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Publications

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2019/in press

Flaisch, T., Steinhauser, M., & Schupp, H. T. (in press). Adaptive cognitive control attenuates the late positive potentials to emotional distractors. *NeuroImage*.

Steinhauser, R., & Steinhauser, M. (2019). Error-preceding brain activity links neural markers of task preparation to cognitive flexibility and stability. *NeuroImage*, 197, 344-353.

Reinmüller, K., & Steinhauser, M. (2019). Adaptive front collision warnings: The impact of imperfect technology on warning effectiveness and acceptance. *Accident Analysis & Prevention*, 128, 217-229.

Gbadeyan, O., Steinhauser, M., Hunold, A., Martin, A. K., Haueisen, J., & Meinzer, M. (in press). Modulation of adaptive cognitive control by prefrontal high definition transcranial direct current stimulation in older adults. *Journal of Gerontology: Psychological Sciences*.

Di Gregorio*, F., Ernst*, B., & Steinhauser, M. (in press). Differential effects of instructed and objective feedback reliability on feedback-related brain activity. *Psychophysiology*. (*shared first authorship)

Maier, M. E., Ernst, B., & Steinhauser, M. (2019). Error-related pupil dilation is sensitive to the evaluation of different error types. *Biological Psychology*, 141, 25-34.

Rey-Mermet, A., Gade, M., & Steinhauser, M. (2019). Sequential conflict resolution under multiple concurrent conflicts: An ERP study. *Neuroimage*, 188, 411-418.

Gade, M., & Steinhauser, M. (in press). The impact of cue format and cue transparency on task switching performance. *Psychological Research*.

Steinhauser, M., & Andersen, S. K. (2019). Rapid adaptive adjustments of selective attention following errors revealed by the time course of steady-state visual evoked potentials. *Neuroimage*,

Schuch, S., Dignath, D., Steinhauser, M., & Janczyk, M. (2019). Monitoring and control in multitasking. *Psychonomic Bulletin & Review*, 26, 222-240.

2018

Steinhauser, K., Leist, F., Maier, K., Michel, V., Pärsch, N., Rigley, P., Wurm, F., & Steinhauser, M. (2018). Effects of emotions on driving behavior. *Transportation Research Part F: Traffic Psychology and Behaviour*, 59, 150-163.

Steinhauser, R., Wirth, R., Kunde, W., Janczyk, M., & Steinhauser, M. (2018). Common mechanisms in error monitoring and action effect monitoring. *Cognitive, Affective, & Behavioral Neuroscience*, 18, 1159-1171.

Reinmüller, K., Köhler, L., & Steinhauser, M. (2018). Adaptive warning signals adjusted to driver-passenger conversation: Impact of system awareness on behavioral adaptation. *Transportation Research Part F: Traffic Psychology and Behaviour*, 58, 242-252.

Steinhauser, R. & Steinhauser, M. (2018). Preparatory brain activity in dual-tasking. *Neuropsychologia*, 114, 32-40.

Ernst, B. & Steinhauser, M. (2018). Effects of feedback reliability on feedback-related brain activity: A feedback valuation account. *Cognitive, Affective, & Behavioral Neuroscience*, 18, 596-608.

Wirth, R., Steinhauser, R., Janczyk, M., Steinhauser, M., & Kunde, W. (2018). Long-term and short-term action-effect links and their impact on effect monitoring. *Journal of Experimental Psychology: Human Perception & Performance*, 44, 1186-1198.

Di Gregorio, F., Maier, M. E., & Steinhauser, M. (2018). Errors can elicit an error positivity in the absence of an error negativity: Evidence for independent systems of human error monitoring. *Neuroimage*, 172, 427-436.

2017

Steinhauser, M., Maier, M. E., & Ernst, B. (2017). Neural correlates of reconfiguration failure reveal the time course of task-set reconfiguration. *Neuropsychologia*, 106, 100-111.

Ernst, B., Reichard, S. M., Riepl, R. F., Steinhauser, R., Zimmermann, S. F., & Steinhauser, M. (2017). The P3 and the subjective experience of time. *Neuropsychologia*, 103, 12-19.

