

# Dr Gabriele Chierchia

Email: [gabriele.chierchia@unipv.it](mailto:gabriele.chierchia@unipv.it)

## ACADEMIC POSITIONS

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- 1/2023 – present     Assistant Professor  
Department of Psychology  
University of Pavia, Italy
- 10/2020 – 12/2022     Teaching Associate and Research Associate  
Department of Psychology  
University of Cambridge, Cambridge, United Kingdom  
Funded by the Jacobs Foundation, from 04/2021 also by the University of Cambridge (0.5)
- 02/2018 – 09/2020     Research associate  
Institute for Cognitive Neuroscience  
University College London, London, United Kingdom  
Funded by the Jacobs Foundation  
PI: Prof. Sarah-Jayne Blakemore
- 03/2014 – 11/2017     Postdoctoral researcher  
Department of Social Neuroscience  
Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig,  
Germany  
Funded by the Institute for New Economic Thinking  
PI: Prof. Tania Singer

## EDUCATION

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- 2009 - 2013     PhD in Cognitive Neuroscience, University of Trento, Center for Mind and Brain Science, Rovereto, Italy. Supervision: Prof. Giorgio Coricelli
- 2006 - 2009     MA in Cognitive Neuroscience, San Raffaele University, Milan, Italy. Supervision: Prof. Stefano Cappa
- 2001 - 2006     BA in Philosophy, Milan State University, Milan, Italy

## PUBLICATIONS

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1. Scheuplein, M., **Chierchia, G.**, Ahmed, S., Foulkes, L., Griffin, C., Blakemore, S.J. (2023). The relationship between self-referential processing and perspective taking in adolescents and adults. *Cognitive Development*
2. Towner, E.\*, **Chierchia, G.\***, Blakemore, S.J. (2023). Affective and social learning in adolescence. Invited review for *Trends in Cognitive Sciences*. \*Equal contribution.
3. Zorowitz, S., **Chierchia, G.**, Blakemore, S.J., Daw, N. (2023). An item response theory analysis of the Matrix Reasoning Item Bank. *Behavior research methods*.
4. Moffett, B. D., Pozuelo, J. R., van Heerden, A., O'Mahen, H. A., Craske, M., Sodi, T., Lund, C., Orkin, K., Kilford, E.J., Blakemore, S.J., Mahmud, M., Musenge, E., Davis, M., Makhany, Z., Baloyi, T.,

Mahlangu, D., **Chierchia, G.**, Fielmann, S., Gómez-Olivé, F.X., Valodia, I., Tollman, S., Kahn, K., Stein, A. (2022). Digital delivery of behavioural activation therapy to overcome depression and facilitate social and economic transitions of adolescents in South Africa (the DoBAT study): protocol for a pilot randomised controlled trial. *BMJ open*

5. **Chierchia, G.**, Soukupová, M., Kilford, E. J., Griffin, C., Leung, J., Palminteri, S., & Blakemore, S. J. (2022). Confirmatory reinforcement learning changes with age during adolescence. *Developmental Science*.
6. Payne, M.E., **Chierchia, G.**, Blakemore, S.J. The impact of negative valence on self-referential processing in adolescence (2022). *Cognitive Development*.
7. **Chierchia, G.**, Parianen Leseman, F., Snower, D., Singer, T. Cooperation across multiple game-theoretical paradigms is increased by fear more than anger in selfish individuals (2021). *Nature Scientific Reports*, 11(1), 1-11.
8. **Chierchia, G.**, Przyembel, M., Parianen Leseman, F., Snower, D., Singer, T (2021). Navigating Motivation: A Semantic and Subjective Atlas of 7 Motives. *Frontiers in Psychology | Emotion Science*
9. **Chierchia, G.**, Piera Pi-Sunyer, B., Blakemore, S.J. (2020). Prosocial influence and opportunistic conformity in adolescents and young adults. *Psychological Science*, 31 (12), 1-17.
10. **Chierchia, G.**, Tufano, F., Coricelli, G. (2020). Friends or strangers? Strategic Uncertainty and Cooperation across Experimental Games of Strategic Complements and Substitutes. *Theory and Decision*, 1-30.
11. **Chierchia, G.**, Fuhrmann, D., Knoll, L. J., Piera Pi-Sunyer, B., Sakhardande, A.L., Blakemore, S.J. (2019). The Matrix Reasoning Item Bank (MaRs-IB): Novel, open-access abstract reasoning items for adolescents and adults. *Royal Society Open Science*, 6(10), 190232.
12. Bartke, S., Bosworth, S., Snower, D., **Chierchia, G.** (2019). Motives and comprehension in a public goods game with induced emotions. *Theory and Decision*, 86(2), 205–238.
13. **Chierchia, G.**, Nagel, R., Coricelli, G. (2018). “Betting on nature” or “betting on others”: anti-coordination induces uniquely high levels of entropy. *Nature Scientific Reports*, 8(1), 3514.
14. **Chierchia, G.**, Parianen Leseman, F., Snower, D., Vogel, M., Singer, T. (2017). Caring cooperators and powerful punishers: the differential effects of induced care and power motivation on economic decision making. *Nature Scientific Reports*, 7(1), 11068.
15. **Chierchia, G.**, Coricelli, G. (2015). The impact of perceived interpersonal similarity on coordination: propensity for matching and aversion to decoupling choices. *Frontiers in Behavioral Neuroscience*, 9, 202.
16. Fouragnan, E., **Chierchia, G.**, Greiner, S., Neveu, R., Avesani, P., Coricelli, G. (2013). Reputational priors magnify striatal responses to violations of trust. *Journal of Neuroscience*, 33(8), 3602-3611.

