

Curriculum Vitae

Dorothea Hämmerer, Ph.D.



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Education

<i>10/ 1998 – 09/ 2000</i>	Grundstudium Psychology (Diplom), University of Trier
<i>10/ 2000 – 07/ 2001</i>	ERASMUS Scholarship at the University of Paris X Nanterre
<i>10/ 2001 – 02/ 2005</i>	Hauptstudium Psychology (Diplom), focus on Cognitive Science and Grundstudium Musicology (Magister) at the Albert-Ludwigs-University of Freiburg
<i>10/ 2003 – 07/ 2004</i>	Diploma thesis at the Max-Planck-Institute for Human Cognitive and Brain Sciences in Leipzig (grade 1.0)
<i>08/ 2004 – 10/ 2004</i>	Teaching assistant at a workshop for structural equation modelling using AMOS (Albert-Ludwigs-University of Freiburg)
<i>01/2006 – 12/2009</i>	Dissertation at the Max Planck Institute for Human Development in Berlin (grade summa cum laude) Title: Lifespan Differences in Performance Monitoring Functions
<i>10/2009 - 09/2012</i>	Postdoctoral fellow in the project 'Neuromodulation of Lifespan Cognition' at the Max Planck Institute for Human Development in Berlin
<i>02/2012 - 08/2012</i>	Visiting researcher at the Sobell Motor Department, UCL, London
<i>10/2012 - present</i>	Postdoctoral fellow at the Chair of Lifespan Psychology and Neuroscience at the Technical University in Dresden

Research interests

- Lifespan age differences in cognitive control and reinforcement learning
- Variability and distinctiveness of brain responses across the lifespan (assessed with EEG coherence measures and multivariate fMRI analyses)
- Contribution of interindividual differences in dopaminergic genetic polymorphisms to higher cognitive functions during development
- Modulation of brain functions with non-invasive brain stimulation

Programming and Software Skills

Matlab, SPM, Fieldtrip, EEGLab, E-Prime, Cogent

Publications

2005

1. Wirtz, M., Farin, E., Bengel, J., Jäckel, W.H., **Hämmerer, D.** and Gerdes, N. (2005) IRES-24-Patientenfragebogen: Entwicklung der Kurzform eines Assessmentinstrumentes in der Rehabilitation mittels der Mixed-Rasch-Analyse. *Diagnostica*, 51(2), 75-87. Times cited: 20, Journal impact factor: 0.72.

2009

2. Li, S.-C., **Hämmerer, D.**, Müller, V., Hommel, B., & Lindenberger, U. (2009). Lifespan development of stimulus-response conflict cost: Similarities and differences between maturation and senescence. *Psychological Research*. 73(6), 777-785. Times cited: 15, Journal impact factor: 2.31.

2010

3. **Hämmerer, D.**, Li, S.-C., Müller, V., & Lindenberger, U. (2010). An electrophysiological study of response conflict monitoring across the lifespan: Assessing the roles of conflict monitoring, cue utilization, response anticipation, and response suppression. *Neuropsychologia*, 48, 3305-3316. Times cited: 18, Journal impact factor: 3.63.

4. **Hämmerer, D.**, Li, S.-C., Müller, V., & Lindenberger, U. (2011). Life span differences in electrophysiological correlates of monitoring gains and losses during probabilistic reinforcement learning. *Journal of Cognitive Neuroscience*, 23(3), 1-14. Times cited: 26, Journal impact factor: 5.18.

2011

5. Eppinger, B., **Hämmerer, D.** & Li, S.-C. (2011) Neuromodulation of reward-based learning and decision making in human aging. *Annals of the New York Academy of Sciences*, 1235, 1-17. Times cited: 21, Journal impact factor: 3.15.

2012

6. **Hämmerer, D.** & Eppinger, B. (2012) Dopaminergic and prefrontal contributions to learning and outcome monitoring during childhood and old age. *Developmental Psychology*, 48, 862-874. Times cited: 6, Journal Impact factor: 3.21.

