

# Björn Meder

## Curriculum vitae

University of Erfurt  
Nordhäuser Str. 63  
99089 Erfurt, Germany  
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✉ meder@mpib-berlin.mpg.de  
🌐 <https://bmeder.org>

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### Education

- 2006 **Dr. rer. nat (Ph.D.) Psychology**, *University of Göttingen*.  
2003 **Diplom (M.Sc.) Psychology**, *University of Göttingen*.

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### Professional appointments

- since April 2019 **Visiting professor (Vertretungsprofessur, W3, Allgemeine Psychologie und Instruktionspsychologie)**, *University of Erfurt*.  
since Jan 2019 **Associated member**, *Center for Empirical Research in Economics and Behavioral Sciences (CEREB)*, *University of Erfurt*.  
since Oct 2018 **Associate Researcher**, *Center for Adaptive Rationality, Max Planck Institute for Human Development*, Berlin.  
since Sep 2018 **Visiting Researcher**, *Max Planck Research Group iSearch, Max Planck Institute for Human Development*, Berlin.  
Oct 2017–Aug 2018 **Research scientist**, *Max Planck Research Group iSearch, Max Planck Institute for Human Development*, Berlin.  
Jan 2012–Sep 2017 **Research scientist**, *Center for Adaptive Behavior and Cognition, Max Planck Institute for Human Development*, Berlin.  
Oct 2011–Dec 2011 **British Academy Visiting Scholar**, *Department of Psychology, School of Biological and Chemical Sciences, Queen Mary University, London, UK*.  
Oct 2008–Sep 2011 **Postdoctoral research fellow**, *Center for Adaptive Behavior and Cognition, Max Planck Institute for Human Development*, Berlin.  
May 2006–Sep 2008 **Postdoctoral researcher**, *Department of Psychology, University of Göttingen*.  
Apr 2003–Apr 2006 **Predocotrual researcher**, *Department of Psychology, University of Göttingen*.

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### Grants and fellowships

- 2015–2018 *Models of Information Search: A Theoretical and Empirical Synthesis II* (with J.D. Nelson, L. Martignon, V. Crupi, K. Tentori), DFG priority program SPP1516 “New frameworks of rationality” (~300,000€)  
2012–2014 *Models of Information Search: A Theoretical and Empirical Synthesis* (with J.D. Nelson, L. Martignon, V. Crupi, K. Tentori), DFG priority program SPP1516 “New frameworks of rationality” (~300,000€)  
2011–2012 DAAD travel grant “Improving medical decision making”<sup>4</sup> for collaboration with the University of Granada (with Fleischhut, Bodemer, Gigerenzer; MPIB Berlin) (5,000€)  
Oct 2011–Dec 2011 British Academy Visiting Scholar award for research stay at Queen Mary University London (6,000€)  
July 2011 Travel grant graduate summer school “Probabilistic Models of Cognition”, Institute for Pure and Applied Mathematics, UCLA (1,100 €)  
Oct 2001–April 2002 Tuition grant, Stiftung der Deutschen Wirtschaft, University of Warwick, UK  
1999–2003 Fellowship, Stiftung der Deutschen Wirtschaft

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## Representative publications

- Causal reasoning **Meder, B.** & Mayrhofer, R. (2017). Diagnostic causal reasoning with verbal information. *Cognitive Psychology*, *96*, 54–84. Code and data: <https://osf.io/gc2nd/>
- Meder, B.**, Mayrhofer, R., & Waldmann, M. (2014). Structure induction in diagnostic causal reasoning. *Psychological Review*, *121*, 277–301. Code: <http://dx.doi.org/10.1037/a0035944.supp>
- Search and exploration Wu, C. M., Schulz, E., Speekenbrink, M., Nelson, J.D., & **Meder, B.** (2018). Generalization guides human exploration in vast decision-spaces. *Nature Human Behaviour*, *2*, 915–924. Code and data: <https://github.com/charleywu/gridsearch>.
- Meder, B.**, & Nelson, J. D. (2012). Information search with situation-specific reward functions. *Judgment and Decision Making*, *7*, 119–148.
- Cognitive Development **Meder, B.**, Nelson, J.D., Jones, M., & Ruggeri, A. (2019). Stepwise versus globally optimal search in children and adults. *Cognition*, *191*, 103965. Code and data: <https://osf.io/cq48j/>
- Schulz, E., Wu, C.M., Ruggeri, A., & **Meder, B.** (2019). Searching for rewards like a child means less generalization and more directed exploration. *Psychological Science*, *30*, 1561–1572. Code and data: <https://git.io/vppsK>
- Judgment and decision making **Meder, B.**, Fleischhut, N., Krumnau, N.-C., & Waldmann, M. R. (2019). How should autonomous cars drive? A preference for defaults in moral judgments under risk and uncertainty. *Risk Analysis*, *39*, 295–314. Code and data: <https://osf.io/sx85t/>
- Meder, B.**, Le Lec, F., & Osman, M. (2013). Decision making in uncertain times: what can cognitive and decision sciences say about or learn from economic crises? *Trends in Cognitive Sciences*, *17*, 257–260.

