# **Christopher F. Chabris**

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# **Academic Appointments**

2023-	Director of Decision Sciences, Department of Bioethics and Decision Sciences, Geisinger
	Research Institute, Danville, PA
2018–	Founding Faculty Co-Director, Behavioral Insights Team ("nudge unit"), Geisinger Steele
	Institute for Health Innovation, Danville, PA
2017–	Professor of Neurology and Psychology, Geisinger Commonwealth School of Medicine,
	Scranton, PA [secondary appointment]
2016–	Professor, Geisinger Research Institute, Danville, PA [primary appointment]
2012-	Faculty Affiliate, MIT Center for Collective Intelligence, Cambridge, MA
2009–	Research Economist, National Bureau of Economic Research, Cambridge, MA
2021–2022	Founding Co-Director, Behavioral and Decision Sciences Program, Geisinger Research
	Institute, Danville, PA
2015–2018	Visiting Fellow, Institute for Advanced Study in Toulouse, France
2012–2017	Associate Professor of Psychology, Union College, Schenectady, NY [on leave 2016–17]
2008–2017	Adjunct Assistant Professor of Neurology, Albany Medical College, Albany, NY
2010–2016	Co-Director, Neuroscience Program, Union College, Schenectady, NY
2009–2012	Research Affiliate, MIT Center for Collective Intelligence, Cambridge, MA
2007–2012	Assistant Professor of Psychology, Union College, Schenectady, NY
2002–2007	Research Associate, Department of Psychology, Harvard University, Cambridge, MA
2005–2006	Lecturer, Department of Psychology, Harvard University, Cambridge, MA
2002–2003	Lecturer, Department of Psychology, Harvard University, Cambridge, MA
1999–2002	Postdoctoral Fellow, Department of Psychology, Harvard University, Cambridge, MA
1999–2001	Research Fellow, NMR Center, Massachusetts General Hospital, Charlestown, MA
1999–2001	Research Fellow, Department of Radiology, Harvard Medical School, Boston, MA

# **Education**

1999	Harvard University, Ph.D. in Psychology
1997	Harvard University, A.M. in Psychology
1988	Harvard University, A.B. cum laude in Computer Science

#### **Honors and Awards**

- 2019 Selected as a Fellow of the Association for Psychological Science (for "sustained outstanding contributions to the science of psychology")
- 2019 King's College McGowan Center for Ethics and Social Responsibility: Science and Humanities Lecture
- 2017 Association for Psychological Science Teaching Institute: Distinguished Lecture
- 2016 Union College Stillman Prize for Excellence in Teaching [shortlisted]
- 2004 Ig Nobel Prize in Psychology, joint with Daniel J. Simons (for "achievements that first make people laugh, and then make them think")

- 2002 NARSAD Young Investigator Award
- Harvard University Richard J. Herrnstein Prize (for the "best dissertation that exhibits excellent scholarship, originality and breadth of thought, and a commitment to intellectual independence")
- 2001 DCI Postdoctoral Research Fellowship (through Harvard University)
- 1999 NIH Postdoctoral Fellowship (through Massachusetts General Hospital)
- 1998 Max Planck Society Schloessman Award
- 1993 NSF Graduate Fellowship
- 1988 John Harvard Scholarship
- 1987 Harvard College Scholarship
- 1984 National Merit Scholarship

#### **Scientific Publications**

Google Scholar: h-index 60, total citations 30,547 [https://scholar.google.com/citations?user=2UQAbkEAAAAJ] Reprints, preprints, and links available at: http://chabris.com/Publications.html

- Zhang, S., Heck, P.R., Meyer, M.N., Chabris, C.F., Goldstein, D.G., & Hofman, J.M. (in press). An illusion of predictability in scientific results: Even experts confuse inferential uncertainty and outcome variability. *Proceedings of the National Academy of Sciences*. [https://osf.io/preprints/socarxiv/5tcgs/]
- Simons, D.J., & Chabris, C.F. (2023). *Nobody's fool: Why we get taken in and what we can do about it.* New York: Basic Books. [To be published in 12 languages worldwide.]
- Brown, M.I., Heck, P.R., & Chabris, C.F. (2023). The Social Shapes Test as a self-administered, online test of social intelligence: Two studies with typically developing adults and adults with autism-spectrum disorder. *Journal of Autism and Developmental Disorders*. [https://link.springer.com/article/10.1007/s10803-023-05901-2]
- Nitin, R., Shaw, D.M., Rocha, D.B., Walters, C.E., Chabris, C.F., Camarata, S.M., Gordon, R.L., & Below, J.E. (2022). Association of developmental language disorder with comorbid developmental conditions using algorithmic phenotyping. *JAMA Network Open*, *5*(12), e2248060. [https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2799971]
- Patel, M., et al. (2022). A randomized trial of behavioral nudges delivered through text messages to increase influenza vaccination among patients with an upcoming primary care visit. *American Journal of Health Promotion*. [\*One of 46 co-authors on paper by consortium of behavioral science and medical researchers.]
- Wolk, D.M., Lanyado, A., Tice, A.M., Shermohammed, M., Kinar, Y., Goren, A., Chabris, C.F., Meyer, M.N., Shoshan, A., & Abedi, V. (2022). Prediction of influenza complications: Development and validation of a machine learning prediction model to improve identification of vaccine-hesitant patients at risk of severe influenza complications. *Journal of Clinical Medicine*, 11, 4342. [https://doi.org/10.3390/jcm11154342]
- Santos, H.C., Meyer, M.N., & Chabris, C.F. (2022). Reports of the death of expertise may be exaggerated: Limits on knowledge resistance in health and medicine. In J. Stromback, Å. Wikforss, K. Glüer, T. Lindholm, & H. Oscarsson (Eds.). *Knowledge Resistance in High-Choice Information Environments*. London: Routledge. [https://www.taylorfrancis.com/books/oa-edit/10.4324/9781003111474/]

- Brown, M.I., Speer, A.B., Tenbrink, A.P., & Chabris, C.F. (2022). Using game-like animations of geometric shapes to simulate social interactions: An evaluation of group score differences. *International Journal of Selection and Assessment*. [https://onlinelibrary.wiley.com/doi/10.1111/ijsa.12375]
- Milkman, K. et al. (2022). A 680,000-person megastudy of nudges to encourage vaccination in pharmacies. *Proceedings of the National Academy of Sciences*, 119(6), e2115126119. [https://www.pnas.org/content/119/6/e2115126119] [\*One of 46 co-authors on paper by consortium of behavioral science and medical researchers.]
- Santos, H.C., Goren, A., Chabris, C.F.,\* & Meyer, M.N.\* (2021). Effect of targeted behavioral science messages on COVID-19 vaccination registration among employees of a large health system: A randomized trial. *JAMA Network Open, 4*(7), e2118702. [https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2782435] [\*These authors contributed equally to the work.]
- Goren, A., Patel, M., Meyer, M.N., & Chabris, C.F. (2021). Crowdsourcing nudges: Experiences from two healthcare systems. In A. Samson (Ed.), *The Behavioral Economics Guide 2021* (pp. 94–103). [https://www.behavioraleconomics.com/be-guide/the-behavioral-economics-guide-2021/]
- Milkman, K., et al. (2021). A mega-study of text-based nudges encouraging patients to get vaccinated at an upcoming doctor's appointment. *Proceedings of the National Academy of Sciences, 118*(20), e2101165118 [https://www.pnas.org/content/118/20/e2101165118] [One of 44 co-authors on paper by consortium of behavioral scientists and medical researchers.]
- Brown, M.I., Wai, J., & Chabris, C.F. (2021). Can you ever be too smart for your own good? Comparing linear and nonlinear effects of general cognitive ability on life outcomes. *Perspectives on Psychological Science*, *16*(6) 1337–1359. [https://journals.sagepub.com/doi/full/10.1177/1745691620964122]
- Rohrer, J.M., Tierney, W., Uhlmann, E.L., DeBruine, L.M., Heyman, T., Jones, B., Schmukle, S.C., Silberzahn, R., Uhlmann, E.L., Willén, R.M., Carlsson, R., Lucas, R.E., Strand, J., Vazire, S., Witt, J.K., Zentall, T.R., Chabris, C.F.,\* & Yarkoni, T.\* (2021). Putting the self in self-correction: Findings from the Loss-of-Confidence Project. *Perspectives on Psychological Science*, *16*(6), 1255–1269. [https://journals.sagepub.com/doi/full/10.1177/1745691620964106] [\*Joint senior authors.]
- Ratajska, A., Brown, M.I., & Chabris, C.F. (2020). Attributing social meaning to animated shapes: A new experimental study of apparent behavior. *American Journal of Psychology*, 133(3), 295–312. [https://psyarxiv.com/2d9xj/]
- Heck, P.R., Chabris, C.F., Watts, D.J., & Meyer, M.N. (2020). Objecting to experiments even while approving of the policies or treatments they compare. *Proceedings of the National Academy of Sciences*, 117(32) 18948–18950. [https://www.pnas.org/content/117/32/18948]
- Beauchamp, J.P., Benjamin, D.J., Laibson, D.I., & Chabris, C.F. (2020). Measuring and controlling for the compromise effect when estimating risk preference parameters. *Experimental Economics*, 23, 1069–1099. [https://doi.org/10.1007/s10683-019-09640-z]
- Meyer, M.N., Heck, P., Holtzman, G., Anderson, S.M., Cai, W., Watts, D.J., & Chabris, C.F. (2019). Reply to Mislavsky et al.: Sometimes people really are averse to experiments. *Proceedings of the National Academy of Sciences*. [https://www.pnas.org/content/116/48/23885] [See also extended essay in response to Mislavsky et al., "For better or worse, the A/B Effect is real" https://bit.ly/2P6rKCM]

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- Meyer, M.N., Heck, P., Holtzman, G., Anderson, S.M., Cai, W., Watts, D.J., & Chabris, C.F. (2019). Objecting to experiments that compare two unobjectionable policies or treatments. *Proceedings of the National Academy of Sciences*, 116(22), 10723–10728. [https://www.pnas.org/content/116/22/10723]
- Simons, D.J., & Chabris, C.F. (2019). Fooling ourselves most of the time. In *Gorillas in Our Midst* [exhibition catalog] (pp. 17–43). Hobart, Australia: Museum of Old and New Art.
- Simons, D.J., & Chabris, C.F. (2019). What we get wrong when we think about thinking. In *Gorillas in Our Midst* [exhibition catalog] (pp. 9–14). Hobart, Australia: Museum of Old and New Art.
- Chabris, C.F., & Simons, D.J. (2019). [21 short essays on selected works in the exhibition guide for *Gorillas in Our Midst*.] Hobart, Australia: Museum of Old and New Art.
- Lee, J.J., McGue, M., Iacono, W.G., Michael, A.M., & Chabris, C.F. (2019). The causal influence of brain size on human intelligence: Evidence from within-family phenotypic associations and GWAS modeling. *Intelligence*, 75, 48–56.
- Aggarwal, I., Woolley, A.W., Chabris, C.F., & Malone, T.W. (2019). The impact of cognitive style diversity on implicit learning in teams. *Frontiers in Psychology*, 10, 112.
- Brown, M., Ratajska, A., Hughes, S., Fishman, J., Huerta, E., & Chabris, C.F. (2019). The Social Shapes Test: A new measure of social intelligence, mentalizing, and Theory of Mind. *Personality and Individual Differences*, 143, 107–117.
- Chabris, C.F., Heck, P.R., Mandart, J., Benjamin, D.J., & Simons, D.J. (2019). No evidence that experiencing physical warmth promotes interpersonal warmth: Two failures to replicate Williams and Bargh (2008). *Social Psychology*, *50*, 127–132.
- 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(3), 37. [Most viewed article of all time in this journal, as of 12/11/22.]
- Lee, J.J., & the Social Science Genetic Association Consortium (2018). Gene discovery and polygenic prediction from a 1.1-million-person GWAS of educational attainment. *Nature Genetics*, *50*, 1112–1121. [One of 80 co-authors on paper by international consortium of researchers.]
- Heck, P.R., Simons, D.J., & Chabris, C.F. (2018). 65% of Americans believe they are above average in intelligence: Results of two nationally representative surveys. *PLOS ONE*, 13(7), e0200103.
- Wai, J., Worrell, F.C., & Chabris, C.F. (2018). The consistent influence of general cognitive ability in college, career, and lifetime achievement. In K.L. McClarty, K.D. Mattern, & M.N. Gaertner (Eds.), *Preparing students for college and careers: Theory, measurement, and educational practice* (pp. 46–56). New York: Routledge.
- Chabris, C.F. (2017). Six suggestions for research on games in cognitive science. *Topics in Cognitive Science*, *9*, 497–509.

