Ili Ma

Department of Psychology, New York University

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ACADEMIC POSITIONS

Sept 2018 – current
Postdoctoral Fellow
New York University
Advisor: Dr. Todd Gureckis

July 2016 – Sept 2018
Postdoctoral researcher
Donders Centre for Cognitive Neuroimaging, Radboud University
Advisor: Prof. Alan Sanfey

Sept 2015 - July 2016
Research scientist
Behavioral Science Institute, Radboud University and Free University Amsterdam
Advisor: Prof. Antonius H.N. Cillessen, Prof. Pol A.C. van Lier

Jan 2008 - Aug 2009
Research assistant
Department of Psychopharmacology, Maastricht University
Advisor: Dr. Anke Sambeth

EDUCATION

June 2016
(defended Jan 2017)
Ph.D. Clinical Developmental Psychology
Thesis: The interplay between motivation and inhibition in ADHD
Radboud University, the Netherlands
Advisors: Dr. Anouk Scheres, Dr. Gabry W. Mies, Prof. Antonius H.N. Cillessen

July 2010
Masters of Science in Neuropsychology
Maastricht University, the Netherlands

July 2010
Research Intern in Psychopharmacology & Neuroimaging
Maastricht University, the Netherlands
Advisor: Dr. Lisbeth Evers

July 2009   **Bachelor of Science in Biological psychology**
Maastricht University, the Netherlands

RESEARCH INTERESTS

I am broadly interested in the computational and neurobiological mechanisms underlying social decision making, especially applied to cognitive development, and psychiatric disorders. I use neuroimaging and computational modelling of behavior to acquire a mechanistic understanding of these topics. I am currently specifically interested in uncertainty and Bayesian computational modelling of active social information gathering strategies and complex decision-making.

TEACHING

- Master thesis & internship supervision for Research Master 'Cognitive & Clinical Neuroscience'
- Master thesis & research internship supervision for Master track 'Mental health psychology'
- Bachelor theses & research internship supervision
- Thesis & research internship biomedical sciences minor
- Teaching assistant for General Introduction to Psychology I Social psychology
- Teaching assistant for General Introduction to Psychology II Brain and psychology
- Practical: introduction to the brain
- Guest lecturer Tilburg University: The neurobiology of memory, reinforcement, and addiction

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AWARDS

2019   New York University Arts & Science travel award ($700)

2018   Rubicon Fellowship (134.764 euro), Netherlands Organization for Scientific Research (NWO). Full funding for a 2-year postdoctoral fellowship at New

York University. Title: Active social learning and decision making: A Bayesian computational modelling approach

2013   EUNETHYDIS International Conference on ADHD Best poster award

2010   3rd International congress on ADHD Best poster award

PUBLICATIONS

Published

- **Ma, I.**, Sanfey, A. G., & Ma, W. J. The Social Cost of Information Gathering for Trust Decisions. *Nature Scientific Reports* (in press).
- Asscheman, J. S., Koot, S., **Ma, I.**, Buil, J. M., Krabbendam, L., Cillessen, A. H., & van Lier, P. A. (2019). Heightened neural sensitivity to social exclusion in boys with a history of low peer preference during primary school. *Developmental Cognitive Neuroscience*, 100673.
- Huijsmans, I., **Ma, I.**, Micheli, L., Civai, C., Stallen, M., & Sanfey, A. G. (2019). A scarcity mindset alters neural processing underlying consumer decision making. *Proceedings of the National Academy of Sciences*, *116*(24), 11699-11704.
- Mies, G. W., **Ma, I**., de Water, E., Buitelaar, J. K., Scheres, A. (2018) Waiting and working for rewards: Attention-Deficit/Hyperactivity Disorder is associated with steeper delay discounting linked to amygdala activation, but not with steeper effort discounting. *Cortex*, in press.
- de Water, E., Mies, G. W., **Ma, I**., Mennes, M., Cillessen, A.H.N., & Scheres, A. (2017). Neural responses to social exclusion in adolescents: effects of peer status. *Cortex*, 92, 32-43*.
- **Ma, I**., Mies, G. W., Rommelse, N., Buitelaar, J., & Scheres, A. (2017). Does an attention bias to appetitive and aversive words modulate interference control in youth with ADHD? *Child Neuropsychology,* 1-17*.
- Civai, C., **Ma, I**. The enhancement of social norm compliance: prospects and caveats (2017). *Journal of Cognitive Enhancement, 1,* 26-30*.
- **Ma, I**., Rommelse, N., Buitelaar, J., Cillessen, A.H.N., & Scheres, A. (2017). Decision-making in social contexts in youth with ADHD, *European Child and Adolescent Psychiatry, 1-10.*

- **Ma, I**., van Holstein, M., Mies, G. W., Mennes, M., Buitelaar, J., Cillessen, A.H.N., Cools, R., & Scheres, A. (2016). Ventral striatal hyperconnectivity during rewarded interference control in adolescents with ADHD, *Cortex, 82*, 225-236.
- **Ma, I**., van Duijvenvoorde, A.C.K., & Scheres, A. (2016). The interaction between reinforcement and inhibitory control in children and adolescents with ADHD: a review and research guidelines, *Clinical Psychology Review, 44*, 94-111.
- **Ma, I**. (2016). The interplay between motivation and inhibition in ADHD. PhD thesis. Radboud University Nijmegen, the Netherlands.

