

## CURRICULUM VITAE

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**Dr. rer. nat. Nora Katharina Moog**  
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Charité – Universitätsmedizin Berlin  
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### EDUCATION

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| Sep 2013 – July 2017 | <b>Berlin School of Mind and Brain</b><br>Structured graduate program  |
| Apr 2013 – July 2017 | <b>Humboldt-Universität zu Berlin</b><br>Doctoral studies in psychology<br><u>Degree:</u> Dr. rer. nat. (PhD), Grade: Magna cum laude<br>Dissertation thesis: „Thyroid dysfunction as a potential mechanism for the intergenerational transmission of childhood maltreatment effects during pregnancy” |
| Oct 2005 – May 2011  | <b>Universität Trier</b><br>Undergraduate studies in psychology<br><u>Degree:</u> Diploma in Psychology (equivalent to master’s degree), Grade: 1.3 (“excellent”)<br>Diploma thesis: “Psychoendocrine Correlates of Prenatal Stress”   |
| Oct 2008 – June 2009 | <b>Universität Wien</b><br>Undergraduate studies in psychology<br>ERASMUS foreign exchange scholarship   |

### ACADEMIC POSITIONS/ INTERNSHIPS

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| Since May 2020 | <b>Charité – Universitätsmedizin Berlin</b><br>Research associate, Postdoctoral student<br>Institute of Medical Psychology<br>Project: TIToC – Deutsche Forschungsgemeinschaft (DFG)<br>(Principal Investigator: Dr. Nora Moog) |
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- Oct 2017 – April 2020**      **Charité – Universitätsmedizin Berlin**  
 Research associate, Postdoctoral student  
 Institute of Medical Psychology  
 Project: TransCTNeurodev – European Research Council Starting Grant  
 (Principal Investigator: Dr. Claudia Buß)
- Jan 2014 – Sep 2017**      **Charité – Universitätsmedizin Berlin**  
 Research assistant, Doctoral student  
 Institute of Medical Psychology  
 Project: MecTranGen – ERA-NET Neuron (Principal Investigator: Dr. Claudia Buß)
- Sep 2011 – Dec 2013**      **University of California, Irvine, USA**  
 Junior/ Assistant Specialist  
 University of California, Irvine Development, Health and Disease  
 Research Program (Supervisors: Dr. Claudia Buß, Dr. Pathik Wadhwa)
- Apr 2010 – June 2011**      **Universität Trier**  
 Student assistant  
 Department of Clinical and Physiological Psychology (Supervisor: Dr. Dirk Hellhammer)
- Oct/Nov 2010**      **University of California, Irvine, USA**  
 Research internship  
 University of California, Irvine Development, Health and Disease  
 Research Program (Supervisors: Dr. Claudia Buß, Dr. Pathik Wadhwa,  
 Dr. Sonja Entringer)
- Feb/Mar 2008**      **Klinikum der Johann Wolfgang Goethe-Universität Frankfurt am Main**  
 Clinical and research internship  
 Department of Psychiatry, Psychosomatics and Psychotherapy,  
 Division of Psychosomatics (Supervisors: Dr. Silvia Oddo, Dr. Aylin Thiel)

## RESEARCH INTERESTS

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- Developmental origins of infant and adult health and disease
- Maternal-placental-fetal endocrinology
- Effects of maternal stress and stress biology on fetal development and birth outcomes

- Intergenerational transmission of early life stress
- Pre- and postnatal programming of brain morphology and function
- Pregnancy-induced plasticity of the maternal brain and programming of maternal behavior
- Child cognitive development and its environmental influences

## SCHOLARSHIPS AND AWARDS

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Sep 2017	<b>Young Investigator Travel Award</b> International Society for Psychoneuroendocrinology
Jan 2017 – July 2017	<b>Scholarship of Berlin School of Mind and Brain</b> Ph.D. scholarship
Apr 2014 – Dec 2016	<b>Elsa-Neumann-Stipendium des Landes Berlin</b> Ph.D. scholarship