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## Publications

- Google scholar <https://scholar.google.de/citations?user=GQdD1NYAAAAJ>
- Research gate [https://www.researchgate.net/profile/Bjoern\\_Meder](https://www.researchgate.net/profile/Bjoern_Meder)
- ORCID <https://orcid.org/0000-0002-9326-400X>

### Working papers and preprints

- 2020 **Meder, B.**, Wu, C.M., Schulz, E., & Ruggeri, A. (2020). Development of directed and random exploration in children. *PsyArXiv*. Invited resubmission, *Developmental Science*. <https://psyarxiv.com/7zhxv>.
- Meder, B.**, Mayrhofer, R., & Ruggeri, A. (2020). Developmental trajectories in the understanding of everyday uncertainty terms *PsyArXiv*. <https://psyarxiv.com/sfgzu>
- Osman, M., McLachlan, S., Fenton, N., Neil, M., Löfstedt, R., & **Meder, B.** (2020). Learning from behavioural changes that fail. Invited resubmission, *Trends in Cognitive Sciences*.
- Swaboda, N., **Meder, B.**, & Ruggeri, A. (2020). Finding the (most efficient) way out of a maze is easier than asking (good) questions. *PsyArXiv*. <https://psyarxiv.com/tdaqq>
- 2019 Jones, A., Schulz, E., **Meder, B.** & Ruggeri, A. (2019). Learning functions actively. Invited resubmission, *Cognitive Science*.

- 2018 Nelson, J. D., **Meder, B.**, & Jones, M. (2018). Towards a theory of heuristic and optimal planning for sequential information search. *PsyArXiv*. <https://psyarxiv.com/bxdf4/>

### Journal articles (peer reviewed)

† indicates shared first authorship

- 2020 Wu, C.M., Schulz, E., Garvert, M.M., **Meder, B.** & Schuck, N.W. (2020). Similarities and differences in spatial and non-spatial cognitive maps. *PLoS Computational Biology*, *16*, e1008149. Code and data: <https://github.com/charleywu/cognitivemaps>
- 2019 Schulz, E., Wu, C.M., Ruggeri, A., & **Meder, B.** (2019). Searching for rewards like a child means less generalization and more directed exploration. *Psychological Science*, *30*, 1561–1572. Code and data: <https://git.io/vppsK>
- Meder, B.**, Nelson, J.D., Jones, M., & Ruggeri, A. (2019). Stepwise versus globally optimal search in children and adults. *Cognition*, *191*, 103965. Code and data: <https://osf.io/cq48j/>
- Meder, B.**, Fleischhut, N., Krumnau, N.-C., & Waldmann, M. R. (2019). How should autonomous cars drive? A preference for defaults in moral judgments under risk and uncertainty. *Risk Analysis*, *39*, 295–314. Code and data: <https://osf.io/sx85t/>
- 2018 Wu, C. M., Schulz, E., Speekenbrink, M., Nelson, J.D., & **Meder, B.** (2018) Generalization guides human exploration in vast decision-spaces. *Nature Human Behaviour*, *2*, 915–924. Code and data: <https://github.com/charleywu/gridsearch>.
- Meder, B.**<sup>†</sup>, Fleischhut, N.<sup>†</sup>, & Osman, M.<sup>†</sup> (2018). Beyond the confines of choice architecture: A critical analysis. *Journal of Economic Psychology*, *68*, 36–44.
- Crupi, V., Nelson, J. D., **Meder, B.**, Cevolani, G, & Tentori, K. (2018). Generalized information theory meets human cognition: Introducing a unified framework to model uncertainty and information search. *Cognitive Science*, *42*, 1410–1456.
- Jarecki, J., **Meder, B.**, & Nelson, J. D. (2018). Naïve and robust: Class-conditional independence in human classification learning. *Cognitive Science*, *42*, 4–42.
- 2017 **Meder, B.**<sup>†</sup> & Mayrhofer, R.<sup>†</sup> (2017). Diagnostic causal reasoning with verbal information. *Cognitive Psychology*, *96*, 54–84. Code and data: <https://osf.io/gc2nd/>
- Fleischhut, N., **Meder, B.**, & Gigerenzer, G. (2017). Moral hindsight. *Experimental Psychology*, *64*, 110–123.
- Wu, C., **Meder, B.**, Filimon, F., & Nelson, J.D. (2017). Asking better questions: How presentation formats guide information search. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *43*, 1274–1297.
- Knauber, H.M., Schray, H.H., **Meder, B.**, Martignon, L.M., & Nelson, J.D. (2017). Informationssuche im Mathematikunterricht der Grundschule. (Information search in mathematics teaching in primary school). *MNU Journal*, *6*, 375–382.

