D., & Benbow, C. P. (2009). Spatial ability for STEM domains: Aligning over fifty years of cumulative psychological knowledge solidifies its importance. *Journal of Educational Psychology*, *101*, 817-835. <http://dx.doi.org/10.1037/a0016127>
- Halpern, D. F., & **Wai, J.** (2007). The world of competitive Scrabble: Novice and expert differences in visuospatial and verbal abilities. *Journal of Experimental Psychology: Applied*, *13*, 79-94. <http://dx.doi.org/10.1037/1076-898X.13.2.79>
- Wai, J.**, Lubinski, D., & Benbow, C. P. (2005). Creativity and occupational accomplishments among intellectually precocious youths: An age 13 to age 33 longitudinal study. *Journal of Educational Psychology*, *97*, 484-492. <http://dx.doi.org/10.1037/0022-0663.97.3.484>

BOOK CHAPTERS

- Halpern, D. F., & **Wai, J.** (in press). Sex differences in intelligence. In R. J. Sternberg (Ed.), *The Cambridge Handbook of Intelligence*. Cambridge, U.K.: Cambridge University Press.
- Wai, J.**, Worrell, F. C., & Chabris, C. F. (2018). The consistent influence of general cognitive ability in college, career, and lifetime achievement. In K. McClarty, K. Mattern, & M. Gaertner (Eds.), *Preparing students for college and careers: Theory, measurement, and educational practice*. New York, NY: Routledge.
- Wai, J.**, & Kell, H. J. (2017). How important is intelligence in the development of professional expertise?: Combining prospective and retrospective longitudinal data provides an answer. In D. Z. Hambrick, G. Campitelli, & B. Macnamara (Eds.) *The science of expertise: Behavioral, neural, and genetics approaches to complex skill*. Routledge.
- Wai, J.**, & Kell, H. J. (2016). What innovations have we already lost?: The importance of identifying and developing spatial talent. In M. S. Khine (Ed.) *Visual-spatial ability in STEM education: Transforming research into practice* (pp. 109-124). Dordrecht, The Netherlands: Springer.
- Wai, J.** (2015). Long-term effects of educational acceleration. In S.G. Assouline, N. Colangelo, J. VanTassel-Baska, & A.E. Lupkowski-Shoplik (Eds.) *A nation empowered: Evidence trumps the excuses that hold back America's brightest students* (V. II, pp. 73-83). Iowa City, IA: The Belin-Blank Center for Gifted and Talented Education.

Wai, J. (2014). Matching potential and passion leads to promise: A model for educating intellectually talented youth. S. Moon & F. Dixon (Eds.), *Handbook of Secondary Gifted Education*. (pp. 237-259). Waco, TX: Prufrock Press.

Wai, J., Lubinski, D., & Benbow, C. P. (2009). Aligning potential and passion for promise: A model for educating intellectually talented youth. In J. S. Renzulli, E. J. Gubbins, K. S. McMillen, R. D. Eckert, & C. A. Little (Eds.) *Systems and models for developing programs for the gifted and talented*. (2nd ed., pp. 693-716). Mansfield Center, CT: Creative Learning Press.

Halpern, D. F., **Wai, J.,** & Saw, A. (2005). A psychobiosocial model: Why females are sometimes > and sometimes < males in math achievement. In J. Kaufman and A. Gallagher (Eds.), *Gender Differences in Mathematics*. (pp. 48-72). Cambridge, MA: Cambridge University Press.

WHITE PAPERS, ENCYCLOPEDIA ENTRIES, AND BOOK REVIEWS

Wai, J., & Uttal, D. (in press). Why spatial reasoning matters for education policy. American Enterprise Institute (AEI) Education Policy Paper.

Wai, J., & Allen, J. (2018). Examining predictors of academic growth in secondary school among academically advanced youth across 21 years. *ACT Working Paper*.

Wai, J., & Kell, H. J. (2018). Giftedness. In B. B. Frey (Ed.), *The SAGE Encyclopedia of Educational Research, Measurement and Evaluation* (pp. 734-735). Thousand Oaks, CA: Sage Publications.

Kell, H. J. & **Wai, J.** (2018). Terman Longitudinal Study of Gifted Children. In B. B. Frey (Ed.), *The SAGE Encyclopedia of Educational Research, Measurement and Evaluation* (pp. 1665-1667). Thousand Oaks, CA: Sage Publications.