## RESEARCH GRANTS

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Jan 2019 – Dec 2019	<b>Lydia-Rabinowitsch-Förderung</b> Charité – Universitätsmedizin Berlin; € 4 925
Since May 2020	<b>Deutsche Forschungsgemeinschaft (DFG) – Sachbeihilfe</b> Principal Investigator; Project: Role of Thyroid hormones in the Intergenerational Transmission of Childhood maltreatment effects (DFG - 441735381); € 334 782
Since May 2021	<b>Deutsche Forschungsgemeinschaft (DFG) – Sachbeihilfe</b> Co-Investigator; Project: Brain, Gene, and Environment Interactions in the Ontogeny of Early Helping Behavior (DFG – 457116239)

## TEACHING EXPERIENCE

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Since 2013	<b>Charité – Universitätsmedizin Berlin (<i>New Revised Medical Curriculum</i>)</b> Medicine from a (bio-)psychosocial perspective (Lecture) Memory and learning strategies (Module 1) Communication, interaction, teamwork (Modules 1 - 8) Assessment of subjective parameters in human medicine (Module 7)
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Ethical basis of medical thinking and acting - Medical progress in assisted reproduction and ethical dilemmas (Modules 9 – 12)

Developmental programming of health and disease (Module 20)

Gene x environment interactions in the pathogenesis of psychiatric disease (Module 31)

Societal, ethical and psychological implications of pregnancy termination (Module 33)

Cognitive development and assessment in childhood and adolescence (Module 34)

## SUPERVISION EXPERIENCE

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### Master Students

#### Lizbeth Tinajero

University of Bremen, Master of Science in Neurosciences. Topic: Effects of Maternal Acculturation and Subjective Socioeconomic Disadvantage during Pregnancy on Hippocampal and Amygdala Volume of Newborn Infants. April 2019 – Dec 2019 (co-supervisor).

#### Charlotte Kuczyk

University of Leipzig, Master of Science in Psychology. Topic: Maternal childhood maltreatment experiences and inflammation during pregnancy. April 2021 – March 2022 (primary supervisor).

#### Seda Akkaya-Hielscher

Humboldt-Universität zu Berlin, Master of Science Mind and Brain. Topic: The Effect of Maternal Childhood Maltreatment Exposure on Newborn Brain Anatomy and Infant Cognitive Development. August 2021 – June 2022 (primary supervisor).

## SPECIAL TRAINING AND EXPERTISE

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November 2011

University of California, Irvine, USA

Training Test of Infant Motor Performance (Trainer: Gay Girolami)

May 2013

University of North Carolina at Chapel Hill, USA

Training manual segmentation (hippocampus/amygdala) in newborn brains (Supervisor: Dr. Martin Styner)

March 2014

Charité – Universitätsmedizin Berlin, Germany

Salivary analytical workshop and lab practicum (Trainer: Prof. Douglas Granger, Jessica Acevedo)

**July 2019**

**University of Minnesota, Minneapolis, USA**

Attachment Training Workshop/Strange Situation Paradigm (Trainer: Prof. Alan Sroufe; Dr. Robert Weigand)

**November 2019**

**University of Turku, Finland**

Turku EyeLabs Eye Tracking Workshop (Trainer: Dr. Tuomo Häikiö)

### **Languages**

German (native); English (fluent); French (basic); Spanish (basic)

### **Psychobiological methods**

Psychobiological stress assessment: Trier Social Stress Test (TSST), diurnal salivary cortisol profiles, dexamethasone suppression test, hair cortisol, 24-hr urinary cortisol, cortisol assays using ELISA

### **Developmental tests**

Test of Infant Motor Performance (TIMP), Bayley Scales of Infant Development (BSID), Strange Situation Paradigm, LABTAB

### **Neuroimaging**

Infant and toddler magnetic resonance imaging

Advanced User at Berlin Center for Advanced Neuroimaging (BCAN)

## **PROFESSIONAL MEMBERSHIPS AND ACTIVITIES**

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Young Researchers Board of the German Center for Mental Health (Young DZPG)

