

# Carina Heller, Ph.D.

Postdoctoral Research Fellow

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Pronouns: she/her

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## ACADEMIC APPOINTMENTS

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09/2024 – present	University of Minnesota Masonic Institute for the Developing Brain Postdoctoral Research Fellow Primary Advisor: Dr. Bart Larsen
09/2024 – present	University of California Santa Barbara Department of Psychological and Brain Sciences Postdoctoral Research Fellow Primary Advisor: Dr. Emily Jacobs
10/2022 – 09/2024	Jena University Hospital Department of Psychiatry and Psychotherapy Postdoctoral Research Fellow Primary Advisor: Prof. Dr. Martin Walter
08/2022 – 12/2023	Friedrich Schiller University Jena Department of Clinical Psychology Postdoctoral Research Fellow Primary Advisor: Prof. Dr. Ilona Croy
11/2019 – 07/2022	Friedrich Schiller University Jena Department of Clinical Psychology PhD Candidate Primary Advisor: Prof. Dr. Thomas Weiss
12/2018 – 10/2019	Jena University Hospital Department of Psychiatry and Psychotherapy Research Associate Primary Advisor: Prof. Dr. Karl-Jürgen Bär

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## EDUCATION

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03/2019 – 07/2022	Friedrich Schiller University Jena Department of Clinical Psychology Ph.D., Psychology - <i>summa cum laude</i> Dissertation: <i>Using structural and diffusion magnetic resonance imaging to explore the neurodevelopmental model in schizophrenia</i> Primary Advisor: Prof. Dr. Thomas Weiss
10/2016 – 11/2018	Friedrich Schiller University Jena M.S., Cognitive Psychology and Cognitive Neuroscience Thesis: <i>The role of white matter abnormalities and cognition in a high-risk population to develop schizophrenia: Reconstruction of subcortical and cortical fiber tracts in young adults with the 22q11 deletion syndrome</i> Primary Advisor: Prof. Dr. Thomas Weiss
10/2012 – 09/2016	University of Koblenz-Landau B.S., Psychology Thesis: <i>Non-suicidal self-injurious behavior, alexithymia, and associated emotion regulation in female adolescents</i> Primary Advisors: Taru Tschan & Prof. Dr. Tina In-Albon

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## PAST RESEARCH EXPERIENCES

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- 11/2023 – 12/2023 Visiting Postdoctoral Research Fellow, Big Data Institute, University of Oxford, Oxford, UK
- 08/2022 – 12/2023 Visiting Postdoctoral Research Fellow, Psychiatry Neuroimaging Laboratory (PNL), Brigham and Women's Hospital, Harvard Medical School, Boston, USA
- 09/2021 – 07/2022 Visiting Ph.D. Student, Psychiatry Neuroimaging Laboratory (PNL), Brigham and Women's Hospital, Harvard Medical School, Boston, USA
- 03/2018 – 10/2018 Research Trainee, Psychiatry Neuroimaging Laboratory (PNL), Brigham and Women's Hospital, Harvard Medical School, Boston, USA
- 10/2017 – 03/2018 Research Assistant, Clinic of Neurology, Jena University Hospital, Jena, Germany
- 10/2014 – 01/2015 Research Trainee, Department of Clinical Child & Adolescent Psychology, University of Koblenz-Landau, Germany
- 08/2014 – 10/2014 Research Trainee, Institute of Neuroscience, Trinity College Dublin, Ireland
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## PEER-REVIEWED PUBLICATIONS