Wai, J., & Worrell, F. C. (2017). Fully developing the potential of academically advanced students: Helping them will help society. American Enterprise Institute (AEI) Education Policy Paper.

Wai, J. (2016). Crossing disciplinary boundaries to better understand expertise. A review of *Understanding expertise: A multi-disciplinary approach*. *Intelligence*, 57, 64-65. <http://dx.doi.org/10.1016/j.intell.2016.04.005>

Wai, J. (2009). A review of *Real education: Four simple truths for bringing America's schools back to reality*. *Intelligence*, 37, 321-322. <http://dx.doi.org/10.1016/j.intell.2008.10.006>

Wai, J. (2008). A review of *Clocking the mind: Mental chronometry and individual differences*. *Gifted Child Quarterly*, 52, 99-104. <http://dx.doi.org/10.1177/0016986207310434>

Wai, J., & Lubinski, D. (2008). Intelligence. In F. T. L. Leong (Editor-in-Chief), E. M. Altmaier (Senior Editor) & B. D. Johnson's (Associate Editor) *Encyclopedia of Counseling, Volume 1: Changes and Challenges for Counseling in the 21st Century* (pp. 651-657). Thousand Oaks, CA: Sage Publications.

ACADEMIC PRESENTATIONS

Wai, J., & Lakin, J. (forthcoming, November 2018). Which cognitive and noncognitive measures can help identify disadvantaged talent? Panel paper, Association for Public Policy Analysis & Management, Washington, D. C.

Lakin, J., & **Wai, J.** (forthcoming, November 2018). Nontraditional measures of talent to address underrepresentation: New evidence from old data. Presentation at the 65th annual convention of the National Association for Gifted Children, Minneapolis, MN.

- Hodges, J., Makel, M. C., & **Wai, J.** (forthcoming, November 2018). *Sex differences in ability tilt in the right tail of cognitive abilities: A 35-year examination*. Presentation at the 65th annual convention of the National Association for Gifted Children, Minneapolis, MN.
- Hodges, J., Makel, M. C., & **Wai, J.** (May, 2018). *Sex differences in ability tilt in the right tail of cognitive abilities: A 35-year examination*. Wallace Research Symposium.
- Miller, D. I., **Wai, J.**, & Uttal, D. (April, 2018). *Gender differences in joining STEM during college*. American Educational Research Association 2018 proposal for Committee on Scholars and Advocates for Gender Equity in Education
- Wai, J.**, Kanaya, T., & Worrell, F. C. (November, 2017). *An historical test score trend may be reversing which could negatively impact already underrepresented gifted kids*. Presentation at the 64th annual convention of the National Association for Gifted Children, Charlotte, NC.
- Wai, J.**, Makel, M. C., & Gambrell, J. (November, 2017). *Higher education, academic giftedness, and the development of creative achievement: An analysis of the TIME 100*. Poster presented at the 64th annual convention of the National Association for Gifted Children, Charlotte, NC.
- Lakin, J. M., **Wai, J.**, & Coxon, S. (November, 2017). *Spatial talents and STEM programs: Identification and curricular innovations*. Presentation at the 64th annual convention of the National Association for Gifted Children, Charlotte, NC.
- Courtright, R., & **Wai, J.** (November, 2016). *Conceptions of intelligence & policy implications: Remembering that gifted begins with g*. Presentation at the 63rd annual convention of the National Association for Gifted Children, Orlando, FL.
- Wai, J.** (November, 2016). *How often do academically talented students attend elite colleges and graduate schools and attain positions of innovation and global leadership?* Poster presented at the 63rd annual convention of the National Association for Gifted Children, Orlando, FL.
- Wai, J.** (November, 2016). *Shifting the lens globally to rethink “gifted” locally: External perspectives can help us think outside the box about gifted and gifted advocacy*. Poster presented at the 63rd annual convention of the National Association for Gifted Children, Orlando, FL.
- Wai, J.**, & Makel, M. C. (November, 2016). *Do “brain training” programs work? The research behind the games and how to evaluate them*. Presentation at the 63rd annual convention of the National Association for Gifted Children, Orlando, FL.
- Wai, J.** & Worrell, F. C. (November, 2016). *Helping financially disadvantaged and spatially talented students: An empirically based strategy to help level the playing field*. Paper presented at the 63rd annual convention of the National Association for Gifted Children, Orlando, FL.
- Volden, C., Wiseman, A. E., & **Wai, J.** (November, 2016). *Elite education, liberalism, and effective lawmaking in the U.S. Congress*. Conference paper, Association for Public Policy Analysis & Management, Washington, D. C.
- Volden, C., Wiseman, A. E., & **Wai, J.** (September, 2016). *Elite education, liberalism, and effective lawmaking in the U.S. Congress*. Conference paper, American Political Science Association, Philadelphia, PA.
- Makel, M. C., **Wai, J.**, Peairs, K., & Putallaz, M. (April, 2016). *Sex differences in the right tail of cognitive abilities: An update and cross cultural extension*. Presented at the annual meeting of the American Educational Research Association, Washington, D. C.
- Miller, D. I., **Wai, J.**, & Uttal, D. H. (September, 2014). *How spatial skills relate to movement into and out of STEM*. Poster presentation at the 2014 Spatial Cognition conference in Bremen, Germany.