International Society for Psychoneuroendocrinology (ISPNE)

International Society for Developmental Psychobiology (ISDP)

Fetal, Infant, & Toddler Neuroimaging Group (FIT'NG) Program Planning Committee 2022

## **REVIEW ACTIVITIES**

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### **Scientific journals**

Child Development

Early Human Development

Psychoneuroendocrinology  
Biological Psychiatry  
Biological Psychiatry: CNI  
Biological Psychiatry: GOS  
Development and Psychopathology  
Stress  
Environment International  
Human Brain Mapping  
BMC Pregnancy and Childbirth  
Neurobiology of Stress

### Other Media

dasGehirn.info (Co-Reviewer)  
In-Mind Magazin

## PUBLICATIONS

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### Articles in scientific journals (peer-reviewed)

- Voellmin A, Entringer S, Moog N, Wadhwa PD, Buss, C. Maternal positive affect over the course of pregnancy is associated with the length of gestation and reduced risk of preterm delivery. *Journal of Psychosomatic Research*, 2013, 75 (4): 336-340.
- Moog NK, Buss C, Entringer S, Shahbaba B, Gillen DL, Hobel CJ, Wadhwa PD. Maternal Exposure to Childhood Trauma Is Associated During Pregnancy with Placental-Fetal Stress Physiology. *Biological Psychiatry*, 2016, 79 (10): 831-839.
- Moog NK, Entringer S, Heim C, Wadhwa PD, Kathmann, N, Buss C. Influence of maternal thyroid hormones during gestation on fetal brain development. *Neuroscience*, 2017, 342: 68-100.
- Short SJ, Stalder T, Marceau K, Entringer S, Moog NK, Shirtcliff EA, Wadhwa PD, Buss C. Correspondence between hair cortisol concentrations and 30-day integrated daily salivary and weekly urinary cortisol measures. *Psychoneuroendocrinology*, 2016, 71: 12-18.
- Buss C, Entringer S, Moog NK, Toepfer P, Fair DA, Simhan HN, Heim CM, Wadhwa PD. Intergenerational Transmission of Maternal Childhood Maltreatment Exposure: Implications for Fetal Brain Development. *Journal of the American Academy of Child & Adolescent Psychiatry*, 2017, 56(5): 373-382.

- Moog NK, Heim CM, Entringer S, Kathmann N, Wadhwa PD, Buss C. Childhood Maltreatment is Associated with Increased Risk of Subclinical Hypothyroidism in Pregnancy. *Psychoneuroendocrinology*, 2017, 84: 190-196.
- Moog NK, Entringer S, Rasmussen JM, Styner M, Gilmore JH, Kathmann N, Heim C, Wadhwa PD, Buss C. Intergenerational effect of maternal exposure to childhood maltreatment on newborn brain anatomy, *Biological Psychiatry*, 2018, 83(2): 120-127.
- Moog NK, Wadhwa PD, Entringer S, Heim CM, Gillen DL, Buss C. The challenge of ascertainment of exposure to childhood maltreatment: Issues and considerations. *Psychoneuroendocrinology*, 2021, 125: 105102.
- Lazarides C, Moog NK, Verner G, Voelkle MC, Henrich W, Heim CM, Braun T, Wadhwa PD, Buss C, Entringer S. The association between history of prenatal loss and maternal psychological state in a subsequent pregnancy: an ecological momentary assessment (EMA) study. *Psychological Medicine*, 2021, 15:1-11. doi: 10.1017/S0033291721002221.
- Moog NK, Nolvi S, Kleih TS, Styner M, Gilmore JH, Rasmussen JM, Heim CM, Entringer S, Wadhwa PD, Buss C. Prospective association of maternal psychosocial stress in pregnancy with newborn hippocampal volume and implications for infant social-emotional development. *Neurobiology of Stress*, 2021, 16;15:100368. doi: 10.1016/j.ynstr.2021.100368.
- Allen MC, Moog NK, Buss C, Yen E, Gustafsson HC, Sullivan EL, Graham AM. Co-occurrence of preconception maternal childhood adversity and opioid use during pregnancy: Implications for offspring brain development. *Neurotoxicology and Teratology*, 2021, 88:107033. doi: 10.1016/j.ntt.2021.107033.
- Moog NK, Heim CM, Entringer S, Simhan HN, Wadhwa PD, Buss C. Transmission of the adverse consequences of childhood maltreatment across generations: Focus on gestational biology. *Pharmacology Biochemistry and Behavior*, 2022,215:173372. doi: 10.1016/j.pbb.2022.173372.
- Moog NK, Cummings PD, Jackson KL, Aschner JL, Barrett ES, Bastain TM, ..., Buss C. Intergenerational transmission of the consequences of maternal exposure to childhood maltreatment – a United States nationwide observational study of multiple cohorts in the ECHO program. *The Lancet Public Health*, in press.

