Wouter van den Bos, Ph.D.

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Employment

2018-	Associate Professor, Department Psychology, University of Amsterdam
2018-	Adjunct Research Scientist, Max Planck Institute for Human Development, Berlin
2016-2022	Faculty Max Planck UCL Centre for Computational Psychiatry and Ageing
2013-2017	Research Scientist, Max Planck Institute for Human Development, Berlin
2013-2017	Faculty at the IMPRS graduate school on Life span development, Berlin, Zurich, Ann-Arbor
2011-2013	Postdoctoral Fellow Department of Psychology, Stanford University (NWO Rubicon)

Education

2011	Ph.D. (cum laude*), Developmental Psychology	Leiden University
2006	M.Sc. (cum laude*), Cognitive Neuroscience	University of Amsterdam
2004	M.A. (honors), Philosophy of Mind & Logic	University of Amsterdam

Research Experience

2018 (Feb-Mar)	Visiting Researcher, Center for Developing Adolescent, UC Berkeley
2012-2013	Visiting Researcher, Dept. Human Development, UC Berkeley
2009 (Aug-Sept)	Visiting Researcher, Dept. Psychology, Stanford University
2006 (Jan-Sept)	Visiting Research Collaborator, Dept. Psychology, Princeton University

Research Statement

Our research group seeks to understand the relation between changes in brain function and structure and the development of learning and social behavior. Learning lays the foundation for adaptive decisions, enabling us to predict and anticipate future events in our environment. In turn the contingencies in the environment shape the developmental process, which may lead to biases in learning and decision-making strategies.

We are specifically interested in the interaction between the social environment and developmental processes. For instance, we study social influence on decision-making and how we search for information in social networks. In addition, we are interested in how the social environment is represented in the brain, and how this impacts behavior. For this we rely on social network analyses [3] to quantify social relations and use multi voxel pattern analyses (MVPA) to link these to neural representations. In our current research supported by the NWO (Vidi) and ERC (StG) we focus on social networks in schools in order to understand the reciprocal influence of environment and behavior in the context of risk taking and prosocial behavior. More recently we are also expanding this research the digital environment focusing on big data from social media (e.g. from Instagram or twitter) within the context of the H2020 framework (DIGYMATIX). This project also focusses on the impact of social media use on development of brain and cognition and self-regulation.

To gain a better understanding of these developmental processes we rely on a wide array of methods, ranging from behavioral experiments, social network analyses, surveys, big data analysis of online behavior, hormonal assays, and neuroimaging. Computational modeling is central to our approach. Computational models provide access to latent variables that cannot be directly observed from behavior. These latent variables these models support spanning the bridge between developmental theories and neurobiology and enable to identify more specific processes that underlie developmental change.

Funding Sources (running total >7.5m)

H2020 DIGYMATEX (Youth Digital Maturity index) (co-PI)	€3	500.000
Jacobs Foundation Pilot Grant	€	100.000
ERC Starting grant	€ 1	.500.000
NWO VIDI grant	€	800.000
YIELD PhD grant	€	250.000
IDA Interdisciplinary PhD grant	€	250.000
Amsterdam Brain & Cognition Project Grant	€	250.000
Jacobs Foundation Research Fellowship	€	150.000
ORA research grant – Development of Social Learning	€ 1	1.100.000
with Anna van Duijvenvoorde (Leiden University) & Essi Viding (UCL)		
NSF GROW (visiting PhD Jesse Niebaum)	€	4.500
Stanford Center on Advancing Decision Making in Aging (co-PI)	\$	33.000
NIH/NIMH RO1 (co-investigator, PI Julie Schweitzer)	\$	784.883
NIA R13 AG043207 (Co-investigator, PI: Robert Levenson)	\$	68.044
NWO Rubicon Grant (PI)	€	118.642
Volkswagen Stiftung- European Platform for the Life Sciences (Co-PI)	€	92.100
NeuroVentures seed grant (PI)	\$	4.300
Working Visit @ Stanford University- Leids Universitair Fonds	€	2.000
Working Visit @ Princeton University:	€	10.000
Hendrik Muller Vaderlandsch Fonds, AUV fonds, Vrijvrouwe van		
Rendswoude, Bekker La Bastide Fonds, Hersenstichting		
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Institutional Responsibilities & Commissions of Trust

2022	Consultant for <i>Jacobs Foundation</i> for the Jacobs Research Agenda (multiple meetings). Providing input for the development of the 10+ plans for the research and funding agenda for the Jacobs Foundation (multiple in person meetings).
2022	Contributor to the development of the successfully funded UvA RPA on Youth and Digitality.
2022	Development and consultation for psychology track of newly developed interdisciplinary UvA Research Master Complex Systems and Policy
2021	Participation in consultations and strategic conference of the PCNI (The Permanent Committee on National Institutes) at the invitation of the KNAW
2018-	Taskforce Member of NeurolabNL (NWA route) (4 meetings a year + consultations and feedback rounds on pre-proposals.)
2018-	Member of the Scientific Advisory Board Psychology Department . Advising the Research Director and specific tasks: organizing the cross-faculty talks (Psychology Forum)
2016-2022	Faculty at the IMPRS graduate school on Computational Psychiatry and Aging (MPI Berlin/UCL London). Member of the steering committee developing the curriculum for the graduate school and organizing the content of the yearly summer schools.