- Krisam, M., von Philipsborn, P., & **Meder, B.** (2017). Nudging in der Primärprävention: Eine Übersicht und Perspektiven für Deutschland. [The use of nudging for primary prevention: a review and perspectives for Germany.] *Das Gesundheitswesen*, *79*, 117–123.
- 2016 von Sydow, M., Hagmayer, Y., & **Meder, B.** (2016). Transitive reasoning distorts induction in causal chains. *Memory & Cognition*, *44*, 469–487.
- 2014 **Meder, B.**, Mayrhofer, R., & Waldmann, M. (2014). Structure induction in diagnostic causal reasoning. *Psychological Review*, *121*, 277–301.
- Bodemer, N., **Meder, B.**, & Gigerenzer, G. (2014). Communicating relative risk changes with baseline risk: Presentation format and numeracy matter. *Medical Decision Making*, *34*, 615–626.
- Neth, H., **Meder, B.**, Kothiyal, A. & Gigerenzer, G. (2014). Homo heuristicus in the financial world: From risk management to managing uncertainty. *Journal of Risk Management in Financial Institutions*, *7*, 134–144.
- Nelson, J. D., Divjak, B., Gudmundsdottir, G., Martignon, L. F., & **Meder, B.** (2014). Children’s sequential information search is sensitive to environmental probabilities. *Cognition*, *130*, 74–80.
- 2013 **Meder, B.**, Le Lec, F., & Osman, M. (2013). Decision making in uncertain times: what can cognitive and decision sciences say about or learn from economic crises? *Trends in Cognitive Sciences*, *17*, 257–260.
- Hagmayer, Y., & **Meder, B.** (2013). Repeated causal decision making. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *39*, 33–50.
- 2012 **Meder, B.**<sup>†</sup>, & Nelson, J. D.<sup>†</sup> (2012). Information search with situation-specific reward functions. *Judgment and Decision Making*, *7*, 119–148.
- 2011 Hagmayer, Y., **Meder, B.**, von Sydow, M., & Waldmann, M. R. (2011). Category transfer in sequential causal learning: the unbroken mechanism hypothesis. *Cognitive Science*, *35*, 842–873.
- 2010 **Meder, B.**, Gerstenberg, T., Hagmayer, Y., & Waldmann, M. R. (2010). Observing and intervening: Rational and heuristic models of causal decision making. *The Open Psychology Journal*, *3*, 119–135.
- Hagmayer, Y., **Meder, B.**, Osman, M., Mangold, S., & Lagnado, D. (2010). Spontaneous causal learning while controlling a dynamic system. *The Open Psychology Journal*, *3*, 145–162.
- Waldmann, M. R., **Meder, B.**, von Sydow, M., & Hagmayer, Y. (2010). The tight coupling between category and causal learning. *Cognitive Processing*, *11*, 143–158.
- 2009 **Meder, B.**, Hagmayer, Y., & Waldmann, M. R. (2009). The role of learning data in causal reasoning about observations and interventions. *Memory & Cognition*, *37*, 249–264.
- 2008 **Meder, B.**, Hagmayer, Y., & Waldmann, M. R. (2008). Inferring interventional predictions from observational learning data. *Psychonomic Bulletin & Review*, *15*, 75–80.

### Conference proceedings (peer reviewed)

- 2018 Wu, C. M., Schulz, E., Garvert, M. M., **Meder, B.**, & Schuck, N. W. (2018). Connecting conceptual and spatial search via a model of generalization. In *Proceedings of the 40th Annual Meeting of the Cognitive Science Society* (pp. 1183–1188). Austin, TX: Cognitive Science Society.
- Jones, A., Schulz, E., **Meder, B.**, & Ruggeri, A. (2018). Active function learning. In *Proceedings of the 40th Annual Meeting of the Cognitive Science Society* (pp. 580–585). Austin, TX: Cognitive Science Society.
- 2017 Wu, C.M., Schulz, E., Speekenbrink, M., Nelson, J.D., & **Meder, B.** (2017). Mapping the unknown: The spatially correlated multi-armed bandit. In *Proceedings of the 39th Annual Meeting of the Cognitive Science Society* (pp.1357–1362). Austin, TX: Cognitive Science Society.
- 2016 Schulz, E., Speekenbrink, M. & **Meder, B.** (2016). Simple trees in complex forests: Growing Take The Best by Approximate Bayesian Computation. In *Proceedings of the 38th Annual Conference of the Cognitive Science Society* (pp.2531–2536). Austin, TX: Cognitive Science Society.
- 2014 Morais, S., Schooler, L., Olsson, H., & **Meder, B.** (2014). From causal models to sound heuristic inference. In *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp.1036–1041). Austin, TX: Cognitive Science Society.
- 2013 **Meder, B.**, & Mayrhofer, R. (2013). Sequential diagnostic reasoning with verbal information. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 1014–1019). Austin, TX: Cognitive Science Society.
- Jarecki, J., **Meder, B.**, & Nelson, J. D. (2013). The assumption of class-conditional independence in category learning. In *Proceedings of the 35th Annual Conference of the Cognitive Science Society* (pp. 2650–2655). Austin, TX: Cognitive Science Society.
- 2010 von Sydow, M., Hagmayer, Y., **Meder, B.**, & Waldmann, M. R. (2010). How causal reasoning can bias empirical evidence. In *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (pp. 2087–2092). Austin, TX: Cognitive Science Society.
- 2009 **Meder, B.**, Mayrhofer, R., & Waldmann, M. R. (2009). A rational model of elemental diagnostic inference. In *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 2176–2181). Austin, TX: Cognitive Science Society.
- Meder, B.**, & Hagmayer, Y.(2009). Causal induction enables adaptive decision making. In *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 1651–1656). Austin, TX: Cognitive Science Society.
- von Sydow, M., **Meder, B.**, & Hagmayer, Y.(2009). A transitivity heuristic of probabilistic causal reasoning. In *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 803–808). Austin, TX: Cognitive Science Society.
- 2008 Hagmayer, Y., & **Meder, B.** (2008). Causal learning through repeated decision making. In B. C. Love, K. McRae, & V. M. Sloutsky (Eds.), *Proceedings of the 30th Annual Conference of the Cognitive Science Society* (pp. 179–184). Austin, TX: Cognitive Science Society.
- 2006 **Meder, B.**, Hagmayer, Y., & Waldmann, M. R. (2006). Understanding the causal logic of confounds. In *Proceedings of the 28th Annual Conference of the Cognitive Science Society* (pp. 579–584). Austin, TX: Cognitive Science Society.

- 2005 **Meder, B.**, Hagmayer, Y., & Waldmann, M. R. (2005). Doing after seeing. In *Proceedings of the 27th Annual Conference of the Cognitive Science Society* (pp. 1461–1466). Austin, TX: Cognitive Science Society.