- Lee, J.J., & Chabris, C.F. (2017). Genomic data can illuminate the architecture and evolution of cognitive abilities. [Commentary on "The evolution of general intelligence" by Buckart., J.M., Schubiger, M.N., & van Schaik, C.P.] *Behavioral and Brain Sciences*, 40, E209.
- Egol, K.A., Schwarzkopf, R., Funge, J., Gray, J. Chabris, C.F., Jerde, T.E., & Strauss, E.J. (2017). Can video game dynamics identify orthopaedic surgery residents who will succeed in training? *International Journal of Medical Education*, *8*, 123–125.
- Sniekers, S., et al. (2017). Genome-wide association meta-analysis of 78,308 individuals identifies new loci and genes influencing human intelligence. *Nature Genetics*, 49(7), 1107–1112. [One of 30 co-authors.]
- Hart, J.J., & Chabris, C.F. (2016). Does a "triple package" of traits predict success? *Personality and Individual Differences*, 94, 216–222.
- Simons, D.J., Boot, W.R., Charness, N., Gathercole, S.E., Chabris, C.F., Hambrick, D.Z., & Stine-Morrow, E.A.L. (2016). Do "brain training" programs work? *Psychological Science in the Public Interest*, 17(3), 103–186.
- Okbay, A., and the Social Science Genetic Association Consortium (2016). Genome-wide association study identifies 74 loci associated with educational attainment. *Nature*, *533*, 539–542. [One of 256 coauthors on paper by international consortium of researchers.]
- Chabris, C.F.,\* Lee, J.J.,\* Cesarini, D., Benjamin, D.J., & Laibson, D.I. (2015). The Fourth Law of Behavior Genetics. *Current Directions in Psychological Science*, *24*(4), 304–312. [\*These authors contributed equally to the work.]
- Schuldt, J.P.,\* Chabris, C.F.,\* Woolley, A.W., & Hackman, J.R. (2015). How individual differences in confidence affect judgments made collectively by dyads. *Journal of Behavioral Decision Making*, 30(2), 168–180. [\*These authors contributed equally to the work.]
- Aggarwal, I., Woolley, A.W., Chabris, C.F., & Malone, T.W. (2015). Cognitive diversity, collective intelligence, and learning in teams. *Proceedings of the Conference on Collective Intelligence*. Santa Clara, CA, May–June.
- Engel, D., Woolley, A.W., Aggarwal, I., Chabris, C.F., Takahashi, M., Nemoto, K., Kaiser, C., Kim, Y.J., & Malone, T.W. (2015). Collective intelligence in computer-mediated collaboration emerges in different contexts and cultures. *Proceedings of the Conference on Human Factors in Computing Systems (CHI 2015)*. Seoul, April.
- Engel, D., Woolley, A.W., Jing, L.X., Chabris, C.F., & Malone, T.W. (2014). Reading the mind in the eyes or reading between the lines? Theory of Mind predicts collective intelligence equally well online and face-to-face. *PLOS ONE*, *9*(12), e115212.
- Rietveld, C.A., Conley, D., Eriksson, N., Esko, T., Medland, S.E., Vinkhuyzen, A.A.E., Yang, J., Boardman, J., Chabris, C.F., et al. (2014). Replicability and robustness of GWAS for behavioral traits. *Psychological Science*, *25*(11), 1975–1986.
- Rietveld, C.A., Esko, T., Davies, G., Pers, T.H., Turley, P., Benyamin, B., Chabris, C.F., et al. (2014). Common genetic variants associated with cognitive performance identified using the proxy-phenotype method. *Proceedings of the National Academy of Sciences*, 111(38), 13790–13794.

- Chabris, C.F.,\* Lee, J.J.,\* Benjamin, D.J., Beauchamp, J.P., Glaeser, E.L., Borst, G., Pinker, S., & Laibson, D.I. (2013). Why is it hard to find genes that are associated with social science traits? Theoretical and empirical considerations. *American Journal of Public Health*, 103(S1), S152–S166. [\*These authors contributed equally to the work.]
- Galsworthy, M.J., Arden, R., & Chabris, C.F. (2013). Animal models of general cognitive ability for genetic research into cognitive functioning. In C.A. Reynolds & D. Finkel (Eds.), *Behavior genetics of cognition across the lifespan* (pp. 257–277). New York: Springer.
- Lee, J.J., & Chabris, C.F. (2013). General cognitive ability and the psychological refractory period: Individual differences in the mind's bottleneck. *Psychological Science*, 24, 1226–1233.
- Rietveld, C.A., and the Social Science Genetic Association Consortium (2013). GWAS of 126,559 individuals identifies genetic variants associated with educational attainment. *Science*, *340*, 1467–1471. [One of 204 co-authors on paper by international consortium of researchers.]
- Chabris, C.F., Hebert, B.M., Benjamin, D.J., Beauchamp, J.P., Cesarini, D., van der Loos, M.J.H.M., Johannesson, M., Magnusson, P.K.E., Lichtenstein, P., Atwood, C.S., Freese, J., Hauser, T.S., Hauser, R.M., Christakis, N.A., & Laibson, D. (2012). Most reported genetic associations with general intelligence are probably false positives. *Psychological Science*, *23(11)*, 1314–1323.
- Benjamin, D.J., Cesarini, D., Chabris, C.F., Glaeser, E., Laibson, D.I., Gudnason, V., Harris, T.B.,
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  C.S., Hebert, B.M., Freese, J., Hauser, R.M., Hauser, T.S., Magnusson, P.K.E., Grankvist, A.,
  Hultman, C., & Lichtenstein, P. (2012). The promises and pitfalls of genoeconomics. *Annual Review of Economics*, 4, 627–662. [Reprinted in: Lo, A.W., & Zhang, R. (Eds.) (2018). *Biological Economics*. Northampton, MA: Edward Elgar.]
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- Germine, L., Nakayama, K., Duchaine, B.C., Chabris, C.F., Chatterjee, G., & Wilmer, J.B. (2012). Is the web as good as the lab? Comparable performance from web and lab in cognitive/perceptual experiments. *Psychonomic Bulletin and Review*, 19(5), 847–857.
- Simons, D.J., & Chabris, C.F. (2012). Common (mis)beliefs about memory: A replication and comparison of telephone and Mechanical Turk survey methods. *PLOS ONE*, *7(12)*, e51876.
- Wilmer, J.B., Germine, L., Chabris, C.F., Chatterjee, G., Gerbasi, M., & Nakayama, K. (2012). Capturing specific abilities as a window into human individuality: The example of face recognition. *Cognitive Neuropsychology*, 29(5–6), 360–392.
- Chabris, C.F., Weinberger, A., Fontaine, M., & Simons, D.J. (2011). You do not talk about fight club if you do not notice fight club: Inattentional blindness for a simulated real-world assault. *i-Perception*, 2, 150–153. [Reprinted in: Maxcey, A. (Ed.) (2018). *Sensation and Perception: From Cells to Awareness*. San Diego, CA: Cognella.]
- Simons, D.J., & Chabris, C.F. (2011). What people believe about how memory works: A representative survey of the U.S. population. *PLOS ONE*, *6*(8), e22757.

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- Chabris, C.F., & Simons, D.J. (2010). *The invisible gorilla, and other ways our intuitions deceive us.* New York: Crown; London: HarperCollins. [Reprinted 22 times; New York Times bestseller in paperback, June 26, 2011; reviewed by *Science, Trends in Cognitive Sciences, New Scientist,* and other media; published in 21 languages worldwide.]
- Wilmer, J.B., Germine, L., Chabris, C.F., Chatterjee, G., Williams, M., Loken, E., Nakayama, K., & Duchaine, B. (2010). Human face recognition is specific and highly heritable: A twin study. *Proceedings of the National Academy of Sciences, 107(11),* 5238–5241.
- Banerjee, K., Chabris, C.F., Lee, J.J., Johnson, V.E., Tsao, F., & Hauser, M.D. (2009). General intelligence in another primate: Individual differences across cognitive task performance in a New World monkey (*Saguinus oedipus*). *PLOS ONE*, 4(6), e5883.
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- Chabris, C.F. (2007). Cognitive and neurobiological mechanisms of the Law of General Intelligence. In M.J. Roberts (Ed.), *Integrating the mind: Domain specific versus domain general processes in higher cognition* (pp. 449–491). Hove, UK: Psychology Press.
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- Chabris, C.F. (2009). Why the eyes have it. [Review of the book *The vision revolution: How the latest research overturns everything we thought we knew about human vision* by Mark Changizi.] *The Wall Street Journal*, 19 June.
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# **Essays and Commentaries**

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- Chabris, C.F., & Simons, D.J. (2015). How not to be the next Brian Williams: Ten ways to avoid false memories. *Slate*, 10 February.
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- Chabris, C.F., & Simons, D.J. (2010). Four ways information can lead us astray. *OPEN Forum*, 19 May.
- Chabris, C.F., & Simons, D.J. (2010). Think again. Spirit, May.
- Chabris, C.F. (2010). Hard questions from "soft" sciences. The Wall Street Journal, 16 April.

### **Papers Submitted for Publication**

- Heydari, P., Meyer, M.N., & Chabris, C.F. (2023). Medical treatment rationing policies are necessary because people's rationing decisions are frequently illogical and inconsistent with their own stated preferences. Submitted to *Proceedings of the National Academy of Sciences*.
- Vogt, R., Heck, P.R., Heydari, P., Mestechkin, R., Chabris, C.F., & Meyer, M.N. (2023). Experiment aversion among clinicians and the public—an obstacle to evidence-based medicine and public health. Submitted to *Annals of Internal Medicine*. [https://www.medrxiv.org/content/10.1101/2023.04.05.23288189v1]
- Wai, J., Anderson, S.M., Perina, K., Worrell, F.C., & Chabris, C.F. (2023). The most successful and influential "outlier" Americans come from a surprisingly narrow range of elite educational backgrounds. Submitted to *SAGE Open*.
- Heck, P.R., Benjamin, D.J., Simons, D.J., & Chabris, C.F. (2023). Robust overconfidence despite years of accurate feedback about skill. Submitted to *Nature Human Behaviour*.
- Tian, R., et al. (2023). Whole-exome sequencing in UK Biobank reveals biological insights for depression with varying definitions. Submitted to *Nature Genetics*. [\*One of 17 co-authors on paper by consortium of psychiatric genetics researchers.]
- Goren, A., Santos, H.C., Davis, T.W., Lowe, R.B., Monfette, M., Meyer, M.N.,\* & Chabris, C.F.\* (2022). Comparison of clinical decision support tools to improve pediatric lipid screening in a large integrated health system: A randomized clinical trial. Under revision. [\*These authors contributed equally to the work.]
- Kang, J., et al. (2022). Genome-wide association study of treatment resistant depression highlights shared biology with metabolic traits. Under revision. [\*One of 22 co-authors on paper by consortium of psychiatric genetics researchers.]

- Heck, P.R., Brown, M.I., & Chabris, C.F. (2022). Socially (un)skilled and unaware of it: A robust negative relationship between self-reports of social skills and performance measures of social intelligence. Under revision.
- Walsh, C.G., Ripperger, M.A., Hu, Y., Sheu, Y., Wilimitis, D., Zheutlin, A.B., Rocha, D., Choi, K.W., Castro, V., Kirchner, H.L., Chabris, C.F., Davis, L., & Smoller, J.W. (2022). Development and multisite external validation of a generalizable risk prediction model for bipolar disorder. Under revision.
- Shermohammed, M., Goren, A., Lanyado, A., Yesharim, R., Wolk, D.M., Doyle, J., Meyer, M.N.,\* & Chabris, C.F.\* (2021). Informing patients that they are at high risk for serious complications of viral infection increases vaccination rates. Under revision. [https://www.medrxiv.org/content/10.1101/2021.02.20.21252015v1] [\*These authors contributed equally to the work.]
- Heydari, P., Huynh, A.V., & Chabris, C.F. (2020). An experimental assessment of reference-dependent models of context effects. Under revision. [http://ssrn.com/abstract=3432624]
- Holtzman, G.S., Simons, D.J., & Chabris, C.F. (2018). The widespread prevalence of neuromyths, and what psychological scientists should do about them. Under revision for *Perspectives on Psychological Science*.
- Chabris, C.F., Wai, J., Jerde, T.E., Woolley, A.W., Gerbasi, M.E., Schuldt, J.P., Bennett, S.L., Hackman, J.R., & Kosslyn, S.M. (2017). Spatial and object visualization cognitive styles: Validation studies in 3839 individuals. Under revision for *Personality and Individual Differences*.
- Hooven, C.K.,\* Wai, J., Kievit, R.A., Ellison, P.T., Kosslyn, S.M., & Chabris, C.F.\* (2017). The sex difference on mental rotation tests is not necessarily a difference in mental rotation ability. Under revision for *Nature Scientific Reports*. [\*These authors contributed equally to the work.]