17. Canessa N., Crespi C., Motterlini M., Bovy G., **Chierchia G.**, Pantaleo G., Tettamanti M., Cappa S. (2013). Distinct neural correlates for the processing of magnitude, probability and uncertainty of potential monetary gains and losses. *Journal of Neuroscience*, 33(36), 14307–14317.
18. Cerami, C., Dodich, A., Canessa, N., Crespi, C., Marcone, A., Cortese, F., **Chierchia, G.**, Scola, E., Falini, A., Cappa, S. (2011). Behavioral and neuro-structural markers of early empathic impairment in the behavioral variant of frontotemporal dementia. *Alzheimer's and Dementia*, 10(6), 827–834.
19. Cerami, C., Dodich, A., Cortese, F., Canessa, N., Marcone, A., Consonni, M., **Chierchia, G.**, Lunetta, C. Corbo, M., Iannaccone, S., Cappa, S. F. (2011). Early Impairment of emotional processing and empathy In amyotrophic lateral sclerosis: revising the concept of cognitive impairment in ALS. *European Journal of Neurology*, 18, 220.

#### UNDER REVISION/IN PREPARATION

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Florkin, A., Stagnitto, S.M., Rosi A., Van Vugt, F.T., **Chierchia, G.**, Lecce, S., Cavallini, E. Spontaneous perspective-taking: age- and cultural-related differences. Under review.

Rosi, A., Iannello, P., **Chierchia, G.**, Colautti, L., Antonietti, A., Hertzog, C., Cavallini, E. What do young, middle-aged, and older adults think about their and others' decision-making ability? Under review.

**Chierchia, G.**, Piera Pi-Sunyer, B., Blakemore, S.J. Collective risk taking in adolescence and young adults. In preparation.

**Chierchia, G.**, Bault., N., Nebl, H., Coricelli, G. Social preferences or social inferences? Dissociable neural mechanisms mediate the impact of social distance on tacit coordination. In preparation.

Stagnitto, S., **Chierchia, G.**, Van Vugt, F.T., Lecce, S. Do You See What I See (DYSWIS)? Understanding Individual Differences in Spontaneous Visuo-Spatial Perspective-Taking. In preparation.

**Chierchia G.**, Pozuelo, J., Orkin, K., Kilford, E., Fielmann, Moffett, B., Tollmann, S., S., Kahn, K., Stein. A. Blakemore S.J., The Balloon Analogue Risk Task in South Africa and Uganda. In preparation.

Stagnitto, S., Kurtisi, E., Lecce, S. **Chierchia, G.** Increasingly coordinated: propensity for cooperation and aversion to competition develop during adolescence

#### BOOK CHAPTERS

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**Chierchia, G.** & Singer, T. (2017). The neuroscience of compassion and empathy and their link to prosocial motivation and behavior. In *Decision Neuroscience*, 247-257. Academic Press.

**Chierchia, G.** & Polonio, L. (2017). Il comportamento strategico ed i suoi limiti [Strategic behavior and its limits]. In Coricelli, G., Martelli, D. ed. Neurofinanza. Le basi neurali delle scelte finanziarie [Neurofinance. *The neural bases of financial decisions*]. Egea.