- Miller, D. I., **Wai, J.**, & Uttal, D. H. (February, 2014). *Replacing the leaky pipeline metaphor*. Oral presentation at the 2014 Inter-Science of Learning Center conference in Pittsburgh, PA.
- Wai, J.**, Putallaz, M., & Gambrell, J. (December, 2012). *The Flynn effect in the right tail of the U.S. as a function of sex, race/ethnicity, and SES*. Paper presented at the thirteenth annual meeting of the International Society for Intelligence Research, San Antonio, TX.
- Wai, J.**, & Putallaz, M. (November, 2012). *Why are so many more gifted students being identified?* Paper presented at the 59th annual convention of the National Association for Gifted Children, Denver, CO.
- Makel, M. C., **Wai, J.**, & Putallaz, M. (April, 2012). *Time allocation of academically talented students: an international comparison*. Paper presented at the annual meeting of the American Educational Research Association, Vancouver B.C., Canada.
- Wai, J.**, Cacchio, M., Putallaz, M., & Makel, M. C. (November, 2011). *Sex differences in cognitive abilities among the intellectually talented for the last 30 years*. Poster presented at the 58th annual convention of the National Association for Gifted Children, New Orleans, LA.
- Makel, M. C., Li, Y., Putallaz, M., & **Wai, J.** (April, 2011). *High ability students' time spent outside the classroom*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Wai, J.**, Cacchio, M., Putallaz, M., & Makel, M. C. (December, 2010). *An examination of sex differences in the top 5% of cognitive abilities: 1981-2010*. Paper presented at the eleventh annual meeting of the International Society for Intelligence Research, Alexandria, VA.
- Wai, J.**, Makel, M. C., Putallaz, M., & Cacchio, M. (November, 2010). *Summer academic programs and longitudinal educational and occupational outcomes among the exceptionally talented*. Paper presented at the 57th annual convention of the National Association for Gifted Students, Atlanta, GA.
- Makel, M. C., Li, Y., Putallaz, M., & **Wai, J.** (November, 2010). *Gifted kids' time spent outside the classroom*. Poster session presented at the 57th annual convention of the National Association for Gifted Students, Atlanta, GA.
- Wai, J.**, Lubinski, D., Benbow, C. P., & Steiger, J. H. (May, 2010). *Accomplishment in science, technology, engineering, and mathematics (STEM) and its relation to STEM educational dose: A 25-year longitudinal study*. Paper presented at the tenth biennial Wallace National Research Symposium on Talent Development, Iowa City, IA.
- Makel, M. C., Li, Y., Putallaz, M., & **Wai, J.** (May, 2010). *Gifted students' time spent outside the classroom*. Paper presented at the tenth biennial Wallace National Research Symposium on Talent Development, Iowa City, IA.
- Wai, J.**, Lubinski, D., & Benbow, C. P. (December, 2008). *Achievement in science, technology, engineering, and mathematics (STEM) and its relationship to STEM educational dose: A 25-year longitudinal study*. Paper presented at the ninth annual meeting of the International Society for Intelligence Research, Decatur, GA.
- Wai, J.**, Lubinski, D., & Benbow, C. P. (May, 2008). *Spatial ability for STEM domains: Aligning over fifty years of cumulative psychological knowledge solidifies its importance*. Paper presented at the ninth biennial Wallace National Research Symposium on Talent Development, Iowa City, IA.
- Wai, J.**, Lubinski, D., & Benbow, C. P. (December, 2007). *Spatial ability for STEM domains: Over fifty years of cumulative psychological knowledge highlights its longstanding neglect*. Paper presented at the eighth annual meeting of the International Society for Intelligence Research, Amsterdam, The Netherlands.