Maier, M. E., & Steinhauser, M. (2017). Working memory load impairs the evaluation of behavioral errors in the medial frontal cortex. *Psychophysiology*, 54, 1472-1482.

Ernst, B. & Steinhauser, M. (2017). Top-down control over feedback processing: The probability of valid feedback affects feedback-related brain activity. *Brain & Cognition*, 115, 33-40.

Steinhauser, M., Ernst, B., & Ibal, K. W. (2017). Isolating component processes of post-error slowing with the psychological refractory period paradigm. *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 43, 653-659.

Steinhauser, R., Maier, M. E., & Steinhauser, M. (2017). Neural signatures of adaptive post-error adjustments in visual search. *Neuroimage*, 150, 270-278.

2016

Di Gregorio, F., Steinhauser, M., & Maier, M.E. (2016). Error-related brain activity and error awareness in an error classification paradigm. *Neuroimage*, 139, 202-210.

Flaisch, T., Steinhauser, M., & Schupp, H.T. (2016). Emotional aftereffects: When emotion impairs subsequent picture recognition. *Emotion*, 16, 987-996.

Gbadeyan, O., Steinhauser, M., McMahon, K., & Meinzer, M. (2016). Safety, tolerability, blinding efficacy and behavioural effects of a novel MRI-compatible high-definition tDCS set-up. *Brain Stimulation*, 9, 545-552.

Gbadeyan, O., McMahon, K., Steinhauser*, M., & Meinzer*, M. (2016). Stimulation of dorsolateral prefrontal cortex enhances adaptive cognitive control: A high-definition transcranial direct current stimulation study. *Journal of Neuroscience*, 36, 12530-12536. (*shared senior authorship)

Maier, M. E., & Steinhauser, M. (2016). Error significance but not error expectancy predicts error-related negativities for different error types. *Behavioral Brain Research*, 297, 259-267.

Pfister, R., Wirth, R., Schwarz, K., Steinhauser, M., & Kunde, W. (2016). Burdens of non-conformity: Motor execution reveals cognitive conflict during deliberate rule violations. *Cognition*, 147, 93-99.

Pfister R., Wirth R., Schwarz K., Förster, A., Steinhauser, M., & Kunde, W. (2016). The electrophysiological signature of deliberate rule violations. *Psychophysiology*, 53, 1870-1877.

Steinhauser*, M., Flaisch*, T., Meinzer, M., & Schupp, H. T. (2016). Cognitive control modulates preferential processing of affective stimuli. *Neuropsychologia*, 91, 435-443. (*shared first authorship)

2010 - 2015

Achtziger, A., Alos-Ferrer, C., Hügelschäfer, S., & Steinhauser, M. (2015). Higher incentives can impair performance: Neural evidence on reinforcement and rationality. *Social-Cognitive and Affective Neuroscience*, 10, 1477–1483.

Ernst, B., & Steinhauser, M. (2015). Effects of invalid feedback on learning and feedback-related brain activity in decision-making. *Brain and Cognition*, 99, 78–86.

Steinhauser, M., Gade, M. (2015). Distractor onset but not preparation time affects the frequency of task confusions in task switching. *Frontiers in Psychology*, 6:1671.

Achtziger, A., Alos-Ferrer, C., Hügelschäfer, S., & Steinhauser, M. (2014). The neural basis of belief updating and rational decision making. *Social Cognitive and Affective Neuroscience*, 9, 55-62.

Maier, M. E. & Steinhauser, M. (2013). Updating expected action outcome in the medial frontal cortex involves an evaluation of error type. *Journal of Neuroscience*, 33, 15705-15709.

Ernst, B. & Steinhauser, M. (2012). Feedback-related brain activity predicts learning from feedback in multiple-choice testing. *Cognitive, Affective, & Behavioral Neuroscience*, 12, 323-336.

Maier, M. E., Di Pellegrino, G., & Steinhauser, M. (2012). Enhanced error-related negativity on flanker errors: Error expectancy or error significance? *Psychophysiology*, 49, 899-908.