### Book chapters

- in press **Meder, B.**, & Mayrhofer, R. (in press). Diagnostic causal reasoning. In M. Knauff and W. Spohn (Eds.) (forthcoming), *Handbook of rationality*. MIT Press.
- 2017 **Meder, B.** & Mayrhofer, R. (2017). Diagnostic reasoning. In M. R. Waldmann (Ed.), *Oxford handbook of causal reasoning* (pp. 433–458). New York: Oxford University Press.
- Mousavi, S., **Meder, B.**, Neth, H., & Kheirandish, R. (2017). Heuristics: fast, frugal, and smart. In Morris Altman (Ed.), *Handbook of behavioral economics and smart decision-making: Rational decision-making within the bounds of reason* (pp. 101–118). Cheltenham, UK: Edward Elgar Publishing.
- 2014 **Meder, B.** & Gigerenzer, G. (2014). Statistical thinking: No one left behind. In E. J. Chernoff and B. Sriraman (Eds.), *Probabilistic thinking: Presenting plural perspectives* (pp. 127–148). Dordrecht, Netherlands: Springer.

### Other

- 2006 Meder, B. (2006). Seeing versus doing: Causal Bayes nets as psychological models of causal reasoning. *Unpublished doctoral thesis*, University of Göttingen.

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### Teaching

- 2020 Virtual lecture *Allgemeine Psychologie*, University of Erfurt.  
 Virtual lecture *Ausgewählte Themen aus den Bereichen Entwicklung, Lernen, Lehren*, University of Erfurt.  
 Virtual seminar *Entwicklung, Lernen, Lehren*, University of Erfurt.  
 Virtual seminar *Psychologische Didaktik*, University of Erfurt.  
 Virtual seminar *Open Science und wissenschaftliches Arbeiten mit quantitativen Daten*, University of Erfurt.
- 2019/20 Lecture *Allgemeinpsychologische Grundlagen des Lehren und Lernens*, University of Erfurt.  
 Seminar *Evidenzbasiertes Lehren und Lernen*, University of Erfurt.  
 Seminar *Lernen, Verstehen, Gedächtnis, Denken - Grundlagenvertiefung*, University of Erfurt.  
 Seminar *Methodenstudie*, University of Erfurt.
- 2019 Lecture *Allgemeine Psychologie*, University of Erfurt.  
 Lecture *Ausgewählte Themen aus den Bereichen Entwicklung, Lernen, Lehren*, University of Erfurt.  
 Seminar *Entwicklung, Lernen, Lehren*, University of Erfurt.  
 Seminar *Bachelorarbeit/Projektseminar*, University of Erfurt.
- 2018 Course *Introduction to cognitive modeling*, Max Planck Institute for Human Development
- 2017 *CEREB Short Lecture Series*, Center for Empirical Research in Economics and Behavioral Sciences (CEREB), University of Erfurt
- 2017 Guest lecture *Information search, optimal experimental design, and heuristics*, University of Applied Sciences Potsdam

- 2017 Course *Decision heuristics: Theory, models, and application*, International Max Planck Research School on Adapting Behavior in a Fundamentally Uncertain World, University of Jena (with J. Tan)
- 2013, 2015, 2017 Teaching week *Cognitive science*, Berlin School of Mind and Brain, Humboldt University (with J. D. Nelson)
- 2010, 2012 Workshop *Competitive mate search*, Summer Institute on Bounded Rationality, Max Planck Institute for Human Development (with H. Neth)
- 2011 Workshop *Finding useful information in different environments*, Summer Institute on Bounded Rationality, Max Planck Institute for Human Development (with J. D. Nelson)
- 2010 Guest lecture *Reinforcement learning*, International Max Planck Research School on the Life Course, Max Planck Institute for Human Development (with H. Olsson)
- 2007 Seminar *Medical psychology and medical sociology*, Medical school, University Göttingen
- 2004, 2005 *Experimental lab course*, Department of Psychology University of Göttingen

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### Supervised theses

- 2019 Charley M. Wu, Ph.D., Max Planck Institute for Human Development and Humboldt University of Berlin  
 Elise Schmidt, B.A., University of Erfurt  
 Franziska Kramer, B.A., University of Erfurt  
 Gerion Spielberger, B.A., University of Erfurt  
 Karen Gerding, B.A., University of Erfurt  
 Katharina Bähr, B.A., University of Erfurt  
 Maria Leypold, B.A., University of Erfurt  
 Nicole Echost, B.A., University of Erfurt  
 Ole Brandt, B.A., University of Erfurt
- 2018 Clara Schirren, M.Sc., Humboldt University of Berlin
- since 2017 Angela Jones, Ph.D. candidate, Max Planck Institute for Human Development  
 Nora Swaboda, Ph.D. candidate, Max Planck Institute for Human Development
- 2015 Jana Jarecki, Ph.D., Max Planck Institute for Human Development and Humboldt University of Berlin  
 Heike Knauber, M.Sc., Ludwigsburg University of Education  
 Charley Wu, M.Sc., University of Vienna
- 2011 Bojana Divjak, M.Sc., Ludwigsburg University of Education
- 2007 Tobias Wojcik, Diplom, University of Göttingen
- 2005 Judith Glötzl, Diplom, University of Göttingen