- Wai, J.**, & Halpern, D. F. (May, 2007). *The world of competitive Scrabble: Expert and novice differences in verbal and visuospatial abilities*. Poster session presented at the 19th annual convention of the Association for Psychological Science, Washington, DC.
- Lubinski, D., Benbow, C. P., Webb, R. M., Bleske-Rechek, A., & **Wai, J.** (August, 2006). *Tracking exceptional human capital over two decades*. American Psychological Association, New Orleans, LA.
- Wai, J.**, Lubinski, D., & Benbow, C. P. (May, 2006). *Creativity: Individual differences within the top 1% of ability make a difference*. Poster presented at the eighth biennial Wallace National Research Symposium on Talent Development, Iowa City, IA.
- Wai, J.**, Lubinski, D., & Benbow, C. P. (December, 2005). *Creative accomplishments covary with ability even among the top 1%*. Paper presented at the sixth annual meeting of the International Society for Intelligence Research, Albuquerque, NM.
- Lubinski, D., Benbow, C. P., Webb, R. M., Bleske-Rechek, A., & **Wai, J.** (October, 2005). *Tracking exceptional human capital over two decades*. Paper presented at the annual meeting of the Society for Multivariate Experimental Psychology. Lake Tahoe, NV.
- Wai, J.**, Lubinski, D., & Benbow, C. P. (December, 2004). *Vocational achievement and creativity among intellectually precocious youth: An age 13 to age 33 longitudinal study*. Paper presented at the fifth annual meeting of the International Society for Intelligence Research, New Orleans, LA.
- Wai, J.**, Lubinski, D., & Benbow, C. P. (May, 2004). *Ability intensity and ability/preference configuration both contribute to the prediction of educational and vocational outcomes over 20 years*. Paper presented at the seventh biennial Wallace National Research Symposium on Talent Development, Iowa City, IA.
- Wai, J.**, & Halpern, D. F. (May, 2003). *The competitive world of Scrabble: Cognitive processes of expert players*. Poster session presented at the 83rd annual meeting of the Western Psychological Association, Vancouver, BC.

INVITED PRESENTATIONS AND LECTURES

- Wai, J.** (forthcoming, September, 2018). How standardized test scores can be used to examine cognitive ability stratification and educational inequality. Invited presentation at the University of Arkansas Department of Education Reform, Fayetteville, AR.
- Wai, J.** (May, 2018). *What goes into exceptional achievement for gifted kids?* Keynote presentation at the Third International Conference of Giftedness. Mexico City, Mexico.
- Wai, J.** (May, 2018). *Why should society care about gifted kids? What are effective ways to help them?* Keynote presentation at the Third International Conference of Giftedness. Mexico City, Mexico.
- Wai, J.** (December, 2017). *Understanding world class achievement: Abilities, education, training, and expertise*. Invited presentation at the University of La Verne Department of Psychology, La Verne, CA.
- Wai, J.** (December, 2017). *Understanding world class achievement: Abilities, education, training, and expertise*. Invited presentation at the SUNY Cortland Department of Psychology, Cortland, NY.
- Wai, J.** (December, 2017). *Understanding world class achievement: Abilities, education, training, and expertise*. Invited presentation at the University of South Dakota Department of Human Development and Educational Psychology, Vermillion, SD.