Under review
- Asscheman, S.J., Koot, S., van Buuren, M., **Ma, I**., Buil, M.J., Krabbendam, L., Cillessen, A.H.N., van Lier, P.A.C. (in prep). Children's History of Peer Preferences and Changes in Neural Correlates of Prosocial Decisions Following Social Exclusion
- **Ma, I.**, Westhoff, B., & van Duijvenvoorde, A. C. K. (2020). The Cognitive Mechanisms That Drive Social Belief Updates During Adolescence. *bioRxiv*

In preparation
- Huijsmans, I., **Ma, I**., Cools, R., & Sanfey, A. (in prep). Probabilistic reinforcement learning in a scarcity mindset: A computational modelling approach

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CONFERENCE PRESENTATIONS

Ma, I., Sanfey, A.G., Ma, W.J. (2017). *Information sampling in trust decisions (poster)*. Society for Neuroeconomics, Toronto, Canada.

Ma, I., Sanfey, A.G., Ma, W.J. (2017). *Information sampling in trust decisions (poster)*. Cognitive Computational Neuroscience, New York, USA.

Ma, I., De Water, E., Mies, G., Scheres, A. (2016). *The development of self-control: inhibition and delay discounting (poster)*. Society for Neuroeconomics, Berlin, Germany.

Ma, I. (2016). *Using force to quantify inhibition failures in ADHD (oral presentation).* Symposium on the behavioural science of ADHD. Nijmegen, the Netherlands.

Ma, I., Mies, G., Mennes, & Scheres, A. (2015). *How motivation colors interference control in ADHD* (oral presentation). Belgian Association for Psychological Science, Brussels, Belgium.

Ma, I., Mies, G., Scheres, A. (2015). *The neural correlates of distraction in ADHD: Effects of task relevant and irrelevant reward associations on cognitive control (oral presentation).* Dutch Neuroscience Meeting, Lunteren, the Netherlands.

Ma, I., van Holstein, H., Mies, G., Mennes, M., Buitelaar, J.K., Cools, R., Cillessen, A.H.N., & Scheres, A. (2015). *Ventral hyperconnectivity during rewarded interference control in adolescents with ADHD (poster).* Flux: The International Society for Integrative Developmental Cognitive Neuroscience, Leiden, the Netherlands

Ma, I., van Holstein, H., Mies, G., Mennes, M., Buitelaar, J.K., Cools, R., Cillessen, A.H.N., & Scheres, A. (2015). *Ventral hyperconnectivity during rewarded interference control in adolescents with ADHD (poster).* Annual Meeting of the International Society for Research on Impulsivity, Amsterdam, the Netherlands

Ma, I. & Scheres, A. (2013). *Using force to quantify motivation and inhibition in ADHD (poster).* 3rd EUNETHYDIS International Conference on ADHD, Istanbul, Turkey.

Ma, I. & Scheres, A. (2014). *Social decision making games in children with ADHD: the role of individual differences (poster).* 3rd EUNETHYDIS International Conference on ADHD, Istanbul, Turkey.

Ma, I. & Scheres, A. (2012). *Inhibition and motivation interactions in ADHD (poster).* 2nd EUNETHYDIS International Conference on ADHD, Barcelona, Spain.

Ma, I., Putnam, K., Scheres, A. (2010). *Motivation and interference control in ADHD (poster).* 3rd International congress on ADHD. Berlin, Germany.

SKILLS
- SPSS and R
- fMRI (SPM)
- Programming: MATLAB, Python, Presentation, C# (C sharp), Unity
- Computational modelling of behavior (e.g., Dynamic programming, Monte Carlo Tree Search, Best-First Search)
- Neuropsychological testing, including for diagnosing developmental disorders
- Fluent in Dutch and English

SHORT PROJECT SUMMARIES

Postdoctoral Fellowship at New York University

Funded by a NWO Rubicon fellowship, I study active information sampling in collaborative settings. In these projects, I aim to understand how people learn a partner's information sampling strategy and adjust their own strategy to maximize the efficiency of collaboration. I use Artificial intelligence techniques (e.g., Monte Carlo Tree Search, best-first search, and biased greedy strategy) to identify these behavioral strategies.

Postdoc Donders Centre for Cognitive Neuroimaging
I combined fMRI and Bayesian computational modelling (Bellman equations and Dynamic programming) to understand strategies of information sampling in trust decisions. In addition, I co-supervised a PhD student (Inge Huijsmans) on two projects that examine the effects of scarcity on learning and decision-making.

Postdoc project BSI and Free University Amsterdam (ongoing collaboration)
I co-developed fMRI studies for a longitudinal project on the neurodevelopment of children who are chronically peer rejected. My main role is to co-supervise a PhD student (Susanne Asscheman) with fMRI analyses on two projects. For more information, see https://alsiklatergrootben.nl/researchers/

PhD thesis "The interplay between Motivation and Inhibition in ADHD"
I investigated social and monetary motivational effects on inhibition in youth with ADHD. Using both behavioral and fMRI measurements, I studied how rewards can be beneficial to inhibition (i.e., reinforcing good behavior) as well as detrimental effects of reward-associations (e.g., distracting effects).

Research internship "methylphenidate effects on VTA resting state functional connectivity"
Pilot fMRI study on the effects of methylphenidate on ventral tegmental area and striatal resting state functional connectivity (master thesis). I additionally collected fMRI data on methylphenidate effects on reward prediction errors.

Research assistant "cognitive enhancers and memory"
This study examined the potential of PDE-5 inhibition as a cognitive enhancing drug. I was responsible for EEG (ERP) data collection. PDE-5 inhibition effects on memory and ERP waveforms was the focus of my bachelor thesis.