2013 /in press

7. **Hämmerer, D.**, Li, S.-C., Völkle, M., Müller, V., & Lindenberger, U. (2013). The reliability of event-related potentials related to performance monitoring across the lifespan. *Psychophysiology*, 50(1), 111-123. Times cited: 5, Journal impact factor: 3.29.

8. **Hämmerer, D.**, Biele, G., Müller, V., Thiele, H., Nürnberg, P., Heekeren, H. R. & Li, S.-C. (2013) Striatal Dopamine Signaling and Outcome Updating across the Lifespan: The Effect of PPP1R1B (DARPP-32) Polymorphism on Event-related Potentials. *Frontiers in Decision Neuroscience*, 4, 89. Times cited: 4, Not yet evaluated for impact factors.

9. Papenberg, G., **Hämmerer, D.**, Müller, V., Lindenberger, U., & Li, S.-C. (2013) Lower theta inter-trial phase coherence during performance monitoring is related to higher reaction time variability: A lifespan study. *NeuroImage*, 83, 912-920. Journal impact factor: 5.90.

10. Chen, J. A., **Hämmerer, D.**, Strigaro, G., Liou, L.M., Tsai, C. H., Rothwell, J. C., Edwards, M. J. (in press) Domain-Specific Suppression of Auditory Mismatch Negativity with Transcranial Direct Current Stimulation. *Clinical Neurophysiology*. Journal impact factor: 3.40.

11. Chen, J. A., **Hämmerer, D.**, Marshal, L., Strigaro, G., Liou, L.M., Tsai, C. H., Rothwell, J. C., Edwards, M. J. (under review) Bi-directional Modulation of Somatosensory Mismatch Negativity with Transcranial Direct Current Stimulation. *Clinical Neurophysiology*. Journal impact factor: 3.40.

12. **Hämmerer, D.**, Müller, V. Li, S.-C. (under review) Performance monitoring across the lifespan: Immature top-down control in children and declined context regulation in older adults. *Neuroscience and Biobehavioral Reviews*. Journal impact factor: 9.44.

Poster and Talks

2006

Li, S.-C., Hämmerer, D. von Oertzen, T. and Lindenberger, U. *Aging and Reward Modulation of the Episodic Memory Circuitry: A Neurocomputational Inquiry*. **Poster** presented at the **Computational Neuroscience Meeting in Edinburgh**.

2007

Hämmerer, D., Li, S.-C., G., Müller, V., & Lindenberger, U. *Lifespan Age Differences in Electrophysiological Correlates of Conflict Monitoring Mechanisms: Preliminary Findings*. **Talk** given at the **2nd workshop 'Conflicts As Signals' in Binz**.

2008

Hämmerer, D., Li, S.-C., Müller, V., & Lindenberger, U. *Lifespan age differences in electrophysiological correlates of reinforcement learning*. **Poster** presented at the **Annual meeting of the Society for Neuroscience in Washington**.

Hämmerer, D., Li, S.-C., G., Müller, V., & Lindenberger, U. (2008). *Lifespan Age Differences in Outcome Monitoring Mechanisms*. **Talk** given at the **Action Monitoring and Behaviour Adjustment workshop in Aachen**.

2009

Hämmerer, D., Li, S.-C., Müller, V., & Lindenberger, U. *Lifespan age differences in electrophysiological correlates of inhibition: A dissociation of motor control and the use of context information across the lifespan*. **Poster** presented at the **Berlin Brain Days**.

Li, S.-C., Hämmerer, D., Biele, G., Müller, V., Nürnberg, P., Thiele, H. Heekeren, H. R., & Lindenberger, U. (2009). *Genetic predispositions of dopaminergic modulation of reward monitoring across the lifespan*. **Poster** presented at the **Society of Neuroscience Meeting in Chicago**.

Hämmerer, D., Biele, G., Li, S.-C., Müller, V., & Lindenberger, U. *Lifespan age differences in electrophysiological correlates of reinforcement learning*. **Poster** presented at the **Congress for Developmental Cognitive Neuroscience in Berkeley**.