2016-2018	External member of Hiring Committee at the Centre for Life Span Development in Berlin
2013-2018	Faculty at the IMPRS graduate school on Life span development (MPI Berlin, Free University Berlin, Univ. Zurich, Univ. Michigan & Univ. Virginia)
2019-2023	SRCD-Jacobs Foundation Research Symposia. Invited to organize 3 workshops on theme of own choice, together with Prof. Emma Flynn (budget 300k)
2016-	Scientific Advisory Board for the Centre on the Developing Adolescent, UC Berkeley.
2014-2016	Member of the international working group on the development of prosocial behaviour, which involves organization of yearly meetings and development of position paper (w/ Univ. Oregon, UCLA, UC Berkeley, funded by Jacobs Foundation & SRCD).

Editorial Service

2021-present	Editor Nature Scientific Reports (interdisciplinary journal IF 4.5)
2014-present	Review Editor Frontiers in Human Neuroscience (IF 3.2)
2013-present	Review Editor Frontiers in Decision Neuroscience (IF 3.5)

Student Supervision

POSI-aoc	
2020-	Lieke Hofmans
2023-	Karlijn Hoyer
(past)	
2016-2022	Lucas Molleman
2017-2018	Corinna Laube
2016-2018	Job Schepens (Co-Pi w/ Hauke Heekeren, FU Berlin)
2015-2016	Robert Lorenz
PhD	
2020-2023	Federica Ninsi (co-promotor)
2019-2024	Ana Phino (Promotor)
2019-2024	Scarlett Slagter (Promotor)
2018-2023	Andrea Gradassi (Promotor)
2018-2022	Damien Fleur (Promotor)
2018-2022	Maud Hensums (Co-supervisor)
(past)	
2017-2020	Simon Ciranka (Promotor)
2016-2019	Bianca Westhoff (Co-supervisor, ORA grant)
2014-2017	Corinna Laube (Promotor)
2012-2016	Julia Rodriguez Buritica (co-supervisor)

<u>Current Teaching:</u> I teach in multiple courses in Psychology and Brain and Cognition Research Master, and the Artificial Intelligence Bachelor (Growing a Mind, Cognitive Modeling, Current Directions in Child and Adolescent Development, Computational Cognitive Neuroscience). In addition, I supervise Bachelor and Master Students from the Psychology, Artificial Intelligence, Brain and Cognition and Psychobiology.

Organization of Scientific Meetings (selection)

- **2022** ESLR Social Learning across Lifespan 2 day scientific meeting in Amsterdam (July).
- **2019** SRCD-Jacobs Foundation Symposia on Social Learning Organizing 3 meetings on three continents over next two years, on the topic of social learning.
- **2018** Science of Learning integrating perspectives (MPI Berlin)
- 2018 FLUX conference program committee 2018 (Berlin)
- 2014- Organization and hosting of multiple (peer-reviewed) symposia at international conferences including APS (x3), ISSB(x1) and SRCD(x3).c
- **2013** Methods in Studying Social Cognition April 3-5, Düsseldorf, Germany (small expert meeting, 12 invited speakers, ~ guests)
- **2012** Decision-Making and Emotion Regulation in Life-Span Transitions –November 8-9, 2012 David Brower Center, UC Berkeley. (with <u>BCRN</u>)
- **2012 Pre-reflective and Reflective Processing in Social Interaction** March 12-14, Clare College, University of Cambridge, UK. (small expert meeting, 12 invited speakers, ~ guests)
- **2008** Pre-Confrence Workshop "**Developmental Socio-Cognitive Neuroscience**" at the 20th Biennial ISSBD meeting 2008, Wurzburg, Germany (with Eveline Crone, Linda van Leijenhorst, Berna Guroglu and Phil Zelazo)
- 2007 NWO autumn school Workshop on Social Decision Making. Doorwerth (with Eveline Crone)
- **2007** Member of the Local Arrangements Committee of the 37th Annual Meeting of the Jean Piaget Society, Amsterdam, the Netherlands, 2007.