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## Reviews

Applied Cognitive Psychology; Behavioural Processes; Causality in the Sciences Conferences Series (OUP); Cognition; Cognitive Psychology; Cognitive Science; Diagnosis; Experimental Psychology; Frontiers in Psychology; Internal and Emergency Medicine; International Conference on Cognitive Modeling; Journal of Behavioral Decision Making; Journal of Cognitive Psychology; Journal of Evaluation in Clinical Practice; Journal of Experimental Psychology: General; Journal of Experimental Psychology: Learning, Memory, and Cognition; Learning & Motivation; Lernen und Lernstörungen; Memory & Cognition; Minds & Machines; Mind & Society; Nature Human Behaviour; Open Psychology Journal; Perspectives in Causation; PLOS: ONE; Police Practice and Research; Proceedings of the Conference of the Cognitive Science Society; Psychological Review; Psychological Science; Risk Analysis; Synthese; Theory & Psychology; Quarterly Journal of Experimental Psychology

2019 Editorial Board, *Psychological Science*

2013-2015 NSF College of Reviewers (Perception, Action, and Cognition program)

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## Service and institutional responsibilities

- Jan 2018–Aug 2018 Ethics committee, Max Planck Institute for Human Development
- 2016 Responsible for official research report of Center for Adaptive Behavior and Cognition, Max Planck Institute for Human Development
- 2015–2017 Overseeing the budget of the behavioral lab of the Center for Adaptive Behavior and Cognition, Max Planck Institute for Human Development
- 2009–2016 Selection committee for the annual Summer Institute on Bounded Rationality, Max Planck Institute for Human Development
- 2009–2012 Ethics committee, Max Planck Institute for Human Development
- 1999–2001 Student representative on the governing board of the Department of Psychology, University of Göttingen

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## Past and present memberships in professional organizations

Cognitive Science Society; Psychonomic Society; Judgment and Decision Making Society; Deutsche Gesellschaft für Psychologie

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## Talks and presentations

- 2020 **Meder, B.** (2020, April). How to write grants. Workshop “How to become a better scientist” Max Planck Institute for Cybernetics, Tübingen, Germany.
- 2018 Wu, C. M., Schulz, E., Garvert, M. M., **Meder, B.**, & Schuck, N. W. (2018, July). Connecting conceptual and spatial search via a model of generalization. 40th Annual Meeting of the Cognitive Science Society. Madison, Wisconsin, USA.
- Jones, A., Schulz, E., **Meder, B.**, & Ruggeri, A. (2018, July). Active function learning. 40th Annual Meeting of the Cognitive Science Society, Madison, Wisconsin, USA.

<http://youtu.be/RiiEYPPLH-U> **Meder, B.** (2018, June). Information search: Foundations, psychology, and developmental trajectories. Summer Institute on Bounded Rationality, Max Planck Institute for Human Development, Berlin, Germany.



- Swaboda, N., **Meder, B.**, & Ruggeri, A. (2018, January). Preschooler's information search and planning in a maze exploration task. Budapest CEU Conference on Cognitive Development, Budapest, Hungary.
- 2017 **Meder, B.**, Nelson, J. D., Jones, M., & Ruggeri, A. (2017, October). Stepwise versus globally-optimal information search in children and adults. Cognitive Development Society conference, Portland, USA.
- Wu, C.M., Schulz, E., Speekenbrink, M., Nelson, J.D., & **Meder, B.** (2017, July). Mapping the unknown: The spatially correlated multi-armed bandit. 39th Annual Meeting of the Cognitive Science Society, London, UK.
- Nelson, J.D., Crupi, V., **Meder, B.**, Cevolani, G., & Tentori, K. (2017, July). A unified model of entropy and the value of information. 39th Annual Meeting of the Cognitive Science Society, London, UK.
- Schirren, C., Hautz, S.C., Hautz, W.E., Kämmer, J.E., **Meder, B.**, & Nelson, J.D (2017, July). Which test to perform? Modeling utility of medical tests: information gain, patient risk and financial costs. 39th Annual Meeting of the Cognitive Science Society, London, UK.
- Meder, B.** (2017, April). Diagnostic causal reasoning with verbal uncertainty terms. Invited talk at Data Learning and Inference (DALI) 2017, Tenerife, Spain.
- 2016 Nelson, J., Crupi, V., **Meder, B.**, Cevolani, G., & Tentori, K. (2016, November). Beyond Shannon entropy: A unified mathematical framework for entropy and its importance for understanding human active learning. 57th Psychonomic Society Annual Meeting, Boston, MA, USA.
- Meder, B.**, & Mayrhofer, R. (2016, September). Diagnostic causal reasoning with verbal information. DGPS 2016, Leipzig, Germany.
- Nelson, J. D., **Meder, B.**, & Jones, M. (2016, September). On the fine line between "heuristic" and "optimal" sequential question strategies. DGPS 2016, Leipzig, Germany.
- Meder, B.**, Mayrhofer, R., & Waldmann, M. R. (2016, August). Structure induction in diagnostic causal reasoning. ICT, Providence, USA.
- Wu, C.M., Schulz, E., Speekenbrink, M., Nelson, J.D., & **Meder, B.** (2016, July). Exploring the unknown: Modeling human exploration-exploitation behavior. Computational and Mathematical Modeling of Cognition, Dobbiaco, Italy.
- von Sydow, M., Hebbelmann, D., Hagmayer, Y., & **Meder, B.** (2016, April). How causal reasoning can distort the evidence. MuST 9, Munich, Germany.
- Knauber, H., Martignon, L., Schray, H., Nelson, J. D., & **Meder, B.** (2016, March). Informationssuche und Kodierung: Heuristiken von Viertklässlern. Jahrestagung der Gesellschaft für Didaktik der Mathematik, Heidelberg, Germany.
- Meder, B.**, Nelson, J. D., & Jones, M. (2016, February). Entropy, heuristics, and human behavior in sequential search. Workshop on entropy, Ludwigsburg University of Education, Ludwigsburg, Germany.
- Wu, C., Nelson, J. D., & **Meder, B.** (2016, February). Functional entropy for understanding ruggedness in fitness landscapes. Workshop on entropy, Ludwigsburg University of Education, Ludwigsburg, Germany.
- 2015 Nelson, J.D., **Meder, B.** & Jones, M. (2015, August). When optimal experimental design models are not optimal: sequential search, optimality, and heuristics. SPUDM 25, Budapest, Hungary.