- Wai, J.** (November, 2017). *Understanding world class achievement: Abilities, education, expertise, and policy*. Invited presentation at the University of Arkansas Department of Education Reform, Fayetteville, AR.
- Wai, J.** (November, 2017). *Understanding elite occupational achievement: Abilities, education, training, and expertise*. Invited presentation at the Illinois Institute of Technology Department of Psychology, Chicago, IL.
- Wai, J.** (October, 2017). *Lessons learned about gifted advocacy through writing and journalism*. Invited presentation at the Ohio Association for Gifted Children Fall Conference, Columbus, OH.
- Wai, J.** (June, 2017). *What explains outcomes? The roles of education and talents*. Invited presentation at the American Enterprise Institute Education Policy Group, Washington, DC.
- Wai, J.** (May, 2017). *What explains life outcomes? The roles of abilities, education, training, and expertise*. Invited presentation at the Geisinger Health System Autism and Developmental Medicine Institute, Danville, PA.
- Wai, J.** (October, 2016). *Learning from the science and science communication interface. How can that improve psychological science?* Invited presentation at the Case Western Reserve University department of psychology, Cleveland, OH.
- Wai, J.** (April, 2016). *What goes into high achievement of academically talented students?: Education, brains, hard work, networks, and other factors*. Invited presentation at the inaugural Invitational Summit on European/American Talent Development, Washington, D.C.
- Wai, J.** (September, 2015). *Spatial reasoning and STEM: Identification, learning, and achievement*. Invited presentation at the Integrating Cognitive Science with Innovative Teaching in STEM Disciplines: Modeling and Spatial Learning in STEM conference at Northwestern University, Evanston, IL.
- Wai, J.** (April, 2015). *Developing educational and occupational expertise: Brains, education, and other factors*. Invited presentation at the Case Western Reserve University department of psychology, Cleveland, OH.
- Wai, J.** (March, 2014). *Experts are born, then made: Combining prospective and retrospective longitudinal data shows that cognitive ability matters in the U.S. and the world*. Invited presentation at the Wallace Research & Policy Symposium on Talent Development, Arlington, VA.
- Makel, M. C., **Wai, J.**, & Putallaz, M. (March, 2014). *The time allocation of academically talented students: An international comparison*. Invited presentation at the Wallace Research & Policy Symposium on Talent Development, Arlington, VA.
- Wai, J.** (July, 2013). *The importance of STEM educational dose and spatial ability for female STEM achievement*. Invited presentation at the STEM Think Tank and Conference, Nashville, TN.
- Wai, J.** (July, 2012). *If you are creative, are you also intelligent?* Invited presentation at the 12th Asia-Pacific Conference on Giftedness, Dubai, United Arab Emirates.
- Wai, J.**, & Putallaz, M. (July, 2012). *Why are so many more gifted students being identified?* Invited presentation at the 12th Asia-Pacific Conference on Giftedness, Dubai, United Arab Emirates.

- Wai, J.** (April, 2012). *Science Outreach*. Invited panel presentation at the 15th annual NIEHS Biomedical Career Fair, EPA Campus, Research Triangle Park, NC.
- Wai, J.** (November, 2011). *If you are creative, are you also intelligent? The importance of measurement for psychological and educational science*. Invited presentation at the Purdue University College of Education, West Lafayette, IN.
- Wai, J.** (November, 2011). *The concept of “educational dose” and program evaluation for the intellectually talented*. Invited presentation at the Purdue University College of Education, West Lafayette, IN.
- Wai, J.** (July, 2011). *What kinds of adults do gifted students like you become?* Invited address at the Duke University Talent Identification Program 30th Anniversary Alumni Reunion, Durham, NC.
- Wai, J.,** Lubinski, D., & Benbow, C. P. (November, 2009). *Spatial ability for STEM arenas: Combining over a half-century of cumulative psychological knowledge solidifies its importance*. Keynote address at the New Voices in Creativity and Intelligence Symposium, Lawrence, KS.