Coricelli, G. & **Chierchia, G.** (2017). L'effetto delle emozioni nelle scelte finanziarie [The impact of emotions on financial decisions]. In Coricelli, G., Martelli, D. ed. Neurofinanza. Le basi neurali delle scelte finanziarie [Neurofinance. *The neural bases of financial decisions*]. Egea.

Chierchia, G. & Coricelli, G. (2011). The neuroeconomics of cognitive control. R., Mars, J., Sallet, M., Rushworth, N. Yeung,(Eds.). In *Neural basis of motivational and cognitive control*, 393-408. MIT Press.

## INVITED TALKS AND CONFERENCES

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- 2024 Blakemore Alumni Workshop. University of Cambridge, Cambridge, United Kingdom
- 2023 The impact of social distance on tacit coordination. University of Amsterdam, Amsterdam, Netherland
- 2020 All about cognitive and working with teenagers. Behavioral Science Online Symposium (<https://www.youtube.com/watch?v=PFxmhMeED1E>). Online symposium.
- 2019 Prosocial influence and opportunistic conformity in adolescents and young adults. University of Cambridge, Cambridge, United Kingdom.
- 2018 The role of social distance in tacit coordination. Institute of Cognitive Neuroscience, University College London, London, United Kingdom
- 2017 The impact of social distance on coordination. Max Planck for Evolutionary Anthropology. Leipzig, Germany.
- 2017 The cognitive and motivational bases of social decision making. Plenary talk. "Microfoundations of expectations" workshop. Max Planck for Mathematics. Leipzig, Germany.
- 2017 The impact of induced care and power motivation on economic decisions: cooperation, punishment and inter-group biases. Social psychology colloquium, University of Leipzig. Leipzig, Germany.
- 2016 Two roads to social cohesion: propensity for cooperation and aversion to competition. CiMeC Colloquium, University of Trento, Trento, Italy.
- 2015 Neuro-cognitive mechanisms underlying the impact of social closeness on tacit coordination. "Social and biological roots of cooperation and risk taking". Kiel Institute for the World Economy. Kiel, Germany.
- 2013 Dissociable Neural Mechanisms Mediate the Impact of Social Distance on Cooperation. Annual Conference of the Society for Neuroeconomics. Lausanne, Switzerland.
- 2012 "Who are you?" The Role of Identity on Coordination. Annual Conference of the Society for Neuroeconomics. Miami, USA.

## METHODS

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Programming > 11 years of coding experience in R  
Other: Matlab/SPM8-12  
Computerized testing: Gorilla/JavaScript, Psychtoolbox, Cogent, Qualtrics, Ztree, Presentation

Statistics Multiple regression with generalized linear and non-linear mixed/hierarchical models, Anova, model selection/diagnostics. Multivariate statistics: cluster analysis, principle component analysis, exploratory and confirmatory factor analysis, structural equation modelling. Psychometrics: differential item functioning, response processes analysis, parallel forms reliability, internal consistency. Computational modelling, machine learning and econometrics

I was a statistics consultant for the Department of Psychology at the University of Cambridge

MRI data GLM analysis  
ROI analysis  
Psychophysiological interaction (PPI)

## TEACHING

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- 2023-present *Assistant professor in developmental psychology and research methods at the University of Pavia (Italy)*. I convene two 36-hour courses for the international master's degree program in Psychology, Neuroscience and Human Sciences (<https://psychology.cdl.unipv.it/en>).
- 2021-2022 *Teaching associate in research methods and data analyses at University of Cambridge*. I designed and convened a course for 2<sup>nd</sup> year natural science and psychology students. The course involved an introduction to data analyses techniques, including null-hypothesis testing, bootstrapping and Bayesian methods, focussing on practical activities using R.
- June 2022 *Lecturer for the Pre-University Summer Program, University of Cambridge*. I developed and convened 5 2-hour lectures for an in-person course on the psychology and neuroscience of decision making.
- July 2021 *Lecturer for the Pre-University Summer Program, University of Cambridge*. I developed and convened a course on the psychology and neuroscience of decision making. This involved designing a new syllabus, recording lectures, preparing for work activities in groups and Q&A sessions in the University of Cambridge virtual learning environment (similar to Moodle).
- 2021-2022 *Teaching assistant for the MPhil in Basic and Translational Neuroscience Program, University of Cambridge*. I conducted journal clubs and learning activities on the translational implications of cognitive neuroscience research.
- 2020-2022 *I supervised 1<sup>st</sup> and 2<sup>nd</sup> year PBS/NST students in Experimental Psychology (PBS1 and PBS4) at the University of Cambridge*. This involved teaching topics in experimental psychology, developing questions for written essays, and providing feedback to students on a weekly basis.
- 2020-2022 *I led research projects for 3<sup>rd</sup> year BSc psychology students at the University of Cambridge*. This involved individuating or developing viable research themes for online/in-lab testing, training students in statistics (in R), and teaching on how to write experimental research on a weekly basis.