### Book chapters

- Moog NK, Wadhwa PD, Buss C. Intergenerational transmission of parental early life stress. In Wazana A, Szekely E, Oberlander TF (Eds.) *Prenatal Stress and Child Development*, 2021, 113-130. Cham: Springer Nature Switzerland.

### Published abstracts (peer-reviewed)

- Moog N, Buss C, Entringer S, Sandman CA, Wadhwa PD. Exposure to Childhood Trauma Among Pregnant Women is Associated With Increased Placental CRH Production Over Gestation. *European Journal of Psychotraumatology Supplement 1*, 2012, 3: 19555.

- Moog NK, Heim C, Entringer S, Wadhwa PD, Buss C. Exposure to childhood trauma is associated with increased risk for subclinical hypothyroidism in pregnancy. *Psychoneuroendocrinology*, 2016, 71 Supplement: 59-60.
- Buss C, Stalder T, Entringer S, Moog N, Kirschbaum C, Heim C, Wadhwa P. Maternal preconceptional and gestational stress, hair cortisol concentrations during pregnancy and newborn brain integrity. *Psychoneuroendocrinology*, 2016, 71 Supplement: 72-73.
- Moog NK, Entringer S, Styner M, O'Donnell KJ, Gilmore JH, Meaney MJ, Binder EB, Heim CM, Wadhwa PD, Buss C. Interaction between maternal cortisol in pregnancy and infant FKBP5 genotype on newborn hippocampal volume and infant stress reactivity at 12 months. *Psychoneuroendocrinology*, 2017, 83 Supplement: 26.
- Moog NK, Entringer S, Wadhwa PD, Buss C. Interaction between maternal thyroid hormones and depression symptoms during pregnancy on child behavioral/emotional problems at 2 years of age. *Psychoneuroendocrinology*, 2019, 107 Supplement: 78-79.

## PRESENTATIONS

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### Conference presentations (peer-reviewed)

- Moog N, Buss C, Entringer S, Shahbaba B, Sandman CA, Wadhwa PD. Exposure to Childhood Trauma Among Pregnant Women is Associated with Increased Placental CRH Production Over Gestation. International Society for Psychoneuroendocrinology. New York, USA, September 2012.
- Moog N, Buss C, Entringer S, Shahbaba B, Sandman CA, Wadhwa PD. Exposure to Childhood Trauma Among Pregnant Women is Associated with Increased Placental CRH Production Over Gestation. Society for Research in Child Development. Seattle, USA, April 2013.
- Moog NK, Entringer S, Rasmussen JM, Styner M, Gilmore JH, Heim CM, Wadhwa PD, Buss C. Strukturelle Änderungen im Gehirn bei Neugeborenen von Müttern mit Kindheitstrauma. Gemeinsame Jahrestagung der Deutschen Gesellschaft für Medizinische Psychologie und der Deutschen Gesellschaft für Medizinische Soziologie. Berlin, Germany, September 2016.
- Moog NK, Entringer S, Rasmussen JM, Styner M, Gilmore JH, Heim CM, Wadhwa PD, Buss C. Strukturelle Änderungen im Gehirn bei Neugeborenen von Müttern mit Kindheitstrauma. Jahrestagung der Deutschsprachigen Gesellschaft für Psychotraumatologie. Zürich, Switzerland, February 2017.
- Moog NK, Entringer S, Wadhwa PD, Buss C. Interaction between maternal thyroid hormones and depression symptoms during pregnancy on child behavioral/emotional problems at 2 years of age. International Society for Psychoneuroendocrinology. Milan, Italy, September 2019.
- Moog NK, Nolvi S, Kleih TS, Styner M, Gilmore JH, Rasmussen JM, Heim CM, Entringer S, Wadhwa PD, Buss C. Maternal perceived stress and newborn hippocampus volume – Neurobehavioral cascade of social-emotional difficulties across two generations. Society for Research in Child Development. Virtual conference, April 2021.