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- Heller, C.**, Kraft, M. Z., Martinez, M., Mirmajlesi, A. S., Janecka, M., McCormack, C., Thomason, M. E., Weiss, T., & Arciniega, H. (2025). Complications after maternal traumatic brain injury during pregnancy: A systematic review. *JAMA Network Open*, 8(2), e2459877. 10.1001/jamanetworkopen.2024.59877
- Heller, C.**, Güllmar, D., Koeppel, C., Rojczyk, P., Stein, H., Taylor, C. M., Jacobs, E. G., Derntl, B., Kikinis, Z., Walter, M., Croy, I. (2024). Hippocampal volume and affect in response to fluctuating estrogens across the female menstrual cycle: A longitudinal single-subject study. *npj Women's Health*, 2(19). 10.1038/s44294-024-00023-1
- Heller, C.**, Barth, C., Silk, T.J., Vijayakumar, N., Carmona, S., Martínez-García, M., Kikinis, Z., Thomopoulos, S. I., Jahanshad, N., Salminen, L., Lawrence, K., Thompson, P. M., & Petersen, N. (2024). The ENIGMA-Neuroendocrinology working group to bridge gaps in female mental health research. *Nat. Mental Health*, 2, 348–350. 10.1038/s44220-024-00224-2
- Lacasse, J. M., **Heller, C.**, Kheloui, S., Ismail, N., Raval, A. P., Schuh, K. M., Tronson, N. C., & Leuner, B. (2024). Beyond Birth Control: The Neuroscience of Hormonal Contraceptives. *The Journal of neuroscience : the official journal of the Society for Neuroscience*, 44(40), e1235242024. 10.1523/JNEUROSCI.1235-24.2024
- Rojczyk, P., **Heller, C.**, Seitz-Holland, J., Kaufmann, E., Sydnor, V. J., Berger, L., Pankatz, L., Rath, Y., Bouix, S., Pasternak, O., Salat, D., Hinds, S. R., Esopenko, C., Fortier, C. B., Milberg, W. P., Shenton, M. E., & Koerte, I. K. (2024). Intimate partner violence perpetration among veterans: associations with neuropsychiatric symptoms and limbic microstructure. *Frontiers in neurology*, 15, 1360424. 10.3389/fneur.2024.1360424
- Rojczyk, P., Seitz-Holland, J., **Heller, C.**, Marcolini, S., Marshall, A. D., Sydnor, V. J., Kaufmann, E., Jung, L. B., Bonke, E. M., Berger, L., Umminger, L. F., Wiegand, T. L. T., Cho, K. I. K., Rath, Y., Bouix, S., Pasternak, O., Hinds, S. R., Fortier, C. B., Salat, D., Milberg, W. P., ... Koerte, I. K. (2024). Posttraumatic survivor guilt is associated with white matter microstructure alterations. *Journal of affective disorders*, 361, 768–777. 10.1016/j.jad.2024.06.047
- Kraft, M., Rojczyk, P., Weiss, T., Derntl, B., Croy, I., & **Heller, C.** (2024). Symptoms of mental disorders and oral contraception use: A systematic review and meta-analysis. *Frontiers in Neuroendocrinology*, 10.1016/j.yfrne.2023.101111.
- Kikinis, Z., Castañeyra-Perdomo, A., González-Mora, J. L., Rushmore, R. J., Toppa, P. H., Haggerty, K., Papadimitriou, G., Rath, Y., Kubicki, M., Kikinis, R., **Heller, C.**, Yeterian, E., Besteher, B., Pallanti, S., & Makris, N. (2024). Investigating the structural network underlying brain-immune interactions using combined histopathology and neuroimaging: a critical review for its relevance in acute and long COVID-19. *Frontiers in psychiatry*, 15, 1337888. 10.3389/fpsy.2024.1337888