Steinhauser, M. & Yeung, N. (2012). Error awareness as evidence accumulation: Effects of speed-

accuracy trade-off on error signaling. *Frontiers in Human Neuroscience*, 6:240.

Steinhauser, M., Eichele, H., Juvodden, H. T., Huster, R. J., Ullsperger, M., & Eichele, T. (2012). Error-preceding brain activity reflects (mal-)adaptive adjustments of cognitive control: A modeling study. *Frontiers in Human Neuroscience*, 6:97.

Maier, M. E., Yeung, N., & Steinhauser, M. (2011). Error-related brain activity and adjustments of selective attention following errors. *Neuroimage*, 56, 2339-2347.

Steinhauser, M. & Kiesel, A. (2011). Performance monitoring and the causal attribution of errors. *Cognitive, Affective, & Behavioral Neuroscience*, 11, 309-320.

Hübner, R., Steinhauser, M., & Lehle, C. (2010). A dual-stage two-phase model of selective attention. *Psychological Review*, 117, 759-784.

Kiesel, A., Steinhauser, M., Wendt, M., Falkenstein, M., Jost, K., Philipp, A.M., & Koch, I. (2010). Control and interference in task switching - A review. *Psychological Bulletin*, 136, 849-874.

Maier, M., Steinhauser, M., & Hübner, R. (2010). Effects of response-set size on error-related brain activity. *Experimental Brain Research*, 202, 571-581.

Steinhauser, M. (2010). How to correct a task error: Task-switch effects following different types of error correction. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 36, 1028-1035.

Steinhauser, M. & Yeung, N. (2010). Decision processes in human performance monitoring. *Journal of Neuroscience*, 30, 15643-15653.

2009 and earlier

Danielmeier, C., Wessel, J., Steinhauser, M., & Ullsperger, M. (2009). Modulation of the error-related negativity by response conflict. *Psychophysiology*, 46, 1288-1298.

Lehle, C., Steinhauser, M., & Hübner, R. (2009). Serial or parallel processing in dual tasks: What is more effortful? *Psychophysiology*, 46, 502-509.

Steinhauser, M., & Hübner, R. (2009). Distinguishing response conflict and task conflict in the Stroop task: Evidence from ex-Gaussian distribution analysis. *Journal of Experimental Psychology: Human Perception and Performance*, 35, 1398-1412.

Steinhauser, M., Hübner, R., & Druey, M. (2009). Adaptive control of response preparedness in task switching. *Neuropsychologia*, 47, 1826-1835.

Maier, M.*, Steinhauser, M.*, & Hübner, R. (2008). Is the Error-related Negativity amplitude related to error detectability? Evidence from effects of different error types. *Journal of Cognitive Neuroscience*, 20, 2263-2273. (* shared first authors)

Steinhauser, M. & Hübner, R. (2008). How task errors affect subsequent behavior: Further evidence from distributional analyses of task switching effects. *Memory & Cognition*, 36, 979-990.

Steinhauser, M., Maier, M. & Hübner, R. (2008). Modeling behavioral measures of error detection in choice tasks: Response monitoring versus conflict monitoring. *Journal of Experimental Psychology: Human Perception and Performance*, 34, 158-176.

Steinhauser, M. & Hübner, R. (2007). Automatic activation of task-related representations in task-shifting. *Memory & Cognition*, 35, 138-155.

Steinhauser, M., Maier, M., & Hübner, R. (2007). Cognitive control under stress: How stress affects strategies of task-set reconfiguration. *Psychological Science*, 18, 540-545.

Steinhauser, M. & Hübner, R. (2006). Response-based strengthening in task-shifting: Evidence from shift effects produced by errors. *Journal of Experimental Psychology: Human Perception and Performance*, 32, 517-534.

Steinhauser, M. & Hübner, R. (2005). Mixing costs in task-shifting reflect sequential processing stages in a multicomponent task. *Memory & Cognition*, 33, 1484-1494.

Hübner, R., Futterer, T. & Steinhauser, M. (2001). On attentional control as source of residual shift costs: Evidence from two-component task shifts. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 27, 640-653.