SELECTED PUBLIC SCHOLARSHIP

- Wai, J.,** Nisen, M., Goudreau, J., Stanger, M., Jackson, A., Morrell, A., & Premack, R. (2013, 2014, 2015, 2016, 2018). U.S. colleges ranked by student brainpower. *Business Insider* (over 10 million reads)
- Wai, J.,** & Worrell, F. C. (September 22, 2017). The true path to social mobility. *Times Educational Supplement*. (print magazine feature)
- Wai, J.,** & Rindermann, H. R. (April 19, 2017). The myth of the college dropout. *The Conversation, U.S. News & World Report, Newsweek, CBS News, Time, World Economic Forum, Quartz* (700k+ views, widely shared as a key discussion point in the debate over higher education)
- Wai, J.,** Shoplik, A. L., Assouline, S. (October 12, 2016). Should I grade-skip my gifted child? *The Conversation, The Huffington Post, Salon* (cited by *NEA Today*)
- Wai, J.,** Hsu, S., & Clynes, T. (October 7, 2016). Where Nobel winners get their start. *Nature News & Comment* (covered by *Quartz, LeMonde, Le Figaro, Sciences et Avenir*)
- Wai, J.,** & Worrell, F. C. (March 21, 2016). A nation at risk – how gifted, low-income kids are left behind. *The Conversation, The Huffington Post, National Review, Business Insider, Quartz, AlterNet*
- Wai, J.** (December 8, 2015). Having smart neighbors could mean a higher income for you. *Quartz, World Economic Forum* (named “best of the year” by The World Economic Forum)
- Wai, J.,** & Miller, D. I. (December 1, 2015). Here’s why academics should write for the public. *The Conversation, The Huffington Post, Quartz, Northwestern University* (cited by the American Sociological Association)
- Wai, J.,** & Worrell, F. C. (October 20, 2015). Why are we supporting everyone except our most talented students? *Medium: Bright, National Review, Quartz*
- Hsu, S., & **Wai, J.** (September 10, 2015). These 25 schools are responsible for the greatest advances in science. *Quartz* (covered by *The Wall Street Journal, Science, U.S. News, Harvard University*)
- Wai, J.** & Makel, M. C. (September 4, 2015). How do academic prodigies spend their time and why does that matter? *The Conversation, Quartz, World Economic Forum*
- Wai, J.** (July 8, 2015). By neglecting spatial intelligence, how many Elon Musks have we missed? *Quartz*
- Wai, J.** (March 22, 2015). Frank Bruni is wrong about Ivy League schools. *Quartz* (cited by *The Atlantic*)
- Wai, J.** (March 10, 2015). We should be paying attention to the 1% of brainiacs, not billionaires. *Quartz*
- Wai, J.** (February 3, 2015). The stubborn pattern of academic aptitude by college major: 1946 to 2014. *Quartz, World Economic Forum* (named “best of the year” by The World Economic Forum; among the most widely shared articles on *Quartz* of all time)

- Wai, J.** (September 9, 2014). Decades of Facebook likes will explain how you became yourself. *Quartz* (recognized by The Aspen Institute for “best ideas”)
- Wai, J.** (August 28, 2014). Should the SAT be optional? *Quartz* (recognized by the American Enterprise Institute for “best ideas”)
- Wai, J.** (August 5, 2014). The case for starting statistics education in kindergarten. *Quartz* (cited by *Bloomberg*)
- Wai, J.** (July 28, 2014). If you want to be rich and powerful, majoring in STEM is a good place to start. *Quartz* (cited by *The New York Times*)
- Wai, J.** (June 28, 2014). A shocking number of successful people went to elite schools. *Business Insider, Inc. Magazine*
- Wai, J.** (March 27, 2014). One size does not fit all: The need for variety in learning. *National Public Radio: Mindshift*
- Chabris, C. F., & **Wai, J.** (March 9, 2014). Hire like Google? For most companies, that’s a bad idea. *Los Angeles Times* (Sunday print section)
- Wai, J.** (January 3, 2014). Even as a child, Jeff Bezos was a data-obsessed, workaholic genius. *Quartz*
- Wai, J.** & Nisen, M. (October 23, 2013). The 25 countries with the most brainpower. *Business Insider, Yahoo!* (cited by *The Washington Post*)
- Wai, J.** (July 31, 2013). Why we need to value students’ spatial creativity. *National Public Radio: Mindshift, Quartz*
- Wai, J.,** & DiGioia, L. (February 15, 2013). Why we need the math police. *Education Week*
- Wai, J.** (November 11, 2012). The U.S. needs to focus its educational efforts on talented Americans. *TechCrunch*
- Wai, J.** (July 24, 2012). The SAT needs to be harder. *Education Week* (response from VP of ETS)
- Wai, J.** (July/August, 2012). The brainiac-billionaire connection. *Psychology Today*. Pages 78-85, 92. (discussed and cited by Fareed Zakaria)

TEACHING AND MENTORING

College Teaching

Instructor

Psychology of Education (graduate), University of Arkansas, Spring 2019
 Measurement of Educational Outcomes (graduate), University of Arkansas, Fall 2019
 Research Methods (graduate), John Carroll University, Spring 2018
 Psychometric Methods (undergraduate), Vanderbilt University, Spring and Fall, 2008; Spring, 2009
 Introduction to Statistical Analysis (undergraduate), Vanderbilt University, Spring and Fall, 2007