- Croy, I., **Heller, C.**, Akello, G., Anjum, A., Atama, C., Avsec, A., ... & Sorokowska, A. (2023). COVID-19 and Social Distancing: A Cross-Cultural Study of Interpersonal Distance Preferences and Touch Behaviors Before and During the Pandemic. *Cross-Cultural Research*, 10.1177/10693971231174935
- Pallanti, S., Di Ponzio, M., Gavazzi, G., Gasic, G., Besteher, B., **Heller, C.**, Kikinis, R., Makris, N., Kikinis, Z. (2023). From 'mental fog' to post-acute COVID-19 syndrome's executive function alteration: Implications for clinical approach. *Journal of Psychiatric Research*, 10.1016/j.jpsychires.2023.09.017.
- Senay, O., Seethaler, M., Makris, N., Yeterian, E., Rushmore, J., Cho, K. I. I., Rizzoni, E., **Heller, C.**, ... & Kubicki, M. (2023). A preliminary choroid plexus volumetric study in individuals with psychosis. *Human Brain Mapping*, 10.1002/hbm.26224.
- Heller, C.**, Kimmig, A.-C. S., Kubicki, M., Derntl, B., & Kikinis, Z. (2022). Imaging the Brain on Oral Contraceptives: A Review on Imaging Methods and Implications for Future Research Goals. *Frontiers in Neuroendocrinology*, 67(March), 101031.
- Seitz-Holland, J., Seethaler, M., Makris, N., Rushmore, J., Cho, K. I. K., Rizzoni, E., Vangel, M., Sahin, O. S., **Heller, C.**, ... & Kubicki, M. (2022). The association of matrix metalloproteinase 9 (MMP9) with hippocampal volume in schizophrenia: a preliminary MRI study. *Neuropsychopharmacology*, 47(2), 524-530.
- Besteher, B., Machnik, M., Troll, M., Toepffer, A., Zerekidze, A., Rocktäschel, T., **Heller, C.**, ... & Gaser, C. (2022). Larger Gray Matter Volumes in Neuropsychiatric long-COVID Syndrome. *Psychiatry Research*, 317, 114836.
- Heller, C.**, Weiss, T., Del Re, E. C., Swago, S., Coman, I. L., Antshel, K. M., ... & Kikinis, Z. (2021). Smaller subcortical volumes and enlarged lateral ventricles are associated with higher global functioning in young adults with 22q11. 2 deletion syndrome with prodromal symptoms of schizophrenia. *Psychiatry Research*, 301, 113979.
- Jáni, M., Kikinis, Z., Lošák, J., Pasternak, O., Szczepankiewicz, F., **Heller, C.**, ... & Kašpárek, T. (2021). Emotional Awareness in Schizophrenia Is Associated With Gray Matter Volume of Right Precuneus. *Frontiers in psychiatry*, 12, 416.
- Heller, C.**, Steinmann, S., Levitt, J. J., Makris, N., Antshel, K. M., Fremont, W., ... & Kikinis, Z. (2020). Abnormalities in white matter tracts in the fronto-striatal-thalamic circuit are associated with verbal performance in 22q11. 2DS. *Schizophrenia Research*, 224, 141-150.

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## CONFERENCE TALKS AND POSTERS

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- Heller, C.** Investigating the influence of oral contraceptives in neural circuits: Insights from single-subject longitudinal MRI. Symposium Talk. Society for Neuroscience Annual Conference 10/2024
- Heller, C.** Bridging gaps in women's health research: The ENIGMA Neuroendocrinology working group. Symposium Talk. Organization of Human Brain Mapping Annual Conference 6/2024
- Heller, C.**, Güllmar, D., Colic, L., Javaheripour, N., De La Cruz, F., Rojczyk, P., Koepfel, C. J., Ganjgahi, H., Buck, A.-C., Kiehnopf, M., Pritschet, L., Jacobs, E. G., Kikinis, Z., Walter, M., Croy, I., Gaser, C. Hormonal dynamics shape whole-brain structural plasticity in women with and without endometriosis. Organization of Human Brain Mapping Annual Conference 6/2024
- Heller, C.**, Güllmar, D., Rojczyk, P., Stein, H., Taylor, C. M., Jacobs, E. G., Derntl, B., Kikinis, Z., Croy, I. Hippocampal volume in response to estrogens across the natural female menstrual cycle. Poster Presentation. Organization of Human Brain Mapping Annual Conference 7/2023.
- Heller, C.**, Güllmar, D., Rojczyk, P., Stein, H., Jacobs, E. G., Derntl, B., Kikinis, Z., Croy, I. Positive and negative affect in fluctuating cortical thickness and estrogens across the natural female menstrual cycle: A longitudinal single-subject study. Poster Presentation. Organization for the Study of Sex Differences 5/2023.
- Heller, C.**, Güllmar, D., Rojczyk, P., Stein, H., Jacobs, E. G., Derntl, B., Kikinis, Z., Croy, I. Cortical thickness and mood in response to fluctuating estrogens across the natural female menstrual cycle:

A longitudinal single-subject study. Poster Presentation. Society of Biological Psychiatry Annual Conference 4/2023.

**Heller, C.**, Kimmig, A. S., Kubicki, M. R., Derntl, B., Kikinis, Z. Imaging the Brain on Oral Contraceptives. Poster Presentation. International Society of Psychoneuroendocrinology Annual Conference 9/2022.