- Wu, C., **Meder, B.**, Nelson, J.D. & Filimon, F. (2015, August). The effect of presentation formats on rational information search. SPUDM 25, Budapest, Hungary.
- Crupi, V., Nelson, J.D., **Meder, B.**, Cevolani, G., & Tentori, K. (2015, August). Beyond Shannon entropy: a unified mathematical framework for entropy measures and its importance for understanding human active learning. SPUDM 25, Budapest, Hungary.
- Meder, B.** (2015, July). Optimal experimental design, heuristic, and human information search. Invited talk, workshop ‘Scientific Computing in the Behavioral Sciences (SCBS 2015), Heidelberg, Germany.
- Nelson, J. D., Crupi, V., **Meder, B.**, Cevolani, G., & Tentori, K. (2015, July). Beyond Shannon entropy: a unified mathematical framework for entropy measures and its importance for understanding human active learning. 48th Annual Meeting of the Society of Mathematical Psychology, Pasadena, USA.
- Meder, B.**, Mayrhofer, R., & Waldmann, M. R. (2015, June). Structure induction in diagnostic causal reasoning. Causal and Probabilistic Reasoning Conference, Munich Center for Mathematical Philosophy, Munich, Germany.
- Meder, B.**, & Mayrhofer, R. (2015, March). Bayesian reasoning with verbal information. TeaP 2015, Hildesheim, Germany.
- Jarecki, J., **Meder, B.**, & Nelson, J.D. (2015, March). Naive Bayes as a default in human category learning. TeaP 2015, Hildesheim, Germany.
- Crupi, V., Nelson, J.D., **Meder, B.**, Cevolani, G., & Tentori, K. (2015, March). Shannon and beyond: Generalized entropies and rational information search. Fourth conference of the DFG priority program ‘New Frameworks of Rationality’ (SPP 1516), Etelsen, Germany.
- Martignon, L., Nelson, J., **Meder, B.**, Knauber, H., & Schray, H. (2015, March). Information search in the classroom. Fourth conference of the DFG priority program ‘New Frameworks of Rationality’ (SPP 1516), Etelsen, Germany.
- Meder, B.**, Wu, C., Nelson, J. D., & Filimon, F. (2015, February). Presentation formats and information search. Workshop ‘Information, search, and causes: Rational and cognitive approaches’, Turin, Italy.
- 2014 **Meder, B.**, & Mayrhofer, R. (2014, November). Bayesian reasoning with verbal information. Psychonomics, Long Beach, CA, USA.
- Morais, S., Schooler, L., Olsson, H., & **Meder, B.** (2014, November). From causal models to sound heuristic inference. Psychonomics, Long Beach, CA, USA.
- Nelson, J.D., **Meder, B.**, Szalay, C., Crupi, V., & Tentori, K. (2014, November). Implications of disregarding objective utilities when selecting a medical test. Psychonomics, Long Beach, CA, USA.
- Fleischhut, N., **Meder, B.**, & Gigerenzer, G. (2014, November). Moral judgments under certainty and uncertainty. 35th Annual Conference of the Society for Judgment and Decision Making, Long Beach, CA, USA.
- Nelson, J. D., **Meder, B.**, Szalay, C., Crupi, V., & Tentori, K. (2014, September). On selecting experiments given uncertainty about payoff structures. ESPP meeting, Noto, Sicily.
- Nelson, J., **Meder, B.**, Szalay, C., Crupi, V., & Tentori, K. (2014, June). On optimality conditions for the likelihood difference heuristic. 15th European Meeting of the Society for Medical Decision Making, Antwerp, Belgium.