2010

Hämmerer, D., Biele, G., Philiastides, M., Schroeder, S., Müller, V., Lindenberger, U., & Li, S.-C. *Electrophysiological indicators of lifespan differences in the monitoring of and learning from choice outcomes*. **Poster** presented at the **Dallas Aging & Cognition Conference in Dallas**.

Hämmerer, D., Biele, G., Philiastides, M., Schroeder, S., Müller, V., Lindenberger, U., & Li, S.-C. *Lifespan differences in electrophysiological correlates of early monitoring and late evaluative processes of choice-outcome contingency: Differential role of N2 and P3*. **Poster** presented at the **17th Annual Cognitive Neuroscience Society Meeting in Montréal**.

Hämmerer, D., Biele, G., Philiastides, M., Schroeder, S., Müller, V., Lindenberger, U., & Li, S.-C. *Lifespan differences in electrophysiological correlates of early monitoring and late evaluative processes of choice-outcome contingency: Differential roles of feedback-related negativity and feedback-related positivity*. **Poster** presented at the **Decision Neuroscience Workshop in Berlin**.

Hämmerer, D., Li, S.-C., Müller, V., & Lindenberger, U. *Der Umgang mit Antwortkonflikten über die Lebensspanne im Spiegel ereigniskorrelierter Potentiale*. **Talk** given at the **2. Congress of the**

German Society for Gerontology and Geriatrie in Berlin.

Hämmerer, D., Li, S.-C., G., Müller, V., & Lindenberger, U. (2010). *Altersunterschiede über die Lebensspanne in der Handlungsüberwachung*. **Talk** given at the **Tagung experimentell arbeitender Psychologen in Saarbrücken**.

Hämmerer, D., Biele, G., Müller, V., Lindenberger, U., & Li, S.-C. *Capturing Outcome-based Adaption with Models of Reinforcement Learning*. **Talk** given at the **2nd internal workshop 'Conflicts As Signals' in Berlin**.

2011

Hämmerer, D., Biele, G., & Lindenberger, U., & Li, S.-C. (2011). *Capturing age differences across the lifespan in outcome-based adaptation with models of reinforcement learning*. **Talk** given at the **Tagung experimentell arbeitender Psychologen in Halle**.

Hämmerer, D., Müller, V., Heekeren, H. R., Lindenberger, U., & Li, S.-C. *Capturing Outcome-based Adaption with Models of Reinforcement Learning*. **Talk** given at the **3rd internal workshop 'Conflicts As Signals' in Berlin**.

Hämmerer, D., Biele, G., Philiastides, M., Schroeder, S., Müller, V., Lindenberger, U., & Li, S.-C. (2011). *Altersunterschiede über die Lebensspanne in elektrophysiologischen Korrelaten der Feedbackverarbeitung*. **Talk** given at the **Tagung experimentell arbeitender Psychologen in Halle**.

Hämmerer, D., Biele, G., Philiastides, M., Schroeder, S., Müller, V., Lindenberger, U., & Li, S.-C. (2011). *Investigating age differences across the lifespan in reinforcement learning with a combination of electrophysiological recordings and computational models*. **Talk** given at the **11th International Conference on Cognitive Neuroscience in Mallorca**.

2012

Hämmerer, D., Schuck, N. W., Heekeren, H. R., Lindenberger, U., Polk, T. A. & Li, S.-C. *Adult age differences in the attentional control of representational distinctiveness*. **Poster** presented at the **Annual meeting of the Society for Neuroscience in New Orleans**.

Hämmerer, D.; Papenberg, G.; Müller, V.; Lindenberger, U.; & Li, S.-C. (2012). *Altersunterschiede über die Lebensspanne in der Handlungsüberwachung während Antwortkonflikten: Elektrophysiologische Indikatoren altersspezifischer Herausforderungen*. **Talk** given at the conference 'Psychologie und Gehirn, 38th **joint meeting of the german Society for Psychophysiology and its Application (DGPA) and the 'Fachgruppe Biologische Psychologie und Neuropsychologie' in Jena**.

