

Aysu Okbay
Research Associate
Economics
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Personal information

Aysu Okbay is assistant professor at the department of Economics at the Vrije Universiteit.

Qualifications

Economics, PhD, Erasmus Universiteit
1 Aug 2012 → 1 Aug 2016
Award Date: 9 Feb 2017

Economics, Master, Sabanci University, Istanbul
2010 → 2012
Award Date: 20 Jul 2012

Economics, Bachelor, Sabanci University, Istanbul
2006 → 2010

Employment

Assistant Professor

Economics
Vrije Universiteit Amsterdam
1 Apr 2020 → present

Fellow

Tinbergen Institute
Vrije Universiteit Amsterdam
Amsterdam, Netherlands
1 Jul 2020 → present

Assistant Professor

Amsterdam Neuroscience - Complex Trait Genetics
Vrije Universiteit Amsterdam
1 Apr 2020 → present

Research output

Genetic Fortune: Winning or Losing Education, Income, and Health

Kweon, H., Burik, C., Karlsson Linnér, R., de Vlaming, R., Okbay, A., Martschenko, D., Harden, K. P., DiPrete, T. A. & Koellinger, P., 27 Aug 2020, V ed., Tinbergen Institute, (TI Discussion Paper Series; vol. 20-053/V).

Educational attainment polygenic scores are associated with cortical total surface area and regions important for language and memory

Mitchell, B. L., Cuéllar-Partida, G., Grasby, K. L., Campos, A. I., Strike, L. T., Hwang, L. D., Okbay, A., Thompson, P. M., Medland, S. E., Martin, N. G., Wright, M. J. & Rentería, M. E., 15 May 2020, In: NeuroImage. 212, p. 1-13 13 p., 116691.

Genomic analysis of diet composition finds novel loci and associations with health and lifestyle

23Andme Research Team, EPIC-InterAct Consortium & LifeLines Cohort Study, 11 May 2020, In: Molecular Psychiatry.

Disentangling polygenic associations between attention-deficit/hyperactivity disorder, educational attainment, literacy and language

iPSYCH-Broad-PGC ADHD Consortium, 1 Dec 2019, In: *Translational Psychiatry*. 9, 1, 35.

Author Correction: Multi-trait analysis of genome-wide association summary statistics using MTAG

23Andme Research Team & Social Science Genetic Association Consortium, Aug 2019, In: *Nature Genetics*. 51, 8, p. 1295-1295 1 p.

Genetics and causality in the educational attainment–coronary artery disease relationship

Okbay, A., 1 Jul 2019, In: *European Heart Journal*. ehz457

Genome-wide association analyses of risk tolerance and risky behaviors in over 1 million individuals identify hundreds of loci and shared genetic influences

Social Science Genetic Association Consortium, 23and Me Research Team, eQTLGen Consortium & International Cannabis Consortium, 1 Feb 2019, In: *Nature Genetics*. 51, 2, p. 245-257 13 p.

Social Competence in Parents Increases Children's Educational Attainment: Replicable Genetically-Mediated Effects of Parenting Revealed by Non-Transmitted DNA

Bates, T. C., Maher, B. S., Colodro-Conde, L., Medland, S. E., McAloney, K., Wright, M. J., Hansell, N. K., Okbay, A., Kendler, K. S., Martin, N. G. & Gillespie, N. A., 1 Feb 2019, In: *Twin Research and Human Genetics*. 22, 1, p. 70-74 5 p.

Publisher Correction: Multi-trait analysis of genome-wide association summary statistics using MTAG (Nature Genetics, (2018), 50, 2, (229-237), 10.1038/s41588-017-0009-4)

23Andme Research Team & Social Science Genetic Association Consortium, 2019, In: *Nature Genetics*. 51, 7, p. 1190

Genome-wide association study results for educational attainment aid in identifying genetic heterogeneity of schizophrenia

Bansal, V., Mitjans, M., Burik, C. A. P., Linnér, R. K., Okbay, A., Rietveld, C. A., Begemann, M., Bonn, S., Ripke, S., de Vlaming, R., Nivard, M. G., Ehrenreich, H. & Koellinger, P. D., 6 Aug 2018, In: *Nature Communications*. 9, 1, p. 1-12 12 p., 3078.