- Nelson, J., Crupi, V., Martignon, L., **Meder, B.**, & Tentori, K. (2014, March). Confirmation, entropy and information. Third conference of the DFG priority program “New Frameworks of Rationality” (SPP 1516), Etelesen, Germany.
- 2013 Jarecki, J., **Meder, B.**, & Nelson, J. D. (2013, November). The assumption of class-conditional independence in categorization under uncertainty. SJDM, Toronto, Canada.
- Morais, A. S., Olsson, H., Schooler, L. & **Meder, B.** (2013, August). Using intuitive causal models to determine the predictive value of cues, SPUDM 24, Barcelona, Spain.
- Nelson, J. D., Szalay, C., **Meder, B.**, Crupi, V., Gigerenzer, G., & Tentori, T. (2013, August). On optimality conditions for the likelihood difference heuristic. 46th Annual Meeting of the Society of Mathematical Psychology, Potsdam, Germany.
- Meder, B.**, & Mayrhofer, R. (2013, August). Sequential diagnostic reasoning with verbal information. 35th Annual Conference of the Cognitive Science Society, Berlin, Germany.
- Meder, B.**, & Nelson, J. D. (2013, August). Information search with situation-specific reward functions. 35th Annual Conference of the Cognitive Science Society, Berlin, Germany.
- Jarecki, J., **Meder, B.**, & Nelson, J. D. (2013, August). The assumption of class-conditional independence in category learning. 35th Annual Conference of the Cognitive Science Society, Berlin, Germany.
- Meder, B.**, Fernandez, J. P., Katsikopoulos, K., & Nelson, J.D. (2013, March). The wisdom of crowds in unexploded ordnance (UXO) classification, TeaP 2013, Vienna, Austria.
- Nelson, J. D., & **Meder, B.** (2013, March). Informational vs. objective utilities in information search, TeaP 2013, Vienna, Austria.
- Crupi, V., Martignon, L., **Meder, B.**, Nelson, J. D., & Tentori, K. (2013, March). Pathways between Bayesian confirmation theories and models of information search. Second conference of the priority program on “New Frameworks of Rationality” (SPP 1516), Etelsen, Germany.
- 2012 Nelson, J. D., Divjak, B., Gudmundsdottir, G., Martignon, L., & **Meder, B.** (2012, November). Heuristics, optimality, and children’s sequential information search. Psychonomics, MN, USA.
- Nelson, J. D., **Meder, B.**, & Szalay, C. (2012, November). On optimality conditions for the likelihood difference heuristic. SJDM, MN, USA.
- Meder, B.** (2012, September). The empirical study of human information acquisition. Invited talk, workshop “Operationalizing epistemic concepts”, Aachen, Germany.
- Osman, M., **Meder, B.**, Gigerenzer, G., Chater, N., Read, D., & Neth, H. (2012, August). What can cognitive science say or learn about economic crises? Symposium, 34th Annual Conference of the Cognitive Science Society, Sapporo, Japan.
- Meder, B.** (2012, August). Causal reasoning with the do-operator. Invited talk, workshop “Rationality frameworks for conditionals”, Munich, Germany.
- Nelson, J. D., Divjak, B., Gudmundsdottir, G., Martignon, L., & **Meder, B.** (2012, July). Heuristics, optimality, and children’s sequential information search. ICT, London, UK.

- Meder, B.**, & Nelson, J. D. (2012, April). Information search with situation-specific reward functions. TeaP 2012, Mannheim, Germany.
- Bodemer, N., & **Meder, B.** (2012, April). When relative is absolute: On the interpretation of relative risk reductions. TeaP 2012, Mannheim, Germany.
- Morais, A. S., Olsson, H., Schooler, L. & **Meder, B.** (2012, April). How causal models influence information search. TeaP 2012, Mannheim, Germany.
- Martignon, L., Divjak, B., Gudmundsdottir, G., Nelson, J.D., & **Meder, B.** (2012, April). Information search in children: New results on variants of the twenty questions game. TeaP 2012, Mannheim, Germany.
- 2011 Waldmann, M. R., Mayrhofer, R., & **Meder, B.** (2011, November). Models of elemental causal diagnostic reasoning. Psychonomics, Seattle, USA.
- Meder, B.** (2011, November). Evolution of information search: From statisticians, to psychologists, to honeybees. Invited talk, School of Biological and Chemical Sciences, Queen Mary University of London, London, UK.
- Meder, B.**, Divjak, B., Nelson, J.D., Gudmundsdottir, G., & Martignon, L. (2011, September). Guess Who? A study of children's information-search behavior. XXIV Congresso Nazionale Associazione Italiana di Psicologia, Genova, Italy.
- Nelson, J. D., & **Meder, B.** (2011, August). Information search under asymmetric reward conditions. London Reasoning Workshop, London, UK.
- Divjak, B., Gudny, G., Martignon, L., **Meder, B.**, & Nelson, J.D. (2011, July). Optimality, heuristics, and children's sequential information search. ASIC 2011, Caldes de Boi, Spain.
- Divjak, B., Gudmundsdottir, G., **Meder, B.**, Nelson, J. D., & Martignon, L. (2011, February). Erste Kompetenzen von Kindern im Umgang mit Informationen und Informationssuche: Kopf oder Bauch? 45. Jahrestagung für Didaktik der Mathematik, Freiburg, Germany.
- Nelson, J. D., Martignon, L., & **Meder, B.** (2011, February). Experience-based learning of environmental probabilities enhances Bayesian reasoning. 45. Jahrestagung für Didaktik der Mathematik, Freiburg, Germany.
- Meder, B.** (2011, January). Sampling in decisions from experience: An information-theoretic approach. Invited talk, Department of Psychology, University of Basel, Switzerland.
- Meder, B.** (2011, January). Diagnostic reasoning: A causal model perspective. Invited talk, Department of Psychology, University of Basel, Switzerland.
- 2010 **Meder, B.** (2010, December). Rational models of elemental diagnostic inference. Invited talk, London Judgment and Decision Making (LJDM) Group, London, UK.
- Nelson, J. D., & **Meder, B.**, (2010, November). Information search under asymmetric reward conditions. Psychonomics, St. Louis, USA.
- Meder, B.**, Mayrhofer, R., & Waldmann, M. R. (2010, October). Modelle elementaren diagnostischen Schließens. 10th Biannual Meeting of the German Society for Cognitive Science, Potsdam, Germany.
- Meder, B.**, & Nelson, J. D. (2010, October). Information search under asymmetric reward conditions. 10th Biannual Meeting of the German Society for Cognitive Science, Potsdam, Germany.
- Mangold, S., **Meder, B.**, & Hagmayer, Y. (2010, October). Spontane Kausalinduktion bei der Steuerung komplexer Systeme. 10th Biannual Meeting of the German Society for Cognitive Science, Potsdam, Germany.