Ad Hoc Reviewer (selection):

Journals including: Biological Psychology; Cerebral Cortex; Child Development; Cognitive, Affective & Behavioral Neuroscience; Current Biology; Decision; Current Opinion in Behavioral Sciences; Developmental Psychology; Developmental Science; European Child & Adolescent Psychiatry; European Journal of Neuroscience; European Journal of Social Psychology; Frontiers in Human Neuroscience/Decision Science/Psychology/Emotion Science ; Journal of Cognitive Neuroscience; Journal of Experimental Child Psychology; Journal of Neuroscience; NeuroImage; Neuropsychologia, PNAS; Psychological Science; Psychology and Economics; Psychology of Addictive Behaviors; Social Cognitive & Affective Neuroscience; Social Neuroscience; Social Psychological and Personality Science.

Conference submissions: American Psychological Association (APA), Society for the Study of Child Development (SRCD), Society for Research on Adolescence (SRA), FLUX, Society for Cognitive Science (CogSci), Computational Cognitive Neuroscience (CCN).

Grant proposals: NWO (Netherlands), OMHF (Canada), FWO (Belgium), NSF (USA), ERC (EU), SSHRC (Canada), FNRS/FWO -Excellence of Science (France/Belgium), ERC (StG, Consolidator)

Outreach / Valorisation (selection)

I actively engage with several museums in order to set up collaborative projects that are both scientific outreach and citizen science, where we are able to present our work and communicate our findings to a larger public. Here we aim also to work with museums that attract younger participants, who are also our target population. Besides science communication we also engage in citizen science and try to collect data as well. Here is a list of some of the ongoing collaborations, several more are in the works:

Museums(selection)

• **Humboldt Labor (Berlin)**-Currently we are developing an interactive exhibition for the Humboldt Forum in Berlin, which will be for educational purposes but also serve data

collection (citizen science). Already over 10k responses.

- **NEMO** we collect data and present our our work on social learning. We are currently running new experiments.
- Collaborator with **North Carolina Museum of life science** "experimonths" 2012-2016 Co-developer of the month-long massive online experiment on the prisoners' dilemma (frenemy) <u>http://science.experimonth.com/</u>
- **Exploratorium** -Consultant San Francisco <u>Exploratorium</u> Science Museum exhibition "science of sharing" 2012-2015 General consulting on design of the exhibition and specific development of permanent interactive exhibition on the tragedy of the commons.

Talks (selection)

- Herfst Symposium Kennis Centrum Psychologie en Economisch Gedrag in Leiden Jongeren en keuzes onder stress. <u>https://www.kcpeg.nl/agenda/herfstsymposium-schulden-en-financiele-stress-bij-jongeren</u>
- Talk for Science Platform One Garden Peer Influence
 <u>https://onegarden.com/fellow/dr-wouter-van-den-bos</u>
- BIN-NL Dag van Het Gedrag praatje over keuze gedrag jongeren (Behavioral Insights Team Nederlandse Overheid <u>https://binnl.nl/default.aspx</u>)
- A matter of time lecture on time and decision making at the symposium "het kan echt beter" conference on poverty and debt (<u>https://youtu.be/8vdkdi8mFEo)</u>
- Consultant/Interviewee for Dance/Multimedia project *No Entry*. The project evolves around places of no entry for youth.
- Invited speaker at the workshop on Bildung and Ego-development: a mutual clarification of perspectives at the Lorentz Center in Leiden. At this meeting scientist and educational experts will discuss the importance of Bildung in education.
- Writing for Frontiers in Young Minds, a science journal for teenagers
- Co-creator of freely accessible Peer 2 Peer University (P2PU) course <u>Open Science: An</u> <u>Introduction</u>
- Numerous talks at high schools across the Netherlands
- Numerous pop science articles (Scientific American, Frontiers in Young Minds, Nauticus).

Publications

<u>Google Scholar</u> (Feb 2023): 84 papers §=senior author: 33 Citations: N = 5029; H-index:39; i-index:62

- [1]. Hensums, M., Brummelman, E., Larsen, H., van den Bos, W., & Overbeek, G. (2023). Social goals and gains of adolescent bullying and aggression: A meta-analysis. *Developmental Review*, 68, 101073.
- [2]. §Slagter, S. K., van Duijvenvoorde, A. C., & van den Bos, W. (2023). Adolescents seek social information under uncertainty. *Journal of Experimental Psychology: General*.
- [3]. §Fleur, D. S., van den Bos, W., & Bredeweg, B. (2023). Social Comparison in Learning Analytics Dashboard supporting Motivation and Academic Achievement. *Computers and Education Open*, 100130.
- [4]. §Hofmans, L. & van den Bos, W. (2022). Social learning across adolescence: A Bayesian neurocognitive perspective. Developmental Cognitive Neuroscience, 101151.
- [5]. §Niebaum, J. C., Kramer, A. W., Huizenga, H. M., & van den Bos, W. (2022) Adolescents Sample More Information Prior to Decisions than Adults when Effort Costs Increase. Developmental Psychology <u>http://dx.doi.org/10.1037/dev0001397</u>