Gene discovery and polygenic prediction from a genome-wide association study of educational attainment in 1.1 million individuals

23Andme Research Team, Abdellaoui, A., Peyrot, W. J., Hottenga, J. J., Vinkhuyzen, A. A. E., Willemsen, G., Boomsma, D. I., van Duijn, C. M., Penninx, B., Posthuma, D. & Uitterlinden, A. G., Aug 2018, In: *Nature Genetics*. 50, 8, p. 1112-1121 10 p.

Multi-trait analysis of genome-wide association summary statistics using MTAG

Turley, P., Walters, R. K., Maghzian, O., Okbay, A., Lee, J. J., Fontana, M. A., Nguyen-Viet, T. A., Wedow, R., Zacher, M., Furlotte, N. A., Magnusson, P., Oskarsson, S., Johannesson, M., Visscher, P. M., Laibson, D., Cesarini, D., Neale, B. M., Benjamin, D. J., Agee, M., Alipanahi, B. & 25 others, Auton, A., Bell, R. K., Bryc, K., Elson, S. L., Fontanillas, P., Furlotte, N. A., Hinds, D. A., Hromatka, B. S., Huber, K. E., Kleinman, A., Litterman, N. K., McIntyre, M. H., Mountain, J. L., Northover, C. A. M., Sathirapongsasuti, J. F., Sazonova, O. V., Shelton, J. F., Shringarpure, S., Tian, C., Tung, J. Y., Vacic, V., Wilson, C. H., Pitts, S. J., 23Andme Research Team & Social Science Genetic Association Consortium, 2018, In: *Nature Genetics*. 50, 2, p. 229–237

Genetic heterogeneity in depressive symptoms following the death of a spouse: Polygenic score analysis of the U.S. Health and retirement study

Domingue, B. W., Liu, H., Okbay, A. & Belsky, D. W., 1 Oct 2017, In: *American Journal of Psychiatry*. 174, 10, p. 963-970 8 p.

Erratum: Genome-wide association meta-analysis of 78,308 individuals identifies new loci and genes influencing human intelligence

Sniekers, S., Stringer, S., Watanabe, K., Jansen, P. R., Coleman, J. R. I., Krapohl, E., Taskesen, E., Hammerschlag, A. R., Okbay, A., Zabaneh, D., Amin, N., Breen, G., Cesarini, D., Chabris, C. F., Iacono, W. G., Ikram, M. A., Johannesson, M., Koellinger, P., Lee, J. J., Magnusson, P. K. E. & 10 others, McGue, M., Miller, M. B., Ollier, W. E. R., Payton, A., Pendleton, N., Plomin, R., Rietveld, C. A., Tiemeier, H., van Duijn, C. M. & Posthuma, D., 27 Sep 2017, In: *Nature Genetics*. 49, 10, p. 1558

Polygenic transmission disequilibrium confirms that common and rare variation act additively to create risk for autism spectrum disorders

Weiner, D. J., Wigdor, E. M., Ripke, S., Walters, R. K., Kosmicki, J. A., Grove, J., Samocha, K. E., Goldstein, J. I., Okbay, A., Bybjerg-Grauholm, J., Werge, T., Hougaard, D. M., Taylor, J., Skuse, D., Devlin, B., Anney, R., Sanders, S. J., Bishop, S., Mortensen, P. B., Børglum, A. D. & 32 others, Smith, G. D., Daly, M. J., Robinson, E. B., Bækvad-Hansen, M., Dumont, A., Hansen, C., Hansen, T. F., Howrigan, D., Mattheisen, M., Moran, J., Mors, O., Nordentoft, M., Nørgaard-Pedersen, B., Poterba, T., Poulsen, J., Stevens, C., Anttila, V., Holmans, P., Huang, H., Klei, L., Lee, P. H., Medland, S. E., Neale, B., Weiss, L. A., Zwaigenbaum, L., Yu, T. W., Wittmeyer, K., Willsey, A. J., Wijsman, E. M., Wassink, T. H., Psychiatric Genomics Consortium Autism Group & iPSYCH-Broad Autism Group, 1 Jul 2017, In: Nature Genetics. 49, 7, p. 978-985 8 p.

