

**BIOGRAPHICAL SKETCH**

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NAME: Martschenko, Daphne Oluwaseun

eRA COMMONS USER NAME (credential, e.g., agency login): daphemarts

POSITION TITLE: Postdoctoral Fellow

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
Stanford University, Stanford, California	BA	06/2014	Slavic Languages & Literatures
Stanford University, Stanford, California	BA	06/2014	Anthropology (Medical)
University of Cambridge, Cambridge, Cambridgeshire	MPHIL	04/2016	Politics, Development, and Democratic Education
University of Cambridge, Cambridge, Cambridgeshire	PHD	07/2019	Education

**A. Personal Statement**

As genome sequencing continues to grow as a commodity in the postgenomic era, educators, policy makers, health care practitioners, and insurance companies will increasingly have to think about the applications for and interpretations and implications of genomic data. I am a Postdoctoral Research Fellow at the Stanford Center for Biomedical Ethics. I use sociological approaches to investigate the ethical and social implications of social and behavioral genomics and identify policy recommendations to address these issues. I have a strong interest in the implications of social and behavioral genomics for historically disempowered groups (e.g. racially-defined minorities, low-income communities). More specifically, I advocate for and engage in socially-responsible communication of genetics research through ‘adversarial collaborations’— research partnerships between researchers from different, at times opposing, disciplines and viewpoints. I believe collaborations such as this will help move the conversation on the risks, benefits, and ethics of social and behavioral genomics past critique to a more constructive process.

I began my career as a mixed-methods researcher at the nexus of education, sociology, and bioethics. In 2019 I completed a PhD in Education from the University of Cambridge. At Cambridge, and of particular relevance to this proposal, I examined the social implications of behavioral genetics research for public education in the United States. My work explored teacher perspectives on the role and relevance of genetics for education. Studying the implications of behavioral genetics and social science genomics is important because genetics can readily be used to place individuals into different and at times problematic categories: abled or disabled, rich or poor, White or Black. This is more important than ever in the context of education – an institution considered a pathway to social and economic mobility yet plagued by racial and socioeconomic disparities in education outcomes.

My goal is to conduct interdisciplinary empirical research that aids in the socially and ethically-responsible communication of social and behavioral genetics. This aim complements my prior and existing scholarship, including my work as a member of the steering committee for a three-year Hastings Center and Geisinger working group that is funded by the Robert Wood Johnson Foundation, Russell Sage Foundation, and JPB Foundation. This working group brings together diverse experts to explore the risks, benefits, and ethical responsibilities of social and behavioral genomics. In short, my work demonstrates a strong potential to contribute to understandings of how social and public policy, including education policy, might be conceived in the postgenomic era. I believe that more careful analyses can help policy makers, scientific researchers, and the wider public work towards identifying genuinely fruitful responses to problems of inequity, determinism, and discrimination.

Here is a selection of especially relevant publications:

1. **Martschenko D.** "The train has left the station": The arrival of the biosocial sciences in education. *Research in Education*. 2020 March 30; 107(1):3-9.
2. **Martschenko D.** DNA Dreams': Teacher Perspectives on the Role and Relevance of Genetics for Education. *Research in Education*. 2019 August 21; 107(1):33-54.
3. **Martschenko D, Trejo S, Domingue B.** Genetics and Education: Recent Developments in the Context of an Ugly History and an Uncertain Future. *AERA Open*. 2019 February 19; 5(1):1-15.

## **B. Positions and Honors**

### **Positions and Employment**

2019 - 2020     Research Analyst, University of Chicago  
2020 -             Postdoctoral Fellow, Stanford Center for Biomedical Ethics

### **Other Experience and Professional Memberships**

2015 - 2019     Member, American Educational Research Association  
2016 -             Member, American Society for Bioethics and the Humanities  
2016 - 2017     Member, Behavior Genetics Association  
2018 - 2020     Guest Editor, *Research in Education*  
2019 -             Member, British Educational Research Association  
2020 -             Member, American Society for Human Genetics  
2020 -             Facilitator, Responsible Conduct of Research (Med 255), Stanford University  
2020 -             Steering Committee Member, Wrestling with Social and Behavioral Genomics, The Hastings Center & Geisinger