Hämmerer, D., Schuck, N. W., Heekeren, H. R., Lindenberger, U., Polk, T., & Li, S.-C. (2012). *Age differences in the attentional control of representational distinctiveness*. **Poster** presented at the 19th annual **meeting of the Society for Neuroscience in New Orleans**.

Invited Talks

2009

Hämmerer, D., Müller, V., Lindenberger, U., & Li, S.-C. *Unterschiede in der Handlungsüberwachung über die Lebensspanne*. **Talk** given at the **commemoration in honor of Hermann Neuhaus by the Max-Planck Foundation in Herford**.

2010

Hämmerer, D., Müller, V., Lindenberger, U., & Li, S.-C. (2010). Using event-related potentials to understand lifespan age differences in performance monitoring during response conflicts and reinforcement learning. **Talk** given at the **Psychology Department of the University of Amsterdam**, (Amsterdam, Netherlands).

Hämmerer, D., Li, S.-C., G., Müller, V., & Lindenberger, U. (2010). Lifespan differences in electrophysiological correlates during reinforcement learning. **Talk** given at the **Aging & Cognition Conference in Dortmund**.

2011

Hämmerer, D., Biele, G., Philiastides, M., Schroeder, S., Müller, V., Lindenberger, U., & Li, S.-C. *Lifespan differences in electrophysiological correlates of early monitoring and late evaluative processes of choice-outcome contingency*. **Talk** given at the **Einstein Symposium in Berlin**.

2013

Hämmerer, D. Lifespan age differences in attentional and motor control during Performance Monitoring. **Talk** given at the **Aging & Cognition Conference in Dortmund**.

Hämmerer, D. Age differences in performance monitoring: Examining cognitive control and feedback evaluation across the lifespan. **Talk** given at the **DZNE in Magdeburg**

Supervision of Ph.D. and Master Students

2011

Julia Rodriguez-Buritica, cosupervised with Dr. Shu-Chen Li, *Comparing apples with oranges. An EEG Source Localization Study of Adult Age-differences in Performance Monitoring*. **Diplomarbeit**, handed in at the Humboldt University in Berlin.

2012

Goran Papenberg, contributed to supervision by Dr. Shu-Chen Li, assisted with time-frequency analyses of lifespan age differences in cognitive control, handed in at the Free University in Berlin.

Teaching

Summer 2008

Experimentalpraktikum (with Dr. Shu-Chen Li) *Lifespan development of conflict monitoring mechanisms* im Studiengang Psychologie der Freien Universität Berlin.

Winter 2011/2012

Seminar (with Dr. Ben Eppinger & Julia Rodriguez-Buritica) *Neurowissenschaftliche Befunde zur Entwicklung des Sozialverhaltens* im Studiengang Psychologie der Freien Universität Berlin.

Winter 2012/2013

Seminar Lehr-Lern Psychologie: *Entwicklungspsychologische Themen für Lehramtsstudenten* für Lehramtsstudenten der Technischen Universität Dresden.

Ringvorlesung (ein Beitrag mit Dr. Ben Eppinger) *Brain development and adaptive behavioral regulation across the lifespan I: Kognitive Kontrolle* im Bachelorstudiengang Psychologie der Technischen Universität Dresden.

Summer 2012/2013

Seminar Lehr-Lern Psychologie: *Entwicklungspsychologische Themen für Lehramtsstudenten* für Lehramtsstudenten der Technischen Universität Dresden.

Seminar Entwicklungspsychologie: Vertiefung Gedächtnis und Wahrnehmung für Psychologiestudenten der Technischen Universität Dresden.

Grants

2012

DFG: Beihilfe zum Aufbau internationaler Kooperationen (3.5 T Euro)

Ad hoc Reviewer

Human Brain Mapping, Developmental Psychology, Brain and Cognition, Neuropsychologia, Cerebral Cortex, Psychology and Aging, NeuroImage, Psychophysiology, Neuroscience and Biobehavioral Reviews