#### Selected Conference Presentations and Posters

- Chabris, C.F. (2023). Nudging flu vaccination: Lessons from eight studies with over one million patients. Presented at the Annual Conference of the Behavioral Science and Policy Association, 4–5 May [conference held online].
- Tan, T., Jayashankar, H., Guan, J., Nehzati, S.M., Bennett, M., Family-based GWAS Consortium,\* Cesarini, D., Turley, P., Okbay, A., Benjamin, D., & Young, A. (2023). Meta-analysis of family-based genome-wide association studies. Presented at the Advances in Social Genomics Conference, University of Wisconsin, Madison, WI, 8–9 June. [\*Consortium member.]
- Kember, R., Ge, T., Huckins, L., Roussos, P., Birnbaum, R., Hu, Y., Lee, H., Rocha, D., Tomasi, S., Voloudakis, G., Chabris, C.F., Davis, L.K., Smoller, J., & Peterson, R.E. (2022). Performance of psychiatric phenotyping algorithms in electronic health records by race and ethnicity: An assessment from the PsycheMERGE Diversity Initiative. Presented at the World Congress of Psychiatric Genetics, Florence, Italy, 13–17 September.
- Chabris, C.F. (2022). Resistance to knowledge and vulnerability to deception. Presented at the Conference on Knowledge Resistance in High-Choice Information Environments, Stockholm University, Stockholm, 23–25 August.
- Zhang, S., Heck, P., Meyer, M.N., Chabris, C.F., Goldstein, D.G., & Hofman, J.M. (2022). The illusion of predictability in common scientific visualizations. Presented at the 8th International Conference on Computational Social Science (IC2S2), University of Chicago Booth School of Business, Chicago, 19–22 July.

- Meyer, M.N., Gjorgjieva, T., & Chabris, C.F. (2022). Laypeople overestimate the predictive power of polygenic scores but do not view them as any more anxiety-producing than other scores for the same trait. Presented at the Annual Meeting of the Behavior Genetics Association, USC, Los Angeles, 22–25 June.
- Araujo, F.A., Chabris, C.F., & Meyer, M.N. (2022). Experience, repeated exposure, and probability judgments: A study of base-rate neglect among medical professionals. Presented at the World Economic Science Association Conference, MIT, Cambridge, MA, 13–16 June.
- Zhang, S., Heck, P., Meyer, M.N., Chabris, C.F., Goldstein, D.G., & Hofman, J.M. (2022). The illusion of predictability in common scientific visualizations. Presented at the International Conference on the Science of Science and Innovation, National Academy of Sciences, Washington, DC, 7–9 June.
- Meyer, M.N., Gjorgjieva, T., & Chabris, C.F. (2022). Laypeople overestimate the predictive power of polygenic scores but do not view them as any more anxiety-producing than other scores for the same trait. Presented at the Fifth ELSI Congress, Columbia University, New York, 1–3 June.
- Brown, M., & Chabris, C.F. (2022). Recruiting biobank members for online surveys: Lessons learned from three pilot studies. To be presented at the Health Care Systems Research Network Conference, Pasadena, CA, 12–14 April. [Withdrawn due to travel conflicts with conference dates.]
- Goren A., Shermohammed, M., Rosenbaum, G.M., Meyer, M.N.,\* & Chabris, C.F.\* (2022) A well-timed reminder can increase patient portal enrollment by 200%. Presented at the Annual Meeting of the Society for Judgment and Decision Making [conference delayed and held online due to COVID-19]. [\*These authors contributed equally to the work.]
- Santos, H., Goren, A., Meyer, M.N.,\* & Chabris, C.F.\* (2022). Loss framing and social norms nudges to encourage enrollment in an employee wellness program: A pragmatic trial. Presented at the Annual Meeting of the Society for Judgment and Decision Making [conference delayed and held online due to COVID-19]. [\*These authors contributed equally to the work.]
- Rosenbaum, G.M., Shermohammed, M., Goren, A., Lanyado, A., Metzger, C., Yesharim, R., Wolk, D.M., Doyle, J., Meyer, M.N.,\* & Chabris, C.F.\* (2022). Informing patients that they are at high risk for serious complications of viral infection increases vaccination rates. Presented at the Annual Meeting of the Society for Judgment and Decision Making [conference delayed and held online due to COVID-19]. [\*These authors contributed equally to the work.]
- Rosenbaum, G.M., Shermohammed, M., Goren, A., Lanyado, A., Metzger, C., Yesharim, R., Wolk, D.M., Doyle, J., Meyer, M.N.,\* & Chabris, C.F.\* (2021). Effects of AI-determined high-risk warnings on flu vaccination rates: Two field experiments. Presented at the 11th Behavioral Science and Health Symposium, University of Pennsylvania, Philadelphia, 1–2 December. [\*These authors contributed equally to the work.]
- Niarchou, M., Zhou, D., Kember, R.L., Linner, R.K., Voloudakis, G., Yengo, L., Chen, G., Chabris, C.F., & Davis, L.K. (2021). An investigation of the associations between year of birth and polygenic scores in electronic health records. Presented at the Annual Meeting of the American Society of Human Genetics, 18–21 October [conference held online due to COVID-19].
- Santos, H.C., Goren, A., Chabris, C.F.,\* & Meyer, M.N.\* (2021). Reminders designed with behavioral science features increase COVID-19 vaccination. Presented at the 3rd Nudges in Health Care Symposium, University of Pennsylvania, Philadelphia, 20 May [conference held online due to COVID-19]. [\*These authors contributed equally to the work.]

- Shermohammed, M., Goren, A., Meyer, M.N.,\* & Chabris, C.F.\* (2021). A well-timed reminder can increase patient portal enrollment by 200%. Presented at the 3rd Nudges in Health Care Symposium, University of Pennsylvania, Philadelphia, 20 May [conference held online due to COVID-19]. [\*These authors contributed equally to the work.]
- Shermohammed, M., Goren, A., Lanyado, A., Yesharim, R., Wolk, D.M., Doyle, J., Meyer, M.N.,\* & Chabris, C.F.\* (2021). Informing patients that they are at high risk for serious complications of viral infection increases vaccination rates. Presented at the 3rd Nudges in Health Care Symposium, University of Pennsylvania, Philadelphia, 20 May [conference held online due to COVID-19]. [\*These authors contributed equally to the work.]
- Heck, P.R., Meyer, M.N., Chabris, C.F., & Heydari, P. (2020). Aversion to COVID-19 experiments. Presented at the 10th Behavioral Science and Health Symposium, University of Pennsylvania, Philadelphia, 3–4 December [conference held online due to COVID-19].
- Heck, P.R., Benjamin, D.J., Simons, D.J., & Chabris, C.F. (2020). Overconfidence and the unskilled-but-unaware effect despite precise and accurate information about one's skill: A study of 3388 tournament chess players. Submitted to the Behavioral Decision Research in Management Conference, Barcelona, 16–18 June [conference postponed due to COVID-19].
- Brown, M.I., Wai, J., & Chabris, C.F. (2020). Can you ever be too smart to be successful? Linear and nonlinear effects of GMA. Presented at the 35th Meeting of the Society for Industrial and Organizational Psychology, 16–30 June [conference held online due to COVID-19].
- Meyer, M.N., Heck, P.R., Holtzman, G., Anderson, S.M., Cai, W., Watts, D.J., & Chabris, C.F. (2019). The A/B Effect: Objecting to experiments that compare two unobjectionable policies or treatments. Presented at the 9th Behavioral Science and Health Symposium, University of Pennsylvania, Philadelphia, 21–22 November. [#1 ranked abstract submission]
- Heck, P.R., Benjamin, D.J., Simons, D.J., & Chabris, C.F. (2019). Overconfidence and the unskilled-but-unaware effect despite precise and accurate information about one's skill: A study of tournament chess players. Presented at the Annual Meeting of the Society for Judgment and Decision Making, Montreal, 15–18 November.
- Wai, J., Anderson, S.M., Perina, K., & Chabris, C.F. (2019). Academic giftedness and high performance: A study of 26,000 top achievers in 30 fields. Presented at the 66th Annual Convention of the NAGC, Albuquerque, NM, 7–10 November.
- Meyer, M.N., & Chabris, C.F. (2019). Starting a nudge unit: Lessons learned from the first year of Geisinger's Behavioral Insights Team. Presented at the 2nd Nudges in Health Care Symposium, University of Pennsylvania, Philadelphia, 16–17 September.
- Wai, J., Anderson, S., Perina, K., Worrell, F.C., & Chabris, C.F. (2019). How intelligent and educated are the American elite? A study of 26,000 U.S. leaders across 30 sectors. Presented at the Annual Conference of the International Society for Intelligence Research, Minneapolis, MN, 11–13 July.
- Chabris, C.F. (2019). We are surrounded by fraud. Presented as part of Dark and Dangerous Thoughts, Museum of Old and New Art, Hobart, Tasmania, Australia, 6–9 June.
- Brown, M.I., Ratajska, A., Hughes, S., Fishman, J., Huerta, E., & Chabris, C.F. (2019). The Social Shapes Test: A new ability measure of social intelligence. Presented at the 34th Meeting of the Society for Industrial and Organizational Psychology, National Harbor, MD, 4–7 April.

- Heck, P.R., Benjamin, D.J., Simons, D.J., & Chabris, C.F. (2019). Does overconfidence persist despite accurate, objective, and public information about one's skill? A study of tournament chess players. Presented at the International Convention of Psychological Science, Paris, 7–9 March.
- Brown, M.I., Rataiska, A., Hughes, S., Fishman, J., Huerta, E., & Chabris, C.F. (2019). The Social Shapes Test: A new measure of social intelligence and Theory of Mind. Presented at the Annual Convention of the Society for Personality and Social Psychology, Portland, OR, 7–9 February.
- Heck, P.R., Benjamin, D.J., Simons, D.J., & Chabris, C.F. (2019). Does overconfidence persist despite precise and public information about skill? A study of tournament chess players. Presented at the Annual Convention of the Society for Personality and Social Psychology, Portland, OR, 7–9 February.
- Zheutlin, A., Dennis, J., Restrepo, N., Ruderfer, D., Chabris, C.F., Davis, L., & Smoller, J.W. (2018). Validation of psychiatric polygenic risk scores across three healthcare systems using electronic health records. Presented at the XXVI World Conference of Psychiatric Genetics, Glasgow, 11–15 October.
- Meyer, M.N., Heck, P., Holtzman, G., Anderson, S.M., Cai, W., Watts, D.J., & Chabris, C.F. (2018). The A/B illusion: Objecting to experimentally comparing two unobjectionable policies. Presented at the Behavioral Decision Research in Management Conference, Harvard Business School, Boston, MA, 7–9 June.
- Chabris, C.F. (2018). Collective intelligence as a central characteristic of small groups. Keynote presentation at the 12th BIAL Foundation Symposium, "Behind and Beyond the Brain." Porto, Portugal, 4–7 April.
- Chabris, C.F. (2017). The Invisible Gorilla. Presented at the Geisinger National Symposium on Healthcare, Danville, PA, 8–10 November.
- Chabris, C.F. (2017). On the prevalence and persistence of "neuromyths." Presented at the Wenner-Gren Foundations International Symposium, "Knowledge Resistance and How to Cure It." Stockholm, 6–9 September.
- Chabris, C.F. (2017). The Invisible Gorilla and other critical everyday cognitive limitations. Keynote presentation at the International Pediatric Simulation Symposia and Workshops, Boston, MA, 1–3 June.
- Chabris, C.F. (2017). The Invisible Gorilla: From the classroom to the real world, and back again. Distinguished Lecture at the Association for Psychological Science Teaching Institute, Boston, MA, 25 May.
- Chabris, C.F. (2017). The Invisible Gorilla: From the classroom to the real world, and back again. Keynote presentation at the Michigan Undergraduate Psychology Research Conference, Hillsdale College, Hillsdale, MI, 8 April.
- Chabris, C.F. (2017). On the prevalence and persistence of "neuromyths." Presented at the Swedish Collegium for Advanced Study Symposium "From Neuroscience to the Classroom," Uppsala, Sweden, 5–6 April.
- Chabris, C.F. (2015). General intelligence, collective intelligence, and social intelligence. Presented at the Fourth Champalimaud Neuroscience Symposium: Perspectives on Social Behavior, Lisbon, 16–19 September.
- Chabris, C.F. (2015). Giving psychological science away: Writing for the public rather than for your colleagues. Presented at the Annual Meeting of the Association for Psychological Science, New York, 21–24 May. [Shorter version presented at the APS conference in San Francisco in 2014.]