- [6]. \$Molleman, L., Ciranka, S. & van den Bos, W. (2022). Social influence in adolescence as a doubleedged sword. Proc. R. Soc. B. 289: 20220045.
- [7]. Gaule, A., Bevilacqua, L., Molleman, L., Roberts, R., van Duijvenvoorde, A. C., van den Bos, W., McCrory, E. J., Viding, E. (2022). Social information use in adolescents with conduct problems and varying levels of callous-unemotional traits. JCPP Advances, 2(1), e12067.
- [8]. §Gradassi, A., Slagter, S., da Silva Pinho, A., Molleman, L. & van den Bos, W. (2022). Network distance and centrality shape social learning in the classroom. School Psychology.
- [9]. Kennedy, B. V., Hanson, J. L., Buser, N. J., van den Bos, W., Rudolph, K. D., Davidson, R. J., & Pollak, S. D. (2021). Accumbofrontal tract integrity is related to early life adversity and feedback learning. Neuropsychopharmacology, 1-7.
- [10]. § Ciranka, S., & van den Bos, W. (2021). Adolescent risk-taking in the context of exploration and social influence. Developmental Review, 61, 100979.
- [11]. § da Silva Pinho, A., Molleman, L., Braams, B. R., & van den Bos, W. (2021). Majority and popularity effects on norm formation in adolescence. Nature Scientific reports, 11(1), 1-10.
- [12]. § Fleur, D. S., Bredeweg, B., & van den Bos, W. (2021). Metacognition: ideas and insights from neuro-and educational sciences. Nature Science of Learning, 6(1), 1-11.
- [13]. Mukherjee, P., Hartanto, T., Iosif, A. M., Dixon, J. F., Hinshaw, S. P., Pakyurek, M., van den Bos, W.... & Fassbender, C. (2021). Neural basis of working memory in ADHD: Load versus complexity. NeuroImage: Clinical, 30, 102662.
- [14]. § Langener, A., Kramer, A. W., van den Bos, W., & Huizenga, H. M. (2021). A shortened version of Raven's Standard Progressive Matrices for children and adolescents. Br J Dev Psychol.
- [15]. § Ciranka, S. & van den Bos, W. (2021). Social norms in adolescent risk engagement and recommendation. Br J Dev Psychol.
- [16]. Westhoff, B., Molleman, L., Viding, E., van den Bos, W., & van Duijvenvoorde, A. C. K. (2020). Developmental asymmetries in learning to adjust to cooperative and uncooperative environments. Scientific reports, 10(1), 1-14.
- [17]. Klapwijk, E. T., van den Bos, W., Tamnes, C. K., Raschle, N. M., & Mills, K. L. (2020). Opportunities for increased reproducibility and replicability of developmental neuroimaging. PsyArXiv
- [18]. \$Molleman, L., Tump, A. N., Gradassi, A., Herzog, S. M., Jayles, B., Kurvers, R., & van den Bos, W. (2020). Strategies for integrating disparate social information. Proceedings. Biological sciences, 287(1939), 20202413.
- [19]. § Ciranka, S. K., & van den Bos, W. (2020) A Bayesian Model of Social Influence under Risk and Uncertainty. Proceedings of the 42nd Annual Conference of the Cognitive Science Society.
- [20]. Gillet, S., van den Bos, W., & Leite, I. (2020). A social robot mediator to foster collaboration and inclusion among children. Proceedings paper Robotics Science and Systems
- [21]. Laube, C., van den Bos, W., & Fandakova, Y. (2020). The relationship between pubertal hormones and brain plasticity: Implications for cognitive training in adolescence. *Developmental Cognitive Neuroscience*, 42, 100753.
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- [29]. § Rodriguez Buritica J., Heekeren H.. & van den Bos W. (2018). The computational basis of following advice in adolescents. *Journal of Experimental Child Psychology*
- [30]. § Laube C. & van den Bos W. (2018). It's About Time: How Integral Affect Increases Impatience. *Emotion*
- [31]. Ikink I., Engelmann JB., van den Bos W., Roelofs K., & Figner B. (2018). Time ambiguity during intertemporal decision-making is aversive, impacting choice and neural value coding. *Neuroimage*
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- [35]. § Laube, C., Suleiman A.B., Johnson M, Dahl R.E.& van den Bos W (2017). Dissociable Effects of Age and Testosterone on Adolescent Impatience. *Psychoneuroendocrinology*, *80*, *162-169*
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- [**39**]. Bradley E, Brustkern J, De Coster L, **van den Bos W**, McClure S, Wooley, J. (2017) Oxytocin Enhances Overbidding in Multiplayer Auctions *Biological Psychiatry* 81 (10), S40
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Cognitive Neuroscience

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