- Moog NK, Pittner K, Kuczyk C, Lazarides C, Sket GM, Kleih TS, Heim CM, Entringer S, Buss C. Mütterliches Kindheitstrauma und biopsychosoziale Konsequenzen während der Schwangerschaft. 15. Kongress der Fachgruppe Gesundheitspsychologie. Virtual conference, September 2021.
- Moog NK, Al-Ali K, Rasmussen JM, Styner M, Simhan HN, Wadhwa PD, Miller RK, Barrett ES, Entringer S, O'Connor TG, Buss C. Interaction between maternal depression in pregnancy and a history of childhood maltreatment on newborn global brain microstructure. Psychologie und Gehirn, Freiburg, Germany, June 2022.

### Organization of Symposia

- Golden Slumbers – The importance of early life sleep for neurobiological development and behavior. Role: Chair, Discussant. International Society for Developmental Psychobiology. San Diego, USA, November 2022.

### Poster presentations (peer-reviewed)

- Moog NK, Rasmussen JM, Entringer S, Meaney MJ, O'Donnell KJ, Wadhwa PD, Heim C, Buss C. Maternal Exposure to Early Life Stress Is Associated with Newborn White Matter Maturity. ERA-NET NEURON Mid-Term Symposium. Helsinki, Finland, September 2015.
- Moog NK, Heim, C, Entringer, S, Wadhwa, PD, Buss, C. Exposure to childhood trauma is associated with increased risk for subclinical hypothyroidism in pregnancy. International Society for Psychoneuroendocrinology. Miami, USA, September 2016.
- Moog NK, Heim, C, Entringer, S, Wadhwa, PD, Buss, C. Exposure to childhood trauma is associated with increased risk for subclinical hypothyroidism in pregnancy. Psychologie und Gehirn. Trier, Germany, June 2017.
- Moog NK, Entringer S, Styner M, O'Donnell KJ, Gilmore JH, Meaney MJ, Binder EB, Heim CM, Wadhwa PD, Buss C. Interaction between maternal cortisol in pregnancy and infant FKBP5 genotype on newborn hippocampal volume and infant stress reactivity at 12 months. International Society for Psychoneuroendocrinology. Zürich, Switzerland, September 2017.
- Moog NK, Nolvi S, Kleih TS, Styner M, Gilmore JH, Rasmussen JM, Heim CM, Entringer S, Wadhwa PD, Buss C. Maternal perceived stress and newborn hippocampus volume – Neurobehavioral cascade of social-emotional difficulties across two generations. International Society for Developmental Psychobiology. Virtual conference, October 2020.

### Invited presentations

- Moog NK. Welche Auswirkungen haben mütterlicher Stress und Trauma auf die fetale und frühkindliche Entwicklung ihres Kindes? Fachtag „5 Jahre Frühe Hilfen im Erzgebirgskreis“. Aue, Germany, May 2017.
- Moog NK. Fetale Programmierung – Die Rolle von Stress in der Schwangerschaft. Abschiedssymposium „Medizinische und Psychosoziale Herausforderungen rund um die Geburt“. Berlin, Germany, February 2020.