Genome-wide association meta-analysis of 78,308 individuals identifies new loci and genes influencing human intelligence

Sniekers, S., Stringer, S., Watanabe, K., Jansen, P. R., Coleman, J. R. I., Krapohl, E., Taskesen, E., Hammerschlag, A. R., Okbay, A., Zabaneh, D., Amin, N., Breen, G., Cesarini, D., Chabris, C. F., Iacono, W. G., Ikram, M. A., Johannesson, M., Koellinger, P., Lee, J. J., Magnusson, P. K. E. & 10 others, McGue, M., Miller, M. B., Ollier, W. E. R., Payton, A., Pendleton, N., Plomin, R., Rietveld, C. A., Tiemeier, H., van Duijn, C. M. & Posthuma, D., Jul 2017, In: Nature Genetics. 49, 7, p. 1107-1112 6 p.

Selection against variants in the genome associated with educational attainment

Kong, A., Frigge, M. L., Thorleifsson, G., Stefansson, H., Young, A. I., Zink, F., Jonsdottir, G. A., Okbay, A., Sulem, P., Masson, G., Gudbjartsson, D. F., Helgason, A., Bjornsdottir, G., Thorsteinsdottir, U. & Stefansson, K., 31 Jan 2017, In: Proceedings of the National Academy of Sciences of the United States of America. 114, 5, p. E727-E732

Meta-GWAS Accuracy and Power (MetaGAP) Calculator Shows that Hiding Heritability Is Partially Due to Imperfect Genetic Correlations across Studies

de Vlaming, R., Okbay, A., Rietveld, C. A., Johannesson, M., Magnusson, P. K. E., Uitterlinden, A. G., van Rooij, F. J. A., Hofman, A., Groenen, P. J. F., Thurik, A. R. & Koellinger, P. D., 17 Jan 2017, In: PLoS Genetics. 13, 1, e1006495.

Education and coronary heart disease: Mendelian randomisation study

Tillmann, T., Vaucher, J., Okbay, A., Pikhart, H., Peasey, A., Kubinova, R., Pajak, A., Tamosiunas, A., Malyutina, S., Hartwig, F. P., Fischer, K., Veronesi, G., Palmer, T., Bowden, J., Davey Smith, G., Bobak, M. & Holmes, M. V., 2017, In: BMJ (Online). 358, j3542.

Novel genetic loci for neuroticism and depression identified using subjective well-being as a proxy-phenotype

Okbay, A., Baselmans, B. M. L., De Neve, J. E., Turley, P., Nivard, M. G., Fontana, M., Meddens, F., Linner, R. K., Rietveld, C., Krueger, B., Beauchamp, J., Koellinger, P., Benjamin, D., Bartels, M. & Cesarini, D., Nov 2016, In: Behavior Genetics. 46, 6, p. 791-791

Genetic variants associated with subjective well-being, depressive symptoms, and neuroticism identified through genome-wide analyses.

Okbay, A., Baselmans, B. M. L., de Neve, J. E., Turley, P., Nivard, M. G., Fontana, M. A., Meddens, S. F. W., Karlsson Linnér, R., Rietveld, C. A., Derringer, J., de Vlaming, R., Minica, C. C., Hottenga, J. J., Vinkhuyzen, A. A. E., Boomsma, D. I., de Geus, E. J. C., Medland, S. E., Meyer, M. N., Pickrell, J. K., Esko, T. & 6 others, Krueger, R. F., Beauchamp, J., Koellinger, P. D., Benjamin, D. J., Bartels, M. & Cesarini, D., 2016, In: Nature Genetics. 48, 6, p. 624-633

Genetic variants linked to education predict longevity.