- Chabris, C.F. (2014). Attention and memory as scarce cognitive resources. Keynote presentation at the Human Behavior in Design Conference, ETH, Ascona, Switzerland, 14–17 October.
- Chabris, C.F. (2014). Charging a fee to use the toilet: Attitudes about the place of markets in society. Presented at the Shifting Attitudes Conference, Institute for Advanced Study in Toulouse, 20 June.
- Chabris, C.F. (2014). Aristotle's hypothesis about the nature of collective intelligence. Presented at the Behavioral Science Conference, Yale School of Management, New Haven, CT, 24 April.
- Chabris, C.F., Benjamin, D.J., & Simons, D.J. (2014). Overconfidence and the unskilled-but-unaware effect despite precise and accurate information about one's skill: A study of tournament chess players. Presented at the Annual Meeting of the Midwest Economics Association, Evanston, IL, 21–23 March.
- Lang, H., Bongard, M., Chabris, C.F., DeAngelo, G., & Mandart, J. (2014). Theory of mind and general intelligence in dictator and ultimatum games. Presented at the Conference of the Eastern Economic Association, Boston, 6–9 March.
- Chabris, C.F. (2013). Finding the active ingredients in a chess intervention. Presented at the Chess and Education Conference, London, 7–8 December.
- Chabris, C.F. (2013). Aristotle's hypothesis about the nature of collective intelligence. Presented at the CLLE Laboratory, Université de Toulouse le Mirail, Toulouse, 6 December.
- Chabris, C.F. (2013). Attention in cognitive psychology, neuroscience, and management. Presented at the Managerial and Organizational Attention Research Workshop, ETH Zurich, 13 June.
- Germine, L., Nakayama, K., Wilmer, J., Chatterjee, G., Chabris, C.F., & Hartshorne, J. (2013). Heterogeneity in cognitive maturation and aging: Why there is no such thing as an adult control. Presented at the Annual Meeting of the Vision Sciences Society, Naples, FL.
- Chabris, C.F. (2013). Aristotle's hypothesis and the relationship between individual intelligence and collective intelligence. Presented at the Society for Personality and Social Psychology Judgment and Decision Making Preconference, New Orleans, 16 January.
- Chabris, C.F. (2012). Scientists and journalists: Personal reflections. Presented at the PopTech Science and Social Innovation Fellows Program, Camden, ME, 15 October.
- Chabris, C.F. (2012). The concept of attention in cognition and in management research. Remarks at the workshop "Attention Needs More Attention," Academy of Management, Boston, 4 August.
- Chabris, C.F. (2012). Aristotle's hypothesis and the relationship between individual intelligence and collective intelligence. Presented at the MIT Conference on Collective Intelligence, Cambridge, MA, 18–20 April.
- Chabris, C.F. (2011). Resisting unconscious manipulation: Should we bother? Presented at the Workshop on the Psychology and Economics of Scarce Attention, Toulouse, France, 23 September.
- Chabris, C.F., Hebert, B.M., Benjamin, D.J., Beauchamp, J., Atwood, C., Freese, J., Hauser, T.S., Hauser, R.M., & Laibson, D.I. (2010). Most published SNP associations with general cognitive ability are probably false positives. Presented at the Integrating Genetics and the Social Sciences Conference, Boulder, CO, 2–3 June.
- Lee, J.J., & Chabris, C.F. (2009). Genome-wide association studies of cognitive abilities: Transition from SNP-genotyping to whole-genome sequencing. Presented at the Annual Conference of the International Society for Intelligence Research, Madrid, 17–19 December.

- Benjamin, D.J., Chabris, C.F., Glaeser, E.L., Gudnason, V., Harris, T.B., Laibson, D.I., Launer, L.J., Purcell, S., & Smith, A.V. (2009). Molecular genetic influences on economic behavior. Presented at the IZA Workshop on Genes, Brains, and the Labor Market, Bonn, 6–8 November.
- Smith, A.V., Benjamin, D.J., Chabris, C.F., Purcell, S.M., Glaeser, E.L., Launer, L.J., Harris, T.B., Gudnason, V., & Laibson, D.I. (2009). Association of ALDH5A1 (SSADH) with human capital formation and cognitive function. Presented at the Meeting of the American Society for Human Genetics, Honolulu, HI, 20–24 October.
- Woolley, A.W., Malone, T., & Chabris, C.F. (2009). Conceptualizing collective intelligence. Presented at the Annual Conference of the Interdisciplinary Network for Group Research, Colorado Springs, CO, 16–18 July.
- Benjamin, D.J., Chabris, C.F., Glaeser, E.L., Gudnason, V., Harris, T.B., Laibson, D.I., Launer, L.J., Purcell, S., & Smith, A.V. (2009). Molecular genetic influences on economic behavior. Presented at the Annual Meeting of the Behavior Genetics Association, Minneapolis, MN, 17–20 June.
- Wilmer, J.B., Germine, L., Williams, M.A., Nakayama, K., Chabris, C.F., & Duchaine, B.C. (2009). Genetic and environmental contributions to memory for faces: Evidence from twins. Presented at the Annual Meeting of the Vision Sciences Society, Naples, FL, 8–13 May.
- Benjamin, D.J., Chabris, C.F., Glaeser, E.L., Gudnason, V., Harris, T.B., Laibson, D.I., Launer, L.J., Purcell, S., & Smith, A.V. (2009). Genetic influences on economic behavior. Presented at the Annual Meeting of the American Economic Association, San Francisco, 3–5 January.
- Chabris, C.F. (2008). Genetics of economic behavior and outcomes. Presented at the TECT Symposium on Money, Altruism, and Genes: Exploring the Genetic Basis of Cooperative and Commercial Behaviors, Barcelona, 20 November.
- Chabris, C.F. (2008). Innovation, creativity, and the illusion of genius. Presented at the 13th Annual Feigenbaum Forum, Union College, Schenectady, NY, 21 October.
- Chabris, C.F. (2008). Genetics in social science: The example of cognitive function. Presented at the National Institute on Aging HRS Data Monitoring Committee Meeting, Napa, CA, 14–15 March.
- Chabris, C.F., Gerbasi, M.E., Liebert, M., Nakayama, K., & Duchaine, B.C. (2007). Face recognition as a special cognitive ability: An individual differences study. Presented at the Annual Meeting of the Cognitive Neuroscience Society, New York, 5–8 May.
- Chabris, C.F. (2007). A neurobiological model for cognitive economics. Presented at the Conference on Cognitive Economics, Institute for Social Research, University of Michigan, Ann Arbor, MI, 5–6 April.
- Liebert, M.A., Chabris, C.F., Woolley, A.W., Gerbasi, M.E., Hackman, J.R., & Kosslyn, S.M. (2007). Differences in cognitive abilities and information processing styles among occupational groups. Presented at the Annual Meeting of the Academy of Management, Philadelphia, 9 August.
- Nakayama, K., Garrido, L., Russell, R., Chabris, C.F., Gerbasi, M., & Duchaine, B.C. (2006). Developmental prosopagnosia: Phenotypes and estimated prevalence. Presented at the Annual Meeting of the Society for Neuroscience, Atlanta, 14–18 October.

- Chabris, C.F., Aharon, I., Clark, J.A., McGrath, L., Steele, S., Tager-Flusberg, H., & Harris, G.J. (2002). A region in right prefrontal cortex is activated selectively by semantic processing of words about the mind in normal but not autistic individuals. Presented at the International Meeting for Autism Research, Orlando, FL, 1–2 November.
- Chabris, C.F., Aharon, I., Clark, J.A., Nakayama, K., Sepeta, L., Mignault, A., Joseph, R., McGrath, L., Tager-Flusberg, H., & Harris, G. (2002). Processing of facial expressions by autistic and normal adults: Behavioral and fMRI studies. Presented at the Annual Meeting of the Cognitive Neuroscience Society, San Francisco, 14–16 April.

# **Unpublished Papers**

- Simons, D.J., & Chabris, C.F. (2013). Phones on a plane! How psychological science can inform reasoning about regulation. Unpublished paper.
- Freese, J., Branigan, A.R., Atwood, C.S., Hauser, T.S., Benjamin, D.J., Chabris, C.F., Laibson, D.I., & Hauser, R.M. (2010). DRD2 Taq1a and college attendance, partisanship, voting, and other outcomes: Replication attempts using the Wisconsin Longitudinal Study. Northwestern University manuscript.
- Glickman, M.E., & Chabris, C.F. (2009). Comparing extreme members is a low-power method of comparing groups: An example using sex differences in chess performance. Unpublished paper.
- Chang, C., Srinivasan, B.S., Lee, J.J., Evans, E.A., Chabris, C.F., Thakuria, J., Pinker, S., Parmigiani, G., & Church, G. (2009). The Personal Phenome Project: An open source web application for computer adaptive phenotyping. Unpublished paper.
- Chabris, C.F., & Hearst, E.S. (2005). Search, recognition, and visualization in chess: Rebuttal to Gobet's critique of Chabris & Hearst (2003). Unpublished paper.
- Huffman, E.K.,\* Chabris, C.F.,\* Ariely, D., Aharon, I., Kaplan, L.M., & Breiter, H.C. (2001). Pictures of food have reward value that varies according to appetitive state. Unpublished paper. [\*These authors contributed equally to the work.]
- Chabris, C.F. (1999). Comments on Rauscher's reply [to "Prelude or requiem for the Mozart Effect?"]. Unpublished paper.
- Kosslyn, S.M., Chabris, C.F., Shephard, J.M., & Thompson, W.L. (1998). Spontaneous Use of Imagery Scale (SUIS). Unpublished questionnaire.
- Glickman, M.E., & Chabris, C.F. (1996). Using chess ratings as data in psychological research. Unpublished paper.

# Working Papers (preprints)

- Heydari, P. & Chabris, C.F. (2019). Preference for ambiguity and difficult choices. SSRN. [https://ssrn.com/abstract=3469915]
- Rosenbaum, G., Goren, A., Shermohammed, M., Wolk, D.M., Tice, A.M., Doyle, J., Meyer, M.N., & Chabris, C.F. (2023). Algorithm aversion or appreciation? Four randomized field trials of personalized risk-communication nudges to encourage flu vaccination. [https://psyarxiv.com/vtxza/]
- Vogt, R.L., Mestechkin, R.M., Chabris, C.F., & Meyer, M.N. (2023). Objecting to consensual experiments even while approving of nonconsensual imposition of the policies they contain. PsyArXiv. [https://psyarxiv.com/8r9p7]

#### **Selected Other Publications**

Chabris, C.F. (2014–2017). Game On [monthly column]. The Wall Street Journal.

7/22/17: A new deal in card games.

4/22/17: High-stakes science for fun.

3/4/17: Computers get closer to mastering poker.

1/28/17: The tricks of sightless chess.

11/19/16: Does chess make you smarter?

10/1/16: When elections are just a game.

6/25/16: The fun of offbeat board games.

6/11/16: Bughouse, a crazy, addictive variation on chess.

5/14/16: The wicked humor of party games.

4/23/16: Handicaps for fairer chess.

4/16/16: An old goose's many guises.

3/19/16: The inside story on narrative games.

2/20/16: When diplomacy leads to betrayal.

1/23/16: The virtues of simple tic-tac-toe.

1/2/16: Why Go still foils the computers.

12/5/15: The creative spark of house rules.

11/7/15: Could an amateur win the World Series of Poker? How good is your poker? (w/ Ed Miller)

10/10/15: High-tech chess cheaters charge ahead.

9/12/15: Playing for profit, from Trump to Tesla.

8/15/15: Game makers' quest to capture the "fog of war."

7/11/15: The hidden depths of simple games.