- June 2020 *Lecturer for Virtual Summer Festival of Learning, University of Cambridge.*  
I developed a lecture series on the psychology and neuroscience of decision making. This involved developing a syllabus for a two-week course consisting of recorded lectures, planned work activities, and Q&A sessions, all in the University of Cambridge virtual learning environment.
- March 2020 *Lecturer for the Introduction to Psychology course (PSYC0039), at University College London.* I lectured to a class of approximately 150 students on the psychology and neuroscience of emotions. This involved extending teaching material to more recent neuroscientific and computational approaches and contributing to the assessment questions.
- March 2015 *Lecturer for the International Max Planck Research School, Max Planck Institute for Human Cognitive and Brain Science.* I lectured a class of approximately 40 graduate students on the psychology and game theory of decision making. To do so, I developed new course material, essay questions and software allowing students to engage in collective decision problems during the lecture.
- July 2013 *Teaching assistant for the Harvard Summer School.* I lectured on the “Neuroeconomics of decision making” to a class of approximately 40 undergraduate students from Harvard University at the University of Trento (lectures took place at the University of Trento). I adapted and extended a course I had co-developed in the previous year (see below).
- July 2012 *Teaching assistant for the Harvard Summer School.* I co-developed and convened new syllabus on the neuroeconomics of decision making. I also designed and ran the practical/laboratory component of the course. This involved developing computerised tests for students to take part in, both participants and experimenters. I then provided introductory statistical training in R to allow students to analyze their data and guided them through the writing of a research paper. I also prepared and graded assessments
- October 2010 *Teaching assistant for Prof. M. Gorno-Tempini, University of Trento.* I lectured MSc students of the Cognitive Science at the University of Trento on the psychological and neural bases of decision making. This involved contributing to the development of the framework and structure of the module/course

#### **OUTREACH ACTIVITIES**

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- April 2024 The psychologist’s role in decision making. Orienta. University of Pavia.
- April 2023 The psychologist’s role in decision making. Orienta. University of Pavia.
- October 2022 Interview from TES magazine on confirmation bias in adolescent and adult learning.

March 2021	Psychology Subject Masterclass for the University of Cambridge. These are subject-specific events that offer high-achieving students in Year 12 the chance to experience typical undergraduate teaching at the University of Cambridge
December 2021	Psychology Subject Masterclass for the University of Cambridge
June 2021	Psychology outreach for the Project Politics program at the London Academy of Excellence Tottenham
January 2019	Interview from the New Scientist on adolescent risk taking
March 2019	Consulted with Sarah Gavron for her movie on adolescence ('Rocks')
June 2018	Collaborated with Rebecca Ivatts to develop a series of paintings on the adolescent brain
2017 –2018	Collaborated with finance professionals to develop an inter-disciplinary book on "NeuroFinance" (contributed two chapters)

#### **EDITORIAL ACTIVITY**

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Ad hoc reviewer	Nature Human Behavior, PLoS Biology, Behavior Research Methods, Organizational Behavior and Human Decision Processes, Frontiers in Psychology, Judgment and Decision Making, Nature Scientific Reports, Biological Psychiatry, Cognitive Science, Plos Computational Biology, Proceedings B
Editorial board	Frontiers in Psychology

#### **SUPERVISION**

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I have supervised 28 students at different levels of academia (BSc/BA, MSc/MRes and Ph. D) in Italy (University of Pavia, University of Trento), Germany (Max Planck Institute for Human Cognitive and Brain Science), the United States (University of Southern California) and the United Kingdom (University College London, University of Cambridge).

#### **LANGUAGES**

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Italian (native), English (native), Spanish (advanced), French (intermediate)