Curriculum Vitae

- since 2012 Chair of General Psychology, Catholic University of Eichstätt-Ingolstadt
- 2010 – 2012 Interim professorship, Catholic University of Eichstätt-Ingolstadt
- 2010 Visiting researcher at the Department of Biological and Medical Psychology, University of Bergen, Norway
- 2009 Habilitation, University of Konstanz
- 2008 Visiting researcher at the Department of Experimental Psychology, University of Oxford, UK
- 2002 - 2010 Research fellow, University of Konstanz
- 2002 Dr. rer. nat., University of Konstanz
- 2000 - 2002 Doctoral Student (supervisor: Prof. Ronald Hübner), University of Konstanz
- 2000 Diploma in Psychology, University of Konstanz
- 1994 - 2000 Study of Psychology, University of Konstanz

Memberships of Professional Bodies

Deutsche Gesellschaft für Psychologie (German Society for Psychology), European Society for Cognitive Psychology, Psychonomic Society (fellow), Society for Psychophysiological Research

Grants

- since 2018 Causes and consequences of errors in dual-tasking II. DFG (German Research

	Foundation). STE 1708/4-2
since 2018	MenschINBewegung - Subproject: Acceptance of automated driving (with Prof. Andreas Riener). BMBF (Federal Ministry of Education and Research).
since 2018	SAVe - Functional and transport safety in automatized and networked driving, subproject: Social acceptance (with Prof. Jens Hogleve, Prof. Andreas Riener). BMVI (Federal Ministry of Transport and Digital Infrastructure).
	Adaptive control in working memory (with Prof. Miriam Gade). DFG (German Research Foundation). STE 1708/5-1
since 2018	
2015-2018	Causes and consequences of errors in dual-tasking I. DFG (German Research Foundation). STE 1708/4-1
2015-2018	INEMAS - Basics of interaction- and emotion-sensitive assistance systems. BMBF (Federal Ministry of Education and Research, Germany). Joint research project with Prof. Xiaoyi Jiang (Münster), Prof. Björn Niehaves (Siegen), AUDI AG (Ingolstadt), and Spiegel Institut GmbH & Ko. KG (Mannheim). Project coordinator: Prof. Marco Steinhauser.
2014-2017	The influence of top-down control on feedback processing and reinforcement learning in decision tasks. DFG (German Research Foundation). STE 1708/3-1
2008-2012	Errors in action regulation: Origins, detection and consequences. DFG (German Research Foundation). STE 1708/1-1 and STE 1708/1-2
2008-2010	The role of error processing in learning and skill acquisition. Center for Psychoeconomics, University of Konstanz

Ad-hoc reviewer

Acta Psychologica; Advances in Cognitive Psychology; Applied Cognitive Psychology; Biological Psychology; Brain & Cognition; Cerebral Cortex; Cognitive, Affective, & Behavioral Neuroscience; Cognition; Cognition & Emotion; Cognitive Psychology; Consciousness and Cognition; European Journal of Neuroscience; Experimental Brain Research; Experimental Psychology; Frontiers in Cognition; Frontiers in Human Neuroscience; Human Brain Mapping; International Journal of Psychophysiology; Journal of Cognitive Neuroscience; Journal of Cognitive Psychology; Journal of Experimental Psychology: General; Journal of Experimental Psychology: Learning, Memory, and Cognition; Journal of Experimental Psychology: Human Perception and Performance; Journal of Neural Engineering; Journal of Neurophysiology; Journal of Neuroscience; Journal of Neuroscience Methods; Journal of Personality; Journal of Personality and Social Psychology;

Mind, Brain, and Education; Memory & Cognition; Motivation and Emotion; Neuroimage; Neuropsychologia; Neuroscience Letters; PLOS One; Psychological Research; Psychological Science; Psychology Science; Psychonomic Bulletin & Review; Psychophysiology; Quarterly Journal of Experimental Psychology; Science; Scientific Reports; Social Psychology; DFG (German Research Foundation); FWO (Research Foundation - Flanders)