6/6/15: The logic of poker's craziest new formats.

5/9/15: Is this buzzy game the next chess?

4/11/15: Pandemic? Let's overcome it together.

3/14/15: Variability in play is not dumb luck.

2/7/15: The strategic frontier of "Eurogames."

1/10/15: The real kings of chess aren't human. Anatomy of a computer chess game.

12/13/14: Chess yields to the young. Fabiano Caruana, future chess champion?

11/6/14: The play that changed poker.

Chabris, C.F. (2014). My best move. Chess Life, April.

Chabris, C.F., & Goodman, D. (2013). The cyber-renaissance in chess. *The Wall Street Journal*, 23 November.

Chabris, C.F. (2013). The science of winning poker. *The Wall Street Journal*, 28 July. [#1 most popular article on WSJ.com]

Chabris, C.F. (2009). Bobby Fischer recalled. The Wall Street Journal, 12 March.

Chabris, C.F. (2007). It's your move. [Review of the book *How life imitates chess: Making the right moves—from the board to the boardroom* by Garry Kasparov.] *The Wall Street Journal*, 25 October.

Chabris, C.F. (2006). How chess became the king of games. [Review of the book *The immortal game: A history of chess* by David Shenk.] *The Wall Street Journal*, 4 November.

- Chabris, C.F. (2005). The other American game. [Review of four books: (1) Moneymaker: How an amateur poker player turned \$40 into \$2.5 million at the World Series of Poker; (2) One of a kind: The Rise and full of Stuey "The Kid" Ungar, the world's greatest poker player; (3) The professor, the banker, and the suicide king: Inside the richest poker game of all time; (4) The making of a poker player: How an Ivy League math geek learned to play championship poker.] The Wall Street Journal, 8 July.
- Chabris, C.F. (2002). A match for all seasons. [Review of the book *Behind Deep Blue: Building the computer that defeated the world chess champion* by Feng-Hsiung Hsu.] *The Wall Street Journal*, 27 December.
- Chabris, C.F. (2000). Checkmate for a champion. *The Wall Street Journal*, 7 November. [Reprinted in *The Asian Wall Street Journal*, 17 November.]
- Chabris, C.F. (1997). Lição histórica. *Veja*, 21 May, 104–105. [In Portuguese translation.] Published in English, as "Brave new chess world," in *Chess Horizons*, September–October 1997.
- Wolff, P., & Chabris, C.F. (1997). The complete idiot's guide to chess. New York: Alpha Books.
- Chabris, C.F. (1996). The last human champion? *Games*, August, 10–12, 14, 63.
- Chabris, C.F. (1995). The 6th Harvard Cup human-versus-computer chess challenge. *ICCA Journal*, 18(4), 249–250.
- Chabris, C.F., & Kopec, D. (1994). The 5th Harvard Cup human-versus-computer Intel chess challenge. *ICCA Journal*, 17(4), 224–232.
- Chabris, C.F. (1994). The girl who would be king. *Games*, February, 12–14, 65–66. (Best Human Interest Story, 1994 Chess Journalists of America awards.)
- Chabris, C.F. (1993). Kasparov revealed. [Review of the book *Mortal games: The turbulent genius of Garry Kasparov* by Fred Waitzkin.] *American Chess Journal*, 2, 109–114. (Best Review [Honorable Mention], 1994 Chess Journalists of America awards.)
- Chabris, C.F., & Kopec, D. (1993). The 4th Harvard Cup human-versus-computer chess challenge. *ICCA Journal*, 16(4), 232–241.
- Chabris, C.F. (1993). The Harvard Cup man-versus-machine chess challenge. *ICCA Journal*, 16(1), 57–61.
- Chabris, C.F. (1992). "The Polgar sisters"—facts or rumors? [Review of the book *The Polgar sisters: Training or genius?* by Cathy Forbes.] *American Chess Journal, 1,* 120–127.
- Hoechst, T., Melander, N., & Chabris, C.F. (1990). Guide to ORACLE. New York: McGraw-Hill.
- Chabris, C.F. (1989). *Artificial intelligence and Turbo C.* Homewood, IL: Dow Jones-Irwin. Japanese translation by the Kogaku-Sha Group, Tokyo, 1990.
- Chabris, C.F. (1987). *Artificial intelligence and Turbo Pascal*. Homewood, IL: Dow Jones-Irwin. (Book and book/disk editions.) British reprint by Chapman & Hall, 1989. Indian reprint by Galgotia, New Delhi, 1989 (second printing 1990).

### **Research Funding Experience**

(listed below are current, pending, and previous significant grants to fund my research, in reverse chronological order)

- NBER Roybal Center for Behavior Change in Health (J. Doyle & M. Alsan, PIs; C.F. Chabris, site co-PI), 1 June 2024–31 May 2029, from NIA via National Bureau of Economic Research, Cambridge, MA (total direct costs to Geisinger: ~\$1,150,000). The NBER Roybal Center plans to fund five trials (one per year) assessing behavioral interventions to improve health outcomes at Geisinger, with a budget of ~\$200K direct costs per trial, plus an annual administrative core subaward of ~\$30K direct costs.
  - "A Prospective Randomized Trial of Personalized Nudges to Increase Influenza Vaccinations" (2024–25)
- Patient and Provider Attitudes and Beliefs About Medical Marijuana and Other Unproven Medical Interventions (C.F. Chabris, co-PI), 1 July 2023–30 June 2025, from Pennsylvania DOH via Geisinger (total direct costs: ~\$300,000). This project uses survey experiment methods to investigate what patients and clinicians know and believe about the efficacy and evidence base for medical marijuana as compared to other unproven and/or standard-of-care medical interventions, in order to improve understanding of how to communicate about these interventions within a learning healthcare system.
- Guideline Adherence and the Psychology of Clinician Decision-Making, (C.F. Chabris, co-PI), 1 July 2023–31 December 2024, from Geisinger-Lehigh joint research fund (total direct costs to Geisinger: ~\$50,000). In this project we will (1) examine patterns of clinician adherence and deviation from the CHADS2 guidelines for treating atrial fibrillation, and (2) correlate those patterns with clinician behavioral tendencies measured in decision-making experiments, such as motivated reasoning and omission bias.
- NBER Roybal Center for Behavior Change in Health (J. Doyle & D. Laibson, PIs; C.F. Chabris, site co-PI), 15 September 2019–31 May 2024, from NIA via National Bureau of Economic Research, Cambridge, MA (total direct costs to Geisinger: ~\$225,000). The NBER Roybal Center intends to initiate 1–2 pilot projects pear year assessing behavioral interventions to improve health outcomes at Geisinger, for which additional funds will be disbursed. I am the Geisinger co-PI for these funded projects so far (\$60,000–\$100,000 direct costs each):
  - "Encouraging Flu Vaccination Among High-Risk Patients Identified by a Machine-Learning Model of Flu Complication Risk" (2020–21)
  - "Testing Multiple Behavioral Science Strategies to Increase Flu-Shot Rates" (2020–21)
  - "Using Explainable AI Risk Predictions to Nudge Influenza Vaccine Uptake (2021–22)
  - "Lottery Incentive Nudges to Increase Influenza Vaccinations" (2021–22)
  - "Patient- and Clinician-facing Nudges to Increase Influenza Vaccine Uptake" (2022–23)
  - "Nudging Patients to Increase Shingles Vaccination" (2023–24)
- "Understanding and Ameliorating Aversion to Pragmatic Healthcare Experiments" (C.F. Chabris, co-PI), 13 August 2021–31 May 2022 with NCE to May 2023, P30 supplement from NIH/FDA (total direct costs to Geisinger: ~\$100,000). Experiments to determine whether "nudges" and other behavioral interventions can improve people's health are sometimes controversial, and people often object to being included in experiments they did not know about. This supplement to the parent NBER Roybal Center grant will fund studies with online participants and healthcare providers to determine what specific features or types of experiments explain people's objections, and test ways of describing experiments and their value for improving public health that might ameliorate aversion to experimentation. The project will publish the scientific results of these studies, as well as a practical guide for policymakers and leaders in healthcare to help them better communicate their decisions to

carry out experiments and minimize misunderstanding and mistrust among patients, employees, and other stakeholders.

- Leveraging Rare Genetic Etiologies to Advance Knowledge and Treatment of Neuropsychiatric Disorders (C.L. Martin & D.H. Ledbetter, co-PIs; C.F. Chabris, co-investigator), 1 April 2019–31 March 2024, U01 from NIMH (total direct costs to Geisinger: ~\$5,600,000). This project will capitalize on the large neuropsychiatric clinical populations at Geisinger, the University of Washington, and Washington University in St. Louis to identify individuals with rare genetic disorders (RGD). We will augment genomic and phenotype data captured as part of routine care with additional detailed phenotyping of probands and their first-degree relatives. We will also examine the influence of additional rare and common genomic contributors to the variable expressivity of these RGD and how they influence risk and resilience for neuropsychiatric symptoms.
- PsycheMERGE: Leveraging Electronic Health Records and Genomics for Mental Health Research (J. Smoller & L. Davis, MPIs; C.F. Chabris, site PI), 15 February 2019–30 November 2022 with NCE to November 2023, R01 from NIMH (total direct costs to Geisinger: ~\$540,000). The goals of this project are to (1) phenotypically and genomically validate and harmonize case and control phenotypes across multiple disorders, and then demonstrate the unique value of the PsycheMERGE network, by (2) building clinically-useful risk surveillance models for mood disorders that also leverage eMERGE network genomewide data, and (3) examining whether EHR- and genomic-based risk profiles are associated with clinically-relevant health outcomes and differences in outcomes.
- Knowledge Resistance: Causes, Consequences, and Cures (C.F. Chabris, co-investigator), 1 January 2019–31 December, 2024, from Riksbankens Jubileumsfond, Stockholm, Sweden (total direct costs to Geisinger: ~\$318,000). The main objective of this cross-disciplinary program is to investigate the nature and causes of knowledge resistance, the tendency to deny or to not accept available knowledge. This represents the first concerted effort to provide a unified framework within which to investigate knowledge resistance. As part of this project, the psychology team will design experiments to investigate the cognitive and motivational sources of knowledge resistance, with a special focus on how to counteract it.
- Ethical, Legal, and Social Implications of Social/Behavioral Genomics and Polygenic Scores (M.N. Meyer, PI; C.F. Chabris, co-investigator), 1 January 2019–31 December 2021 with NCE ongoing, from Good Ventures, San Francisco, CA via University of Southern California (total direct costs to Geisinger: ~\$1,167,000). This project will carry out empirical, policy, and normative research related to the ethical, legal, and social implications of genomic social science and polygenic scores.
- "Improving Collective Intelligence: Investigating the Effects of Online Groups, Group Size, and Gender Composition" (C.F. Chabris, co-PI), 1 September 2013–31 August 2016, National Science Foundation (total direct costs to CFC: \$3600). The goals of this project are to develop a software tool to measure the collective intelligence of collaborative teams online, and then to conduct experiments on the effect of team size and gender ratio on collective intelligence.
- "Psychological and Biological Mechanisms that Influence Lifecycle Investment" (D. Wise, Program Director; D.I. Laibson, PI; C.F. Chabris, co-investigator), 2011–2016, P01 from National Institute on Aging. This project investigates how genetic variation may influence economic behavior. A consortium will be created to pool data and conduct analyses among institutions and laboratories that have collected genomic and social science data. [This was a competitive renewal of the P01 grant listed below.]
- "Union College Renovation Project for Faculty and Undergraduate Research Facility" (S.G. Romero, PI; C.F. Chabris, co-investigator), 15 September 2010–28 February 2013 (total direct costs to Union