Guest Lecturer

Understanding Genius (undergraduate), measurement of intelligence, Duke University
 Psychological Measurement (graduate), factor analysis, Vanderbilt University
 Psychometric Methods (undergraduate), regression, Vanderbilt University

Teaching Assistant

Statistical Inference (graduate), Vanderbilt University
 Quantitative Methods and Experimental Design (graduate), Vanderbilt University
 Introduction to Statistical Analysis (undergraduate), Vanderbilt University
 Psychometric Methods (undergraduate), Vanderbilt University

K-12 Teaching

K-12 Substitute Teaching License, General Education, Ohio, 2017-2018

Mentoring

I am currently mentoring doctoral students at the University of Arkansas. I have mentored and helped many graduate students with their research projects in the department of psychology at Case Western Reserve University as part of my role as a visiting researcher.

I have also mentored undergraduate students at Vanderbilt University and Duke University who have gone on to attend graduate programs at institutions such as Columbia University, UNC-Chapel Hill, Vanderbilt University, and Washington University in St. Louis.

GRANT WRITING AND REVIEWING

“Leveraging Student Engagement for Assessment: Building a Computer-Adaptive Non-Verbal Reasoning Tool for Talent Identification.”: Eric Loken, Christopher F. Chabris, Jonathan Wai, Betsy McCoach, Amit Savkar, & Joseph Renzulli. (2017) Jacob K. Javits Gifted and Talented Program proposal. Unfunded (\$2,000,000).

“A Pre-Maker Course for Developing 3-D Spatial Skills”: PI Sheryl Sorby. (2016) SBIR Phase I Program grant application submitted to the National Science Foundation and the Department of Education. Assisted in developing and writing grant proposal. Unfunded.

“The Importance of Talent Development in Gifted Students from Disadvantaged Backgrounds”: Jonathan Wai. (2013). American Psychological Foundation Esther Katz Rosen Early Career Research Grant. Unfunded (\$50,000).

“Enhancing Talent Development in Intellectually Talented Students from Financially Disadvantaged Backgrounds”: Jonathan Wai. (2012). American Psychological Association (APA) Early Career Educational Psychology Research Award. Unfunded (\$7,500).

Society for Multivariate Experimental Psychology (SMEP) Dissertation Research Award: Jonathan Wai. (2007). Funded (\$1000).

Grant reviewer, National Science Foundation, 2013, 2015

Grant reviewer, Jacob K. Javits Gifted and Talented Program, 2014-2016

SERVICE TO PROFESSION

Editorial Board

Intelligence (2016-present)

Journal of Expertise (2017-present)

Ad Hoc Reviews

AERA Open

Annals of the New York Academy of Sciences

Applied Developmental Science

Archives of Scientific Psychology

Assessment

Cambridge University Press

Cognition

Current Directions in Psychological Science

Developmental Psychology

Developmental Review

Educational Psychology Review

Educational Researcher

Elsevier
Equity & Excellence in Education
Frontiers in Cognition
Frontiers: Developmental Psychology
Gifted Child Quarterly
High Ability Studies
Intelligence
International Journal of Behavioral Development
International Journal of Education in Mathematics, Science and Technology
International Journal of STEM Education
Journal of Advanced Academics
Journal of Educational Psychology
Journal of Engineering Education
Journal of Experimental Psychology: General
Journal of Experimental Psychology: Learning, Memory, and Cognition
Journal of Expertise
Journal of Intelligence
Journal of Research in Personality
Journal of Women and Minorities in Science and Engineering
Learning and Individual Differences
Learning and Instruction
Oxford University Press
PeerJ
PLOS One
Psychological Reports
Psychological Science
Review of General Psychology
Roeper Review
Science Education
South African Journal of Education
Spatial Cognition and Computation: An Interdisciplinary Journal
The Leadership Quarterly