- von Sydow, M., Hagmayer, Y., & **Meder, B.** (2010, October). Causal consistency versus empirical evidence. 10th Biannual Meeting of the German Society for Cognitive Science, Potsdam, Germany.
- Mangold, S., **Meder, B.**, & Hagmayer, Y. (2010, March). Spontane Kausalinduktion bei der Steuerung komplexer Systeme. TeaP 2010, Saarbrücken, Germany.
- von Sydow, M., **Meder, B.**, & Hagmayer, Y. (2010, March). Schlussfolgerungsbasierte Verzerrungen datenbasierter Induktion bei verschiedenen Kausalstrukturen. TeaP 2010, Saarbrücken, Germany.
- 2009 Hagmayer, Y., & **Meder, B.** (2009, August). Causal reasoning in repeated decision making. SPUDM 22, Rovereto, Italy.
- Meder, B.**, Mayrhofer, R., & Waldmann, M. R. (2009, August). A rational model of elemental diagnostic inference. 31st Annual Conference of the Cognitive Science Society, Amsterdam, The Netherlands.
- Hagmayer, Y., & **Meder, B.** (2009, July). Causal induction enables adaptive decision making. 31st Annual Conference of the Cognitive Science Society, Amsterdam, The Netherlands.
- von Sydow, M., **Meder, B.**, & Hagmayer, Y. (2009, July). A transitivity heuristic of probabilistic causal reasoning. 31st Annual Conference of the Cognitive Science Society, Amsterdam, The Netherlands.
- Meder, B.**, Mayrhofer, R., & Waldmann, M.R. (2009, April). Statistische und kausale Normen diagnostischen Schließens. TeaP 2009, Jena, Germany.
- Hagmayer, Y., & **Meder, B.** (2009, March). Kausales lernen durch wiederholtes Entscheiden. TeaP 2009, Jena, Germany.
- 2008 **Meder, B.**, Mayrhofer, R. & Waldmann, M.R. (2008, August). Bayesian models of elemental diagnostic reasoning. 41st Annual Society for Mathematical Psychology Conference, Washington, D. C., USA.
- Hagmayer, Y., & **Meder, B.** (2008, July). Causal learning through repeated decision making. 30th Annual Conference of the Cognitive Science Society, Washington D. C., USA.
- Hagmayer, Y., & **Meder, B.** (2008, July). Causal models in repeated decision making. XXIX International Congress of Psychology, Berlin, Germany.
- von Sydow, M., **Meder, B.**, & Waldmann, M. R. (2008, July). Transitivity heuristic in causal reasoning. XXIX International Congress of Psychology, Berlin, Germany.
- 2007 Hagmayer, Y., & **Meder, B.** (2007, August). What shall I do? A simple causal heuristic to derive interventions from observations. SPUDM 21, Warsaw, Poland.
- Meder, B.** (2007, June). Kausalmodelle und Bayes-Netze. Invited talk, Department of Psychology, Technical University of Chemnitz, Chemnitz, Germany.
- Meder, B.**, von Sydow, M., & Hagmayer, Y. (2007, March). Schließen mit Kausalmodellen. TeaP 2007, Trier, Germany.
- von Sydow, M., & **Meder, B.** (2007, March). Vernunft jenseits der Prädikatenlogik: Zur Rolle von Zielen und deontischer Semantik bei der Wason'schen Kartenwahlaufgabe (WST). TeaP 2007, Trier, Germany.
- Hagner, A., **Meder, B.**, von Sydow, M., & Hagmayer, Y. (2007, March). Wie kausalbasiertes Kategorielernen zu kategorienbasiertem Kausallernen führt. TeaP 2007, Trier, Germany.

- Corinth, C., von Sydow, M., **Meder, B.**, & Hagmayer, Y. (2007, March). Fehlerhafte Schlüsse in kausalen Ketten auf Grund subjektiver Transitivitätsannahmen. TeaP 2007, Trier, Germany.
- 2006 **Meder, B.**, Hagmayer, Y., & Waldmann, M. R. (2006, July). Understanding the causal logic of confounds. 28th Annual Conference of the Cognitive Science Society, Vancouver, Canada.
- 2005 **Meder, B.**, Hagmayer, Y., von Sydow, M., & Waldmann, M. R. (2005, April). Beobachten und Handeln in kausalen Systemen. TeaP 2005, Regensburg, Germany.
- Meder, B.**, Hagmayer, Y., & Waldmann, M. R. (2005, July). Doing after seeing. 27th Annual Conference of the Cognitive Science Society, Stresa, Italy.
- von Sydow, M., Hagmayer, Y., **Meder, B.**, & Waldmann, M. (2005, April). Flexibles bayesianisches Hypothesentesten. TeaP 2005, Regensburg, Germany.
- Hagmayer, Y., Waldmann, M., **Meder, B.**, & von Sydow, M. (2005, April). Integration von Kausalmodellen - Wie spontane Kategorienbildung das Lernen von Kausalzusammenhängen beeinflusst. TeaP 2005, Regensburg, Germany.
- 2004 **Meder, B.**, Hagmayer, Y., & Waldmann, M. R. (2004, April). Kategorienbasierte Transfereffekte beim Kausallernen. TeaP 2004, Gießen, Germany.
- Meder, B.** (2004, September). Die Ableitung von Interventionsfolgen aus Beobachtungsdaten und Kausalmodellen. 44th Kongress der Deutschen Gesellschaft für Psychologie, Göttingen, Germany.
- Waldmann, M. R., Hagmayer, Y., & **Meder, B.** (2004, November). Seeing versus doing: Two modes of accessing causal models in people. Psychonomics, Minneapolis, USA.

Berlin, September 10, 2020