- College: ~\$900,000. The goal of this project was to renovate one floor of an academic building to create a new Center for Neuroscience, uniting faculty from three different departments, and including office and laboratory space for research and student training.
- "Measuring and Modeling Collective Intelligence" (C.F. Chabris, co-PI), 1 January 2010–31 December 2012, National Science Foundation (total direct costs to CFC: \$127,325; no-cost extension to 31 December 2013). The goals of this project are to discover whether groups, like individuals, can be characterized by a general factor of cognitive ability; to develop a reliable and valid measure of this capacity; and to computationally model group interactions in order to understand what attributes of groups—beyond the cognitive ability of their individual members—make them more or less intelligent.
- "Measuring Collective Intelligence in Human-Machine Systems" (T.W. Malone, PI; C.F. Chabris, co-investigator), 2009–2013, Army Research Office Mathematical Sciences Division. The goals of this project are to discover whether groups of humans and machines, like individual humans, can be characterized by a general factor of cognitive ability; to develop a reliable and valid measure of this capacity; and to understand what attributes of such groups—beyond the cognitive ability of their individual members—make them more or less intelligent.
- "Effects of Genetic Variation on Cognition and Decision Making" (C.F. Chabris, PI), 2007–2009; funding received from a variety of sources, totaling approximately \$250,000. The goal of this project is to use whole-genome association and other techniques to discover specific genes and genetic variants (SNPs, CNVs, and repeats) associated with individual differences in cognitive abilities and decision-making tendencies.
- "Psychological Factors in Economic Lifecycle Decisions" (D. Wise, Program Director; D.I. Laibson, PI; C.F. Chabris, Consultant), 2004–2010, P01 from National Institute on Aging. This project investigates how genetic differences may contribute to individual differences in behaviors related to economic decisions and outcomes, including impulsiveness, risk-taking, savings, and investment.
- "Effects of Dopamine System Genotypes on Brain Activity During Cognitive Tasks: An Exploratory Study using Functional Magnetic Resonance Imaging" (C.F. Chabris, PI), 2002–2008, Young Investigator award from National Alliance for Research on Schizophrenia and Depression. The original goal of this project was to measure the effect of different polymorphisms of three dopamine system genes on neural activity during cognitive tasks relevant to schizophrenia, ADHD, addiction, and other brain diseases. The design was revised to focus on whole-genome association with a larger sample of subjects using behavioral measures (see "Effects of Genetic Variation on Cognition and Decision Making" above).
- "Genetic Analysis of Human Cognition and Economic Behavior: Development of a SNP Panel" (D.I. Laibson, PI; C.F. Chabris, co-investigator), 2005–2007, Supplement to P01 from National Institute on Aging. The goal of this project is to develop a panel of single nucleotide polymorphisms (SNPs) to mark haplotypes and functional alleles in genes likely to be associated with human cognitive, behavioral, or neural phenotypes, for use with the Illumina genotyping system in future genetic studies.
- "Cognitive SNP Panel: AGES Implementation" (V. Gudnason, PI; C.F. Chabris, Consultant), 2006–2008, Contract from National Institute on Aging. The goal of this project is to apply a panel of SNPs in genes likely to be associated with cognitive and decision-making processes to data from the AGES study, which contains DNA from 2300+ Icelandic adults and information on medical, cognitive, economic, and volumetric MRI phenotypes.

- "Neuroimaging of Language and Social Communication in Autism and SLI" (H. Tager-Flusberg, Program Director; G. Harris, PI; C.F. Chabris, Consultant), 2002–2007, P01 from National Institute of Deafness and Communication Disorders. The goal of this project is to characterize abnormal functioning in the neural systems underlying language processing and face processing in two strongly genetic neurodevelopmental disorders.
- "Visual-Social Cognition in Neurodevelopmental Disorders" (N. Hadjikhani, PI; C.F. Chabris, Consultant), 2002–2005, R01 from National Institute of Neurological Disorders and Stroke. The goal of this project is to use neuroimaging and behavioral measurements to better characterize the socialcognitive phenotypes of Williams Syndrome, autism-spectrum disorders, and developmental prosopagnosia
- "Individual Differences in Cognitive Performance Related to Intelligence Analysis" (S.M. Kosslyn, PI; C.F. Chabris, co-investigator), 2001–2004, National Imagery and Mapping Agency. This project investigated the nature of individual differences in the performance of cognitive tasks that are related to intelligence analysis.

### **Teaching Experience**

At the undergraduate level, I have taught the following courses (all as instructor): Introduction to Psychology, Cognitive Psychology, Cognitive Neuroscience, Judgment and Decision Making, Cognitive Genetics, a capstone honors seminar featuring visiting speakers, a seminar on Communicating Psychological Science, and various seminars on topics in cognitive psychology (once taught in a blended two-campus format). I have also organized and led a multidisciplinary lecture course on logic and rationality, a similar course on games, and supervised a student-initiated course called "Brain/Mind/Soul." In the future, I am interested in teaching courses on Applied Decision Making, The Science of Fraud and Deception, Research Methods, Individual Differences, Behavioral Economics, and Cognitive Science. Below are details of the courses I have taught in the past, as both instructor and teaching assistant.

#### Guest Lectures

- Guest Scientist Discussion, for Introduction to Psychology, Psychological and Brain Sciences Department, Dartmouth College, 12 October 2020
- "The Invisible Gorilla: From the Classroom to the Real World and Back Again," for Cognition (undergraduate course), Psychology Department, New York University, 24 September 2020
- "Abolish the SAT? What's Right and What's Wrong About Standardized Tests" for One Day University, 10 September 2020
- "The Geisinger Behavioral Insights Team," Management Department, Bucknell University, 23 October 2019
- "The Invisible Gorilla: From the Classroom to the Real World to a Museum in Tasmania," Psychology Department, Bucknell University, 21 October 2019
- "The Invisible Gorilla" presentation to Pulmonology and Critical Care Fellows, Geisinger, April 2019
- "The Invisible Gorilla" for Film Auteurs: Hitchcock and Beyond (undergraduate course), Bucknell University, 26 October 2018
- "How Our Intuitions Deceive Us" for One Day University (12 times, 2010–2018)
- "Neuroscience and Genetics of Intelligence" for Clinical Neuroscience (undergraduate course), Bucknell University, 5 February 2018
- "Inattentional Blindness and the Illusion of Attention," Neuroscience Program, Skidmore College, 9 February 2016
- "Psychology and Inequality" for ISC-205: Inequality, Union College, 4 November 2015

- "Inattentional Blindness" for Cognition (graduate) and Memory & Attention (undergraduate) courses, Rochester Institute of Technology, 16 October 2015
- "The Invisible Gorilla" for Albany Academy (high school), 2 October 2015
- "Influence," "Collective Intelligence," "Creativity" (across four guest lectures) for Economics 230: Mind of the Entrepreneur, Union College, Winter 2014
- "How Creativity Happens" for One Day University (9 November 2014)
- "Vladimir Nabokov's 'Signs and Symbols" in English 285: Nabokov, Union College, Spring 2014
- "Neuroscience of Human Intelligence" for New York University, 7 March 2011
- "The Invisible Gorilla and Success in College" for Union College PALS program, Winter 2011
- "Psychology and Neuroscience of Voting" (two lectures) in Union College Minerva course, Fall 2008
- "Vladimir Nabokov's 'Signs and Symbols'" in English 101: Introduction to the Study of Literature: Fiction, Union College, Fall 2008
- "Psychological Perspectives" in First-Year Preceptorial, Union College, Fall 2007

### Union College, Department of Psychology

#### Instructor

Judgment and Decision Making (lecture, 26–28 students): Fall 2015, Spring 2016

Communicating Psychological Science (seminar, 12 students): Winter 2016

Games (interdisciplinary course, 51 students): Spring 2015

Psychology and Neuroscience: The Real World as Laboratory (joint Union/Skidmore blended course, co-taught w/ Flip Phillips, 15 students): Winter 2015

Intuition, Decision-Making, and Cognitive Illusions (departmental seminar, 12 students): Winter 2009, Fall 2010, Spring 2014

Brain/Mind/Soul (student-organized interdisciplinary seminar, 12 students): Winter 2014

Honors Colloquium (year-long departmental seminar, 15 students; co-taught w/ Joshua Hart):

Fall/Winter/Spring 2011–2012, 2012–2013, 2013–2014, 2014–2015, 2015–2016

Introduction to Cognitive Neuroscience (lecture/laboratory, 30 students): Fall 2008, Spring 2009, Fall 2009, Spring 2011, Winter 2012, Fall 2013, Fall 2014, Spring 2015

Introduction to Psychology (lecture, 45 students): Winter 2008, Winter 2009, Fall 2009, Fall 2010, Fall 2012

Logic, Rationality, and Life (interdisciplinary course, 52 students): Spring 2012

Introduction to Cognitive Neuroscience (lecture, 25 students): Fall 2007, Winter 2008, Spring 2008, Summer 2010

# Thesis Advisor

Bailey Rand (Determinants of the reference income effect; w/ Younghwan Song, Department of Economics): 2007–2008

Lisa McManus (Measuring the intelligence of human-computer teams): 2009–2010

Alex Katz (Intelligence and probability matching in choice tasks): 2010–2011

Stephanie Martinez (Socioeconomic status and ERPs in memory tasks): 2010–2011

Matthew Fontaine (Why correlation is confused with causation): 2011–2012

Adam Weinberger (Change blindness for abstract information): 2011–2012

Andrew McKeegan (An experimental test of the effect of showers on creative thinking): 2011–2012

Stephanie McCarthy (Using video games to measure intelligence): 2012–2013

Katherine Murray (Using video games to measure mood): 2012–2013

Jennifer Brodsky (Biases and individual differences in random number generation): 2013–2014

Chelsea Nyman (Traits that predict successful entrepreneurship): 2013–2014

Alexandra Sussman (Flashbulb memories of the Osama bin Laden assassination): 2013–2014

Shannon Hughes (Development of a new test of social intelligence): 2014–2015

Elisa Huerta (Discriminant validity of a new test of social intelligence): 2014–2015

Jakub Kaczmarzyk (Effect of music education on elementary school student cognition): 2015–2016

Adrianna Ratajska (Measuring the social content of shape animations): 2015–2016 Julie Fishman (Development of alternate forms of a social intelligence test): 2015–2016

Sophomore Scholars, Seward Fellows, and Independent Research Project Advisor

Kristen Pechtol (Mood and the Mozart Effect): 2007-2008

Brandon Bartell (Evolution of humor): 2007-2008

Adam Weinberger (Inattentional blindness in the real world): 2009–2010

Andrew McKeegan (Music and attention): 2010-2011

Carly Wender (Expertise and the hot hand fallacy): 2010–2011

Samieh Atif (Neuroscience-based mitigation of criminal culpability): 2010–2011

Olga Rabovskaya (Field studies of implicit social priming): Fall 2012

Adrianna Ratajska (A new test of individual differences in mentalizing ability): 2013–2015

Ruwimbo Makoni & Marisa van Brakle (Measuring variation in cognitive performance caused by coffee intake): 2014–2015

# Harvard University, Department of Psychology

#### Instructor

Cognitive Genetics (lecture/seminar course, w/ guest instructor Ting Wu [Harvard Medical School, Department of Genetics], 10 students): Spring 2006

Cognitive Psychology (lecture/laboratory course, 9 students, 1 teaching assistant): Fall 2005

Cognitive Psychology (lecture course, 74 students, 4 teaching assistants): Fall 2002

Cognitive Neuroscience (tutorial course, 5–10 students): Fall 1996, Spring 1997

General Psychology (tutorial course, 5–10 students): Fall 1994, Fall 1995

### Teaching Assistant and Guest Lecturer

Laboratory in Human Cognition: Spring 1998, Spring 1999

Cognitive Psychology: Spring 1995, Fall 1996, Fall 1998 (Head Teaching Assistant)

Cognitive Science: Spring 1991

### Undergraduate Thesis Advisor

Carrie L. Morris (Reward system and intertemporal choice in obesity): 2004–2005

#### Undergraduate Thesis Reader/Co-advisor

Leigh Sepeta (Facial expression processing in autism): 2001–2002

Susan Curry (Change detection and expertise): 2000-2001

Member of the Committee on Undergraduate Education: Spring 1995

Graduate Writing Fellow: Fall 1995

#### **Other Professional Activities**

Invited colloquia, seminars, and academic talks (not listed above):

Yale School of Management (New Haven, CT): February 2023

Union College, Department of Psychology (Schenectady, NY): October 2022

Anderson School of Management, UCLA (Los Angeles, CA): January 2022 & November 2021

Geisinger Clinical Research Grand Rounds (Danville, PA): August 2021

Baylor College of Medicine, Department of Neuroscience (Houston, TX): April 2021

Tuck Business School, Dartmouth College, Department of Strategy and Management (Hanover, NH): February 2021

Geisinger Commonwealth School of Medicine, Department of Medical Education Grand Rounds (Scranton, PA): February 2021

University of Waterloo, Department of Psychology (Waterloo, Canada): September 2020

Geisinger, Department of Internal Medicine Grand Rounds (Danville, PA): October 2019