Legislative and Advocacy Committee, National Association for Gifted Children, 2016-present
Duke Talent Identification Program Research Committee, 2016-2017
Proposal Reviewer, AERA SIG-Research on Giftedness, Creativity and Talent, 2017-present
Proposal Reviewer, National Association for Gifted Children, 2015-present
Holden Speaker and Media Committee, International Society for Intelligence Research, 2012-present
Website Committee, International Society for Intelligence Research, 2012-2013
Proposal Reviewer, International Society for Intelligence Research, 2010-present
Consultant, Duke Talent Identification Program, Admissions, Educational Programs, International Programs, Marketing, the Next Generation Venture Fund, and Talent Search, 2009-2017
Duke Talent Identification Program Staff Advisory Committee, Alternate, 2009-2010
Visual Historian, International Society for Intelligence Research, 2003-2008
Graduate Student Council for Psychology and Human Development, 2003-2004

PROJECTS UNDER REVIEW AND IN PROGRESS

Wai, J., & Allen, J. “Examining predictors of academic growth in secondary school among academically advanced youth across 21 years.”

Wai, J., & Lakin, J. M. “Hidden gems: Uncovering academic strengths among under-identified talent to help narrow achievement gaps”

Chabris, C. F., Jerde, T. E., Woolley, A. W., Gerbasi, M. E., Schuldt, J. P., **Wai, J.**, Bennett, S. L., Hackman, J. R., & Kosslyn, S. M. “Spatial and object visualization cognitive styles: Validation studies in 3839 individuals.”

Hooven, C. K., **Wai, J.**, Kievit, R. A., Ellison, P. T., Kosslyn, S. M., & Chabris, C. F. “The sex difference in mental rotation test scores may not reflect a difference in mental rotation ability.”

Kanaya, T., Miranda, B., & **Wai, J.** “The impact of receiving special education services on adulthood outcomes using one-to-one matching propensity score analysis.”

Selected projects in progress

Wai, J., Perina, K., Worrell, F. C., Anderson, S. A., & Chabris, C. F. “Educational and cognitive backgrounds of influential leaders of society.”

Wai, J., & Chabris, C. F. “Cognitive ability as a moderator in psychological replications”

Miller, D. I., **Wai, J.**, & Uttal, D. H. “Beyond the leaky pipeline: Creating diverse paths into STEM.”

Uttal, D., & **Wai, J.** “Spatial reasoning and education policy.” *Policy Insights from the Behavioral and Brain Sciences*.

SELECTED DISCUSSION AND IMPACT OF WORK

Academic impact: 1,922 Google scholar citations (h-index = 14) as of 9/10/2018

Columnist for *Psychology Today*: “Finding the Next Einstein: Why Smart is Relative.”

Contributor to *Psychology Today* (print magazine), *Quartz*, *Business Insider*, and others.

My research and writing has reached millions of people, has been discussed by thought leaders ranging from Fareed Zakaria to Andrew Sullivan, and has started discussions in countries ranging from Australia to Vietnam. Recognition from The Aspen Institute and The American Enterprise Institute for “best ideas.”

Selected media coverage: *Science*, *Nature*, *The New York Times*, *The Economist*, *The Wall Street Journal*, *Scientific American*, *CNBC*, *Financial Times*, *Bloomberg*, *Le Monde*, *Le Figaro*, *Inc. Magazine*, *MIT Technology Review*, *Discover*, *Fast Company*, *American Scientist*, *Education Week*, *Wired*, *Forbes*, *Psychology Today*, *Quartz*, *Business Insider*, *The Chicago Tribune*, *The Daily Beast*, *Christian Science Monitor*, *Reuters*, *Inside Higher Ed*, *The Chronicle of Higher Education*, *Times Education Supplement*, *The New Republic*, *Reason*, *The Week*, *National Review*, *The Daily Mail*, *The Guardian*, *The Huffington Post*, *Yahoo!* and newspapers worldwide.

My work has also been discussed by the *National Academy of Sciences*, *National Academy of Engineering*, *Institute of Medicine*, *National Science Board*, and multiple academic textbooks and mainstream books, including Fareed Zakaria’s *In defense of a liberal education* (2015), Tyler Cowen’s *Average is over* (2013), and Tom Clynes’s (2015) *The boy who played with fusion*.

REFERENCES (Alphabetical)

Senior colleagues

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Graduate mentors

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Vanderbilt University
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Diane F. Halpern
Dean of Social Sciences, Emerita, Minerva Schools at KGI
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Email: diane.halpern@claremontmckenna.edu

David Lubinski
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Vanderbilt University
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