### **Honors**

2011 - 2014     Dean's Award for Academic Excellence, Stanford University  
2012 - 2014     CRCA Scholar Athlete Award, Collegiate Rowing Coaches Association  
2014 - 2014     Donald M. Kennedy Award for Academic and Athletic Excellence, Stanford University  
2014             Phi Beta Kappa, Stanford University  
2014             Postgraduate Scholarship, National Collegiate Athletic Association  
2014 - 2015     Horobin Award, University of Cambridge  
2015             Santander Award for MPhil Distinction, University of Cambridge  
2015 - 2018     Schultz Bursary Award, University of Cambridge  
2017             Bye-Fellowship Finalist, University of Cambridge  
2018             Visiting Scholar, Hastings Center & Yale Interdisciplinary Center for Bioethics

## **C. Contribution to Science**

1. **A major proportion of my work explores the social and ethical issues raised by social and behavioral genomics, with a special focus on public education.** I have conducted several studies and guest edited a special issue entitled "Education, Biosocial Sciences, and the Popular Imagination" in the SAGE journal *Research in Education* that examine the risks and benefits of the biosocial sciences within education. I have also facilitated conversation on this topic with an array of communities. Examples of this include my panel at the 2020 American Society for Bioethics and the Humanities (ASBH) annual meeting entitled "Polygenic Scores and Education – Threats and Possibilities" and my symposium at the 2018 American Educational Research Association (AERA) annual meeting entitled "Dystopian DNA? Public Education, Genetics, and the Popular Imagination."
  - a. **Martschenko D.** "The train has left the station": The arrival of the biosocial sciences in education. *Research in Education*. 2020 March 30; 107(1):3-9.

- b. **Martschenko D.** DNA Dreams': Teacher Perspectives on the Role and Relevance of Genetics for Education. *Research in Education*. 2019 August 21; 107(1):33-54.
- c. **Martschenko D**, Trejo S, Domingue B. Genetics and Education: Recent Developments in the Context of an Ugly History and an Uncertain Future. *AERA Open*. 2019 February 19; 5(1):1-15.
- d. **Martschenko D.O.** The New Borderland: A Mixed-Methods Examination of Teacher Perceptions of Intelligence, Race, and Socioeconomic Status in Relation to Behavior Genetics [Doctoral Thesis]. 2019 July 19.

2. **One of my main contributions to the field of Ethical Legal Social Implications (ELSI) scholarship has been my development and practice of adversarial collaboration.** I have published articles that employ adversarial collaboration with the intention to increase the accessibility and readability of social and behavioral genomics for multiple audiences. I have also spoken in podcasts and conferences on the benefits of such interdisciplinary partnerships, including as an invited speaker to the 2019 University of Wisconsin Social Demography Summer Seminar, and the 2018 Social Science Genetic Association Consortium's (SSGAC) Polygenic Prediction and Its Application in the Social Sciences Conference. I am currently involved in several adversarial collaborations including as a member of the senior leadership team for a working group funded by the Robert Wood Johnson Foundation, Russell Sage Foundation, and JPB Foundation. This working group facilitates robust conversation among diverse experts on the risks, benefits, and ethical responsibilities pertaining to social and behavioral genomics. As a member of the leadership team, my primary responsibility is to build out a community advisory board to work in tandem with the working group. In the long term I hope to assess the utility of adversarial collaborations, focusing specifically on the impacts of this methodological tool for research accessibility, interpretation, and application.

These are examples of publications that employ adversarial collaboration. Note the second citation is a pre-print:

- a. **Martschenko D**, Trejo S, Domingue B. Genetics and Education: Recent Developments in the Context of an Ugly History and an Uncertain Future. *AERA Open*. 2019 February 19; 5(1):1-15.
- b. Kweon H., Burik C. A. P., Linner R. K., Vlaming R. de, Okbay A., **Martschenko D.**, Harden K. P., DiPrete T. A., & Koellinger P. D. Genetic Fortune: Winning or Losing Education, Income, and Health. *Tinbergen Institute Discussion Papers*. 2020 August 27; 1-142

## **D. Additional Information: Research Support and/or Scholastic Performance**

### **Ongoing Research Support**

As a Postdoctoral Research Fellow at the Stanford Center for Biomedical Ethics, I am supported by grant T32HG008953 (The Stanford Training Program in ELSI Research).