**Heller, C.**, Carrington, H., Ching, C. R. C., Kushan, L., Jalbrzikowski, M., Gudbrandsen, M., Murphy, D., Daly, E., Craig, M., Antshel, K. M., Fremont, W., Coman, I. L., Kates, W. R., Bearden, C. B., Kikinis, Z. A Potential Biomarker for Psychosis Spectrum Symptoms in 22q11.2 Deletion Syndrome. Poster Presentation. Organization of Human Brain Mapping Annual Conference 6/2022

**Heller, C.**, Kikinis, Z., Steinmann, S., Makris, N., Antshel, K. M., Fremont, W., Coman, I. L., Schweinberger, S. R., Weiß, T., Bouix, S., Kubicki, M. R., Kates, W. R., Shenton, M. E., Levitt, J. J. Abnormalities in White Matter Tracts in the Fronto-Striatal-Thalamic Circuit and Cognition in a High-Risk Schizophrenia Population. Poster Presentation. Organization of Human Brain Mapping Annual Conference 6/2019.

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## MEDIA COVERAGE

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2025 Dose, scan, repeat: Tracking the neurological effects of oral contraceptives. *The Transmitter*

2024 Erschreckend, wie wenig wir über die Wirkung der Pille aufs Gehirn wissen. *stern*

2024 Experiment am eigenen Körper: Wie die Pille das Gehirn verändert. *Tagesspiegel*

2024 Neuroscientist finds her brain shrinks while taking birth control. *New Scientist*

2024 Scientist scans her own brain 75 times to study the effect of birth control pills. *CBC*

2024 How does the brain react to birth control? A researcher scanned herself 75 times to find out. *Nature*

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## GRANT SUPPORT

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09/2024 – 08/2026	Walter Benjamin Fellowship, German Research Foundation (DFG) Research Project: “Imaging the Brain on Oral Contraceptives: A Longitudinal Study within the Ann S. Bowers Women’s Brain Health Initiative” 100,000.00€
03/2023 – 09/2023	IMPULSE <sup>Project</sup> , Friedrich Schiller University Jena Research Project: “Imaging the Brain on Oral Contraceptives: A Longitudinal Single Subject Study” 10,000.00€
01/2023 – 12/2023	University Clinic Jena (with Prof. Dr. Smesny and Dr. Günther) Teaching Project: “Establishing a communication course that addresses the specifics of communicating with patients with psychiatric conditions” 10,000.00€
04/2022 – 03/2023	Academy for Teaching Development, Friedrich Schiller University Jena (with Prof. Dr. Croy, Dr. Franz, Dr. Rottstädt) Teaching Project: “Problem-based learning in academic psychotherapy studies using clinical psychology as an applied subject” 15,000.00€
09/2020 – 07/2022	Ph.D. Scholarship, evangelische Studienstiftung Villigst 34,800.00€

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## HONORS AND AWARDS

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07/2023	DAAD (German Academic Exchange Service) Kongressreisenprogramm 2023 Poster presentation at OHBM in Montréal 2,055.00€
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09/2022 – 10/2022	ProChance <sup>Exchange</sup> , Friedrich Schiller University Jena Research Stay at Harvard Medical School 1,000.00€
06/2022	IMPULSE <sup>Conferences</sup> , Friedrich Schiller University Jena Poster presentation at OHBM in Glasgow 987.00€
04/2020	ProChance <sup>Exchange</sup> , Friedrich Schiller University Jena Poster Presentation at SIRS in Florence 1,000.00€
03/2018 – 10/2018	PROMOS Scholarship, DAAD (German Academic Exchange Service) Research Stay at Harvard Medical School 2,775.00€

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## PROFESSIONAL AFFILIATIONS

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ENIGMA Neuroendocrinology Working Group  
 Women's Health Research Cluster  
 Organization of Human Brain Mapping (OHBM)  
 Organization for the Study of Sex Differences (OSSD)

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## AD HOC REVIEWING

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*Translational Psychiatry*  
*eBioMedicine*  
*Brain and Behavior*  
*Human Brain Mapping*  
*American Journal of Psychiatry*  
*Acta Psychiatrica Scandinavica*  
*Nature Aging*  
*Nature Mental Health*  
*Hormones and Behavior*  
*The BMJ*  
*Imaging Neuroscience*