Geisinger Autism and Developmental Medicine Institute (Lewisburg, PA): July 2019

Massachusetts Institute of Technology, Media Lab (Cambridge, MA): May 2019

Union College, Department of Psychology (Schenectady, NY): September 2018

SUNY Broome Community College, Convocation Speaker (Binghamton, NY): April 2018

The Wharton School, Decision Processes Seminar (Philadelphia, PA): March 2018

Institute for Advanced Study in Toulouse (Toulouse, France): March 2018

Network Science Institute, Northeastern University (Boston, MA): November 2017

University of Pennsylvania, Department of Psychology (Philadelphia, PA): October 2017

Geisinger Autism and Developmental Medicine Institute (Lewisburg, PA): October 2017

Pennsylvania State University, Arts and Design Research Incubator (University Park, PA): October 2017

Bucknell University, Department of Psychology (Lewisburg, PA): September 2017

Swedish Collegium for Advanced Study (Uppsala, Sweden): April 2017

Institute for Advanced Study in Toulouse (Toulouse, France): March 2017

Atlanticare, Department of Psychiatry (Atlantic City, NJ): February 2017

Museum of Old and New Art (Hobart, Tasmania, Australia): November 2016

Institute for Advanced Study in Toulouse (Toulouse, France): June 2016

Albany Medical College, Medicine Grand Rounds (Albany, NY): May 2016

State University of New York at Albany, School of Education, Division of Educational Psychology and Methodology (Albany, NY): May 2016

Williams College, Department of Computer Science (Williamstown, MA): April 2016

Pennsylvania State University, Department of Psychology (University Park, PA): April 2016

Geisinger Health System (Danville, PA): March 2016

Skidmore College, Department of Psychology (Saratoga Springs, NY): December 2015

Rochester Institute of Technology (Rochester, NY): October 2015

Georgetown University, Department of Psychology (Washington, DC): September 2015

University of Minnesota, Department of Psychology PIB group (Minneapolis, MN): April 2015

SUNY Institute of Technology, Department of Psychology (Utica, NY): April 2015

Carnegie Mellon University, Department of Social and Decision Sciences (Pittsburgh, PA): March 2015

ETH Zurich, Brusoni Laboratory (Zurich, Switzerland): October 2014

University of Pennsylvania, PLEEP Laboratory (Philadelphia, PA): September 2014

Université Paris Descartes, Laboratory for the Psychology of Child Development and Education (Paris, France): June 2014

Learning and the Brain Conference, Columbia University (New York, NY): May 2014

Cornell University Behavioral Economics and Decision Research Seminar (Ithaca, NY): November 2013

Institute for Advanced Study in Toulouse (Toulouse, France): July 2013

Union College, Department of Computer Science (Schenectady, NY): January 2013

Harvard University BLISS Program (Cambridge, MA): July 2012

Rensselaer Polytechnic Institute, Department of Cognitive Science (Troy, NY): May 2012

Siena College, Department of Psychology (Albany, NY): April 2012

University of Illinois, Department of Psychology (Champaign, IL): February 2012

New England Association of Schools and Colleges (Boston, MA): December 2011

TEDx Albany (Albany, NY): November 2011

TEDx PennQuarter (Washington, DC): October 2011

Yale University, Department of Psychology (New Haven, CT): October 2011

Harvard Kennedy School of Government (Cambridge, MA): October 2011

Albany Medical College, Medicine Grand Rounds (Albany, NY): October 2011

Toulouse School of Economics (Toulouse, France): September 2011

Harvard University BLISS Program (Cambridge, MA): July 2011

Albany Medical College Medical Decision Making Group (Albany, NY): June 2011

Columbia Business School (New York, NY): April 2011

Skidmore College, Neuroscience Program (Saratoga Springs, NY): March 2011

New York University, Department of Psychology (New York, NY): March 2011

Harvard Kennedy School of Government (Cambridge, MA): February 2011

Union College, Department of Economics (Schenectady, NY): January 2011

Yale School of Management (New Haven, CT): October 2010

Massachusetts Institute of Technology, Knight Journalism Program (Cambridge, MA): October 2010

Savannah College of Art and Design (Savannah, GA): April 2010

Skidmore College, Department of Psychology (Saratoga Springs, NY): March 2008

State University of New York at Albany, Department of Psychology (Albany, NY): October 2007

Albany Medical College, Neurosciences Institute (Albany, NY): September 2007

Union College, Department of Psychology (Schenectady, NY): January 2007

Case Western Reserve University, Department of Cognitive Science (Cleveland, OH): January 2007

Harvard University, Department of Psychology (Cambridge, MA): November 2006

Georgetown University, Center for Functional and Molecular Imaging (Washington, DC): August 2003

Williams College, Department of Psychology (Williamstown, MA): April 2003

Harvard University, Department of Psychology (Cambridge, MA): October 2002

Yale University, Department of Psychology (New Haven, CT): February 2002

Massachusetts Institute of Technology, Department of Brain and Cognitive Sciences (Cambridge, MA): February 2002

Oxford University, Department of Experimental Psychology (Oxford, UK): March 1999

Dartmouth College, Department of Psychology (Hanover, NH): January 1999 [two talks]

Rutgers University, Department of Psychology (New Brunswick, NJ): January 1999

Harvard University, Department of Psychology (Cambridge, MA): April 1995

Selected invited talks to business/non-academic groups (not listed above):

Excellence in Investing ("Sohn") Conference (San Francisco, CA): October 2015

Credit Suisse Thought Leader Conference (Tarrytown, NY): June 2015

NMS Management CIO Spring Roundtable (Washington, DC): June 2015

Psychological Association of Northeast New York (Albany, NY): March 2015

Schenectady Public Library (Schenectady, NY): September 2014

UnSummit for Healthcare Barcoding (New Orleans, LA): September 2014

SEI Investments Company (Phoenix, AZ): March 2013

Mainline Private Wealth (West Palm Beach, FL): February 2013

Mainline Private Wealth (Philadelphia, PA): November 2012

NeuroLeadership Summit (New York, NY): October 2012

Central Intelligence Agency, Senior Analytic Service (McLean, VA): June 2012

Product Liability Advisory Council (Asheville, NC): April 2012

National Association of State Boating Law Administrators (Milwaukee, WI): September 2011

Procter & Gamble Behavioral Science Research Group (Cincinnati, OH): June 2011

Albany Colonie Chamber of Commerce (Loudonville, NY): May 2011

New York Hall of Science (New York, NY): January 2011

SAC Capital (New York, NY): December 2010

PopTech (Camden, ME): October 2010

Excellence in Investing ("Sohn") Conference (San Francisco, CA): October 2010

Google (Mountain View, CA): October 2010

U.S. Navy Strategic Studies Group (Brooklyn, NY): September 2010

Microsoft (Redmond, WA): June 2010

Society of Quantitative Analysts, at Goldman Sachs (New York, NY): May 2010

### Invited conference talks (not listed above):

Ethics and Privacy in the Era of Big Data (session chair and discussion moderator), Technology in Psychiatry Summit, Harvard Medical School, Boston, MA: 6–7 November 2017

Advances in Collecting and Utilizing Biological Indicators and Genetic Information in Social Science Surveys, National Academy of Sciences, Washington, DC: June 2006 (w/ D.I. Laibson)

Cognition in Space (NASA workshop), Chandler, AZ: October 2004

DCI Postdoctoral Research Fellowship Colloquium, Tysons Corner, VA: March-April, 2003

DCI Postdoctoral Research Fellowship Colloquium, Tysons Corner, VA: April-May, 2002

Schloessman Seminar on The Expert in Modern Societies: Historical and Contemporary Perspectives (Max Planck Society), Berlin: November 1998

Conference on Chess in Education, New York: January 1996

### Poster presentations at conferences (not listed above):

Annual Convention of the Association for Psychological Science, New York, May 2006 [2 posters]

Annual Meeting of the Society for Neuroscience, San Diego, November 2001

International Meeting for Autism Research, San Diego, November 2001

North American Association for the Study of Obesity, Long Beach, CA, October-November 2000

Vision Research Conference on Preattentive and Attentive Mechanisms in Vision (Perceptual Organization and Dysfunction), Fort Lauderdale, FL, May 1999

Workshop on Object Perception and Memory, Dallas, TX, November 1998

Annual Meeting of the Cognitive Neuroscience Society, San Francisco, April 1994

European Workshop on Cognitive Neuropsychology, Bressanone, Italy, January 1994

### Workshop participation (invited):

Knowledge Resistance: Causes, Consequences, and Cures, Gothenburg, Sweden, September 2020

Knowledge Resistance: Causes, Consequences, and Cures, Stockholm, Sweden, March 2019

IARPA CREATE Program Meeting, Tysons, VA, December 2017

IARPA CREATE Kickoff Meeting, McLean, VA, February 2017

DARPA Information Science and Technology Panel, New York, NY, January 2017 (plus preliminary online meetings, Fall 2016): "Technologies for Scalable, Self-Organizing Communities"

Attention Needs More Attention, Academy of Management, Orlando, FL, August 2013

Neuroscience in Management Research, Academy of Management, Orlando, FL, August 2013

Advancing the Neuroscience of ADHD, Boston, MA, February 2004

ADHD: Genetics, Cognition, and Imaging, Boston, MA, February 2004

Developing Alternative Analysis for Transnational Issues, RAND, Arlington, VA, April 2003

ADHD: Genetics, Cognition, and Imaging, Cambridge, MA, February 2003

Behavior, Genetics, and Aging Meeting, NIA, Bethesda, MD, March 2002

International Meeting of the ADHD Molecular Genetics Network, Boston, MA, June 2001

### Ph.D. Thesis Committee Member (external):

Bruno Sauce (The role of gene-environment interplay on the expression of individual differences in mice's general intelligence), Department of Psychology, Rutgers University, 2017 [degree awarded]

Jason Ralph (Dissecting performance on N-back working memory tasks), Department of Cognitive Science, Rensselaer Polytechnic Institute, 2013–2014 [degree awarded]

Hannes Lang (The role of Theory of Mind in economic games), Department of Economics, Rensselaer Polytechnic Institute, 2013–2014 [degree awarded]

External Review Committee Member for: Williams College Department of Psychology (2018)

Junior Faculty Mentoring Committee Member (Geisinger Health System): Erin Vanenkevort, 2019–; Matthew Brown, 2021–2022 (Chair); Sean O'Dell, 2020–2022; Cora Taylor, 2017–2023; Vanessa Troiani, 2016–2023; Andrew Michael, 2016–2018

Internal Committee Memberships (Geisinger Health System):

Health System Sciences Department Chair Search Committee: 2022– (Chair)

Implementation and Evaluation Steering Committee: 2021– (Co-chair)

MyCode Participant Provided Information (PPI) Committee: 2017– (Chair)

Lifestyle and Integrative Medicine Advisory Council, Scientific Review Committee: 2019–2021

MyGeisinger Research Committee: 2019–2020 Artificial Intelligence Governance Committee: 2019

Senior Editorial Board member for: Topics in Cognitive Science (2015–2019)

Editorial Board member for: Advances in Methods and Practices in Psychological Science (2017–2021)

Journal guest editor for: Proceedings of the National Academy of Sciences (multiple submissions)

### Journal manuscript reviewer for:

Advances in Methods and Practices in Psychological Science; Applied Cognitive Psychology; Behavior Genetics; Behavioral and Brain Sciences; Behavior Research Methods; Brain and Cognition; Cognitive Science, Current Directions in Psychological Science; Emotion; Human Factors; IEEE Computer; Intelligence; International Journal of Computer Mathematics; Journal of Biosocial Science; Journal of Cognitive Neuroscience; Journal of Experimental Child Psychology; Journal of Economic Behavior and Organization; Journal of Experimental Psychology: Applied; Journal of Experimental Psychology: General; Journal of Experimental Psychology: Human Perception and Performance; Learning and Individual Differences; Music Perception; Neuron; Neuropsychologia; Perspectives on Psychological Science; Philosophical Transactions of the Royal Society; PLOS ONE; Proceedings of the National Academy of Sciences; Psychonomic Bulletin and Review; Psychological Science; Quarterly Journal of Economics; Visual Cognition

Book manuscript/proposal reviewer for: Blackwell Publishers

Conference abstract reviewer for: International Society for Intelligence Research (multiple)

Conference program committee member:

- Collective Intelligence 2014, MIT, Cambridge, MA
- Collective Intelligence 2016, NYU, New York

Science advisory board member for:

- Behavior Change for Good Initiative, University of Pennsylvania (Team Scientist)
- THRIV: Advocating for Accuracy
- Innocence, Guilt, and Science project by New York Hall of Science and The Innocence Project
- "Making Science Less WEIRD" Initiative

# Grant proposal reviewer for:

- National Institutes of Health (Basic Research on Decision Making: Cognitive, Affective, and Developmental Perspectives Study Review Group, 2012)
- National Science Foundation (special reviewer; panel member, multiple panels)
- Smith Richardson Foundation
- International Foundation for Music Research
- National Center for Responsible Gaming

#### Affiliate/Member of:

- Association for Psychological Science (Selected as Fellow, 2019)
- Behavioral Science and Policy Association
- International Computer Games Association
- United States Chess Federation (competitive rank: National Master, achieved 1986)

# **Selected Media Coverage and Other Citations of Research**

Television, film, and radio: NBC Today Show, Fox Business Network, NPR Science Friday, NPR Morning Edition, NPR Weekend Edition, NPR All Things Considered, NPR Talk of the Nation, CBC/PRI As It Happens, CNN, Anderson Cooper 360, Headline News, NBC Nightly News, CBS Evening News, ABC News, CBS Early Show, Dateline NBC, Discovery Channel documentary "The Invisible Gorilla," Fox Family Channel series "Exploring the unknown," Fox News, BBC, ABC 20/20, ABC documentary "The brain game: What's sex got to do with it?", European documentary "Testing Mozart," Showtime series "Penn and Teller: Bullshit!", Austrian Broadcasting Corporation Radio 01, German Public Radio, Israeli National Radio, Swedish TV program Hjärnstorm ("Brainstorm") with Henrik Fexeus, ABC Radio National (Australia) program "All in the Mind," Russian TV, Japanese Public Television (NHK), Seoul Broadcasting System, BBC Horizon (episode: "How You Really Make Decisions," 2/24/14), National Geographic Channel series "Brain Games" (multiple episodes), The Michael Smerconish Program (SiriusXM), The Gil Gross Show (KKSF), The Current (CBC), The Pulse (WHYY), NPR Innovation Hub (2X)

Dramatic films, television series, and stage/theater: CBS drama "CSI" (episode: "And Then There Were None"), TNT drama "Perception" (episode: "Blindness"), USA drama "Fairly Legal" (episode: "What They Seem"), CBS drama "Wisdom of the Crowd" (episode: "User Bias"), Amazon Studios feature film "Gringo," Showcase drama "Endgame" (episode: "Gorillas in Our Midst"), French TV/PBS drama "Astrid" (episode: "The Starling"), short play "Did You See the Gorilla?" by Alan Brody (performed in Boston, May 2008), Broadway stage show "Secret" by Derren Brown (performed in New York, 2019), Penn and Teller on "The Tonight Show Starring Jimmy Fallon" (June 2018)

Magazines and journals: The New Yorker, Newsweek, The Economist, Nature, Science, New England Journal of Medicine, New Scientist, Scientific American, Scientific American Mind, The Atlantic Monthly, Trends in Cognitive Sciences, APA Monitor, mental\_floss, The Lancet, American Motorcyclist, Skunk Dots, Illinois Snowmobiler, LiveMusic, Discover, Men's Fitness, Men's Health, eWeek, Wired, Popular Science, Science News, Chronicle of Higher Education, Management Today, Harvard Business Review, Inc. Magazine, Kinfolk Magazine, MIT Technology Review, Better Homes and Gardens, Bloomberg Business Week, Mother Jones, Times Educational Supplement, Entrepreneur, Reader's Digest

International print media: Toronto Star, National Post (Toronto), Financial Times (London) Independent (London), Daily Telegraph (London), Times (London), Sunday Times (London), The Guardian, Daily Mail, Epoca (Brazil), L'Hebdo (Switzerland), Mainichi Shimbun (Japan), Yediot Achronot (Israel), International Herald Tribune (Paris), Quest (Netherlands), Il Giornale (Italy), I Kathemerini (Greece), Agencia Telam (Argentina), El Cronista Comercial (Argentina), Clarin (Argentina), Chosun Ilbo

- (Korea), BABYLON (Italy), Cerveau & Psycho (France), Le Cercle Psy [listed as one of "Les 25 Grandes Expériences de la Psychologie"] (France), Dagens Nyheter (Sweden)
- Internet coverage: TheAtlantic.com, CondeNast Portfolio.com, MindHacks, Forbes.com, MSNBC.com, Yahoo News, ABCNews.com, Bloomberg.com, Cincinnati.com, Mediapart.fr (France), LeMonde.fr (France), ynet (Israel), Business Insider, Pacific Standard, Minds for Business, RealClearScience, Uproxx, The Dissenter (YouTube), Ripples (YouTube), Marginal Revolution, Literary Hub, Psychology Today
- Podcasts: You Are Not So Smart (3X), Psychology Podcast, New Books Network, The Mental Game, Creative Next, Rationally Speaking, Future of Education, The Social Exchange, Innovation Ecosystem, Perpetual Chess (5X), How to Chess, In Session, Negotiations Ninja, Skeptic Zone, New York Times Book Review, Trend Following, Full Prefrontal, The Error Bar, See Hear Feel, Outside Voices
- Museum and art exhibits (partial list): Exploratorium, San Francisco; Musée de L'Homme, Paris; Sensation Science Center, Dundee, Scotland; American Museum of Natural History, New York ("Our Senses," 2017–2019); "The Invisible Gorilla Test" and other works in the exhibition "Quaint Abstractions" by Butt Johnson (CRG Gallery, New York, 2016); Museum of Old and New Art, Hobart, Tasmania, Australia ("Gorillas in Our Midst," 2019); Wellcome Collection, London ("Smoke and Mirrors: The Psychology of Magic," 2019)

### Fiction (partial list):

The Toll by Neal Shusterman (2019); An Anonymous Girl: A Novel by Greer Hendricks & Sarah Pekkanen (St. Martins, 2019)

### *Nonfiction books* (partial list):

Encyclopedia of Cognitive Science (Nature Publishing Group, 2003); Did You Spot the Gorilla? by Richard Wiseman (Arrow Books, 2004); Mind Hacks by Tom Stafford and Matt Webb (O'Reilly, 2004); The Art of the Start by Guy Kawasaki (Portfolio, 2004); Deep Survival: Who Lives, Who Dies, and Why by Laurence Gonzales (Norton, 2004); Judgment in Managerial Decision Making by Max Bazerman (Wiley, 2005 + later editions); The Owner's Manual for the Brain by Pierce J. Howard (Bard Press, 2006); Se gorillaen! Etikk for arbeidslivet by Øyvind Kvalnes (Universitetsforlaget, Norway, 2006); Empiricism and Experience by Anil Gupta (Oxford University Press, 2006); The Psychology and Law of Criminal Justice Processes by Roger J.R. Levesque (Nova, 2006); Blindsight (science-fiction novel) by Peter Watts (Tor Books, 2006); Elephants on Acid and Other Bizarre Experiments by Alex Boese (Harcourt, 2007); The Genius Engine by Kathleen Stein (Wiley, 2007); Your Money and Your Brain: How the New Science of Neuroeconomics Can Help Make You Rich by Jason Zweig (Simon & Schuster, 2007); Welcome to Your Brain by Sandra Aamodt and Sam Wang (Bloomsbury, 2008); Unleash Your Dreams by Michael E. Silverman (Wiley, 2008); The Mind of the Market by Michael Shermer (Times Books, 2008); Traffic by Tom Vanderbilt (Knopf, 2008); Why We Make Mistakes by Joseph T. Hallinan (Broadway Books, 2009); Rapt: Attention and the Focused Life by Winifred Gallagher (Penguin Press, 2009); The Greatest Show on Earth: The Evidence for Evolution by Richard Dawkins (Free Press, 2009); The Survivors Club: The Secrets and Science that Could Save Your Life by Ben Sherwood (Grand Central, 2009); The Smart Swarm: How Understanding Flocks, Schools, and Colonies Can Make Us Better at Communicating, Decision Making, and Getting Things Done by Peter Miller (Avery, 2010); Thinking, Fast and Slow by Daniel Kahneman (FSG, 2011); The Better Angels of Our Nature: Why Violence Has Declined by Steven Pinker (Viking, 2011); Brain Trust: 93 Top Scientists Reveal Lab-Tested Secrets to Surfing, Dating, Dieting, Gambling, Growing Man-Eating Plants, and More by Garth Sundem (Random House, 2012); Sensation and Perception, 3rd ed. by Jeremy Wolfe et al. (Sinauer, 2012); How Music Works by David Byrne (McSweeney's, 2012); Simpler: The Future of Government by Cass Sunstein (Simon &

Schuster, 2013); Visible Learning and the Science of How We Learn by John Hattie and Gregory Yates (Routledge, 2013); Ungifted: Intelligence Redefined by Scott Barry Kaufman (Basic Books, 2013); How Not To Be Wrong: The Power of Mathematical Thinking by Jordan Ellenberg (Penguin, 2014); The Upside of Down: Why Failing Well is the Key to Success by Megan McArdle (Penguin, 2014); The Power of Noticing: What The Best Leaders See by Max Bazerman (Simon & Schuster, 2014); Wiser: Getting Beyond Groupthink to Make Groups Smarter by Cass Sunstein and Reid Hastie (Harvard Business Review Press, 2015); Smarter Faster Better by Charles Duhigg (Random House, 2016); How Women Decide by Therese Huston (Houghton Mifflin Harcourt, 2016); How to Have a Good Day by Caroline Webb (Crown Business, 2016); Superminds: The Surprising Power of People and Computers Thinking Together by Thomas W. Malone (Little, Brown, 2018); The Choice Factory: 25 Behavioural Biases that Influence What We Buy by Richard Shotton (Harriman House, 2018); How We Learn by Stanislas Dehaene (Viking, 2020); Trustworthy Online Controlled Experiments by Ron Kohavi et al. (Cambridge University Press, 2020); Experimentation Works by Stefan H. Thomke (HBR Press, 2020); Psychology: Why it Matters by Richard Wiseman (Polity Press, 2022); Quit: The Power of Knowing When to Walk Away by Annie Duke (Portfolio/Penguin, 2022); Complicit: How We Enable the Unethical and How to Stop by Max Bazerman (Princeton University Press, 2022); Influence is Your Superpower by Zoe Chance (Random House, 2022); Safety Accidents in Risky Industries: Black Swans, Gray Rhinos and Other Adverse Events by Sasho Andonov (Taylor & Francis, 2022); The Border Between Seeing and Thinking by Ned Block (Oxford University Press, 2023); Psych: The Story of the Human Mind by Paul Bloom (Ecco, 2023)

Introductory psychology textbooks: work cited by 8 out of 8 current textbooks surveyed (November 2017) Chabris & Kosslyn (1998), on hemispheric differences in spatial cognition – cited by one Chabris (1999), on the Mozart Effect – cited by two Simons & Chabris (1999), "Gorillas in Our Midst" – cited by six Hooven, Chabris, et al. (2004), on testosterone and spatial cognition – cited by one Chabris & Simons (2010), The Invisible Gorilla – cited by two Woolley, Chabris, et al. (2010), on collective intelligence – cited by one Chabris et al. (2011), "You Do Not Talk About Fight Club" – cited by one Chabris et al. (2012), on genetics and intelligence – cited by two Chabris & Simons (2012), on "neuromyths" – cited by one

### **Previous Work and Other Experience**

Early jobs (high school & college):

Local newspaper delivery, Armonk, NY

Classroom newspaper delivery, Byram Hills High School (before school day)

Library worker (shelving books and other duties; sub-minimum wage), North Castle Public Library

Computer programmer, CSIBM Inc. (custom business software), White Plains, NY

Retail store clerk, Software City (computer store), Mount Kisco, NY

Organizations and events (college & graduate school):

Harvard Chess Club: Treasurer (1985–1987), President (1987–1988)

Harvard Open chess tournament, chief organizer (~150 players/year, 1986–1988)

Harvard Futurity chess tournament, chief organizer, 1987

World Chess Champion Garry Kasparov visit to Harvard University, co-organizer, 1989

Former World Chess Champion Anatoly Karpov visit to Harvard University, co-organizer, 1990

Harvard Cup Human Versus Computer Chess Challenge, founder & co-organizer, 6 tournaments, 1989–1996

### Chess publications:

Games Editor, Chess Horizons, 1988-1989

Editor in Chief, Chess Horizons, 1989

Founder and Editor in Chief, American Chess Journal, 1992–1995