Marioni, R. E., Ritchie, S. J., Joshi, P. K., Hagenaars, S. P., Okbay, A., Fischer, K., Adams, M. J., Hill, W. D., Davies, G., Abdellaoui, A., Hottenga, J. J., Willemsen, G., Boomsma, D. I., Nagy, R., Amador, C., Läll, K., Metspalu, A., Liewald, D. C., Campbell, A., Wilson, J. F. & 6 others, Hayward, C., Esko, T., Porteous, D. J., Gale, C. R., Deary, I. J. & de Vlaming, R., 2016, In: Proceedings of the National Academy of Sciences of the United States of America. 113, p. 13366-13371 47.

Genome-wide association study identifies 74 loci associated with educational attainment

Okbay, A., Beauchamp, J., Fontana, M. A., Lee, J. J., Pers, T. H., Rietveld, C. A., Turley, P., Chen, G. B., Emilsson, V., Meddens, S. F. W., de Vlaming, R., Abdellaoui, A., Peyrot, W., Vinkhuyzen, A. A. E., Hottenga, J. J., Willemsen, G., Boomsma, D. I., Penninx, B. W. J. H., Laibson, D., Medland, S. E. & 8 others, Meyer, M. N., Yang, J., Johannesson, M., Visscher, P. M., Esko, T., Koellinger, P. D., Cesarini, D. & Benjamin, D. J., 2016, In: Nature. 533, 7604, p. 539-542

Molecular Genetic Contributions to Social Deprivation and Household Income in UK Biobank.

Hill, W. D., Hagenaars, S. P., Marioni, R. E., Harris, S. E., Liewald, D. C., Davies, G., Okbay, A., McIntosh, A. M., Gale, C. R. & Deary, I. J., 2016, In: Current Biology. 26, p. 3083-3089 22.

On improving the credibility of candidate gene studies: A review of candidate gene studies published in Emotion

Okbay, A. & Rietveld, C. A., 1 Aug 2015, In: Emotion. 15, 4, p. 531-537 7 p.

Teaching

2017	Big Data Management and Analysis in UNIX, VU Amsterdam Summer School
2017	Guest lecturer, RSF Summer Institute in Social-Science Genomics.
2017, 2016	Guest lecturer, Genome-wide Data Analysis Summer School, Tinbergen Inst
2016, 2014	Seminar Small Business and Entrepreneurship, Erasmus University Rotterdam
2014, 2013	Seminar in Innovation and Entrepreneurship, Erasmus University Rotterdam

PhD students

2016 - present Casper Burik

Invited talks

1. "Educational Attainment GWAS - Phase 3"
"Education in our genes?" Workshop, 2017, Edinburgh.
2. "Educational Attainment GWAS - Phase 3".
Seminar at University of Bristol - MRC Integrative Epidemiology Unit, 2017, Bristol.
3. "Practical Considerations in Constructing Polygenic Scores."
Polygenic Prediction and its Application in Social Science Conference, 2017, Los Angeles.
4. "Discussion: Predicting Behavioral Traits from Genomic Data."
HCEO Conference on Genetics and Social Science, 2016, Los Angeles.
5. "The Genetic Architecture of Subjective Well-being."
Erasmus Happiness Economics Research Organisation (EHERO) Seminar, 2016, Rotterdam.

Conference presentations

1. Behavior Genetics Association Meeting, 28 June - 1 July 2017, Oslo, Norway.
2. Integrating Genetics and Social Sciences Conference, 20-21 October 2016, Boulder, USA.
3. Behavior Genetics Association Meeting, 21-23 June 2016, Brisbane, Australia.
4. Social Science Genetic Association Consortium Working Group Meeting, 2015 CHARGE Investigator Meeting, 1 July 2015, Jackson, USA.
5. Behavior Genetics Association Meeting, 17-20 June 2015, San Diego, USA.
6. Social Science Genetic Association Consortium Working Group Meeting, 2014 CHARGE Investigator Meeting, 13 November 2014, Washington DC, USA.
7. 2nd SSGAC Internal Workshop, 14-16 August 2014, Bro, Sweden.
8. OSE Seminar, 21 May 2014, Erasmus School of Economics, Rotterdam, Netherlands.
9. Social Science Genetic Association Consortium Working Group Meeting in 2014 CHARGE Investigator Meeting, 23 January 2014, Los Angeles, USA.
10. 1st SSGAC Internal Workshop, 18-22 August 2013, Osmo, Sweden.