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## INVITED TALKS

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2024	University Hospital Hamburg, Hamburg, Germany
2024	Valk Lab, Max-Planck-Institute, Leipzig, Germany
2024	Forschungszentrum Jülich, Jülich, Germany
2024	Grossman School of Medicine, New York University, New York, NY, USA
2024	FemiLab, University of Oslo, Oslo, Norway
2024	Big Data Institute, University of Oxford, Oxford, UK
2023	Behavioral Endocrinology Branch & Clinical and Translational Neuroscience Branch, National Institute of Mental Health, Bethesda, MD, USA

2022 Jacobs Lab, University of California Santa Barbara, Santa Barbara, CA, USA  
2022 International Research Training Group, University of Tübingen, Tübingen, Germany

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## **VOLUNTARY WORK**

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2023 – present Volunteer in the Women’s Health Research Cluster (Social Media Committee),  
University of British Columbia, Vancouver, Canada

2020 Appeals Committee Member: “Obstetric medicine and maternal health”, Friedrich-  
Schiller-University Jena, Jena, Germany

2017 Jury Member at “Emperiepraktikumskongress”, Friedrich Schiller University Jena,  
Jena, Germany

2017 Mentor for international students, Friedrich Schiller University Jena, Jena, Germany

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## **TEACHING EXPERIENCE**

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Fall 2024 Problem-based learning in Psychiatry, Psychosomatics, and Neurology  
Department of Psychiatry and Psychotherapy, Jena University Hospital, Friedrich  
Schiller University Jena

Fall 2023 Problem-based learning in Psychiatry, Psychosomatics, and Neurology  
Department of Psychiatry and Psychotherapy, Jena University Hospital, Friedrich  
Schiller University Jena

Spring 2023 Diagnosis of psychopathological disorders: Clinical disorders  
Department of Clinical Psychology, Friedrich Schiller University Jena

Fall 2022 Advanced seminar: Clinical Psychology II  
Department of Clinical Psychology, Friedrich Schiller University Jena

Fall 2022 Problem-based learning in Psychiatry, Psychosomatics, and Neurology  
Department of Psychiatry and Psychotherapy, Jena University Hospital, Friedrich  
Schiller University Jena

Spring 2022 Clinical child and adolescent psychotherapy  
Department of Clinical Child and Adolescent Psychology, Friedrich Schiller  
University Jena

Spring 2022 Psychotherapeutic procedural teaching in childhood and adolescence  
Department of Clinical Child and Adolescent Psychology, Friedrich Schiller  
University Jena

Fall 2021 Problem-based learning in Psychiatry, Psychosomatics, and Neurology  
Department of Psychiatry and Psychotherapy, Jena University Hospital, Friedrich  
Schiller University Jena

Fall 2021 Advanced seminar: Clinical Psychology II  
Department of Clinical Psychology, Friedrich Schiller University Jena

Spring 2021 Diagnosis of psychopathological disorders: Clinical disorders  
Department of Clinical Psychology, Friedrich Schiller University Jena

Fall 2020	Problem-based learning in Psychiatry, Psychosomatics, and Neurology Department of Psychiatry and Psychotherapy, Jena University Hospital, Friedrich Schiller University Jena
Fall 2020	Advanced seminar: Clinical Psychology II Department of Clinical Psychology, Friedrich Schiller University Jena
Spring 2020	Diagnosis of psychopathological disorders: Clinical disorders Department of Clinical Psychology, Friedrich Schiller University Jena
Fall 2019	Advanced seminar: Clinical Psychology II Department of Clinical Psychology, Friedrich Schiller University Jena

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## MENTORING

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2024	Friedrich Schiller University	Mathilda Kraft (Master thesis, first reviewer and advisor)
2023	Friedrich Schiller University	Merija Gühning (Bachelor thesis, first reviewer and advisor)
2022	Friedrich Schiller University	Mathilda Kraft (Bachelor thesis, first reviewer and advisor)
2022	Friedrich Schiller University	Lydia Krause (Bachelor thesis, first reviewer and advisor)
2022	Friedrich Schiller University	Darya Aydin (Master thesis, second reviewer)
2022	Friedrich Schiller University	Emily Krain (Bachelor thesis, second reviewer)
2021	Friedrich Schiller University	Annika Lichtenberg (Bachelor thesis, first reviewer and advisor)
2021	Friedrich Schiller University	Svantje Kögel (Bachelor thesis, second reviewer)
2021	Friedrich Schiller University	Florian Hartmann (Bachelor thesis, second reviewer)