

## Research Fields, Projects, and Selected Publications

### "Business Psychology "(Wirtschaftspsychologie)

Prof. Dr. Thomas Ellwart

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Fig. Our research fields (gray) in the fields of work, organizational / business psychology.

## Research Fields, Projects, and Selected Publications.

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## Socio-Digital Work Design, Teamwork, and Adaptation

**Keywords:** work design and evaluation, intentional forgetting in organizations, team cognitions in socio-digital systems, management of information overload, team adaptation, team development

### ► DFG-Priority Program 1921. Intentional Forgetting in Organizations (<http://www.spp1921.de>)

The goal of the priority program consisting of eight interdisciplinary tandem projects is to make mechanisms of human forgetting usable for a technical and organizational context.

#### Selected Publications

Kluge, A., Antoni, C.H. & Ellwart, T. (2020). Digitalization as the Problem of and the Solution to Vast Amounts of Data in Future Work – Challenges for Individuals, Teams, and Organizations. *Zeitschrift für Arbeits- und Organisationspsychologie [German Journal of Work and Organizational Psychology]*, 64, 1, 1-5.  
<https://doi.org/10.1026/0932-4089/a000317>

Ellwart, T., Ulfert, A.-S., Antoni, C., Becker, J., Frings, C., Göbel, K., Hertel, G., Kluge, A., Meeßen, S.M., Niessen, C., Nohe, C., Riehle, D.M., Runge, Y., Schmid, U., Schüffler, A., Siebers, M., Sonnentag, S., Tempel, T., Thielsch, M.T., Wehrt, W. (2019). Forgetting in future work systems: System characteristics and user-related psychological consequences on emotion, cognition, and behaviors. *AES Transactions on Enterprise Systems*, 4 (1) (Special Issue: Intentional Forgetting in Organizations and Work Settings).  
<https://doi.org/10.30844/ais-tes.v4i1.16>

Ellwart, T. & Kluge, A. (2019). Psychological Perspectives on Intentional Forgetting. An Overview of Concepts and Literature. *Künstliche Intelligenz [German Journal on Artificial Intelligence]*, 33(1), 79-84.  
<https://doi.org/10.1007/s13218-018-00571-0>

### ► DFG-Project AdaptPRO. Adaptive Design of Processes and Roles in Organizations

(<http://www.spp1921.de:8442/projekte/p1.html.de>) (funded by the German Research Foundation / DFG)

AdaptPRO examines the distribution of roles and processes in socio-digital teams. We explore the optimal distribution of knowledge and tasks between human actors and digital systems to ensure effective, efficient, and disruption-resistant operations.

*Team Psychology:* Prof. Dr. Thomas Ellwart, Prof. Dr. Conny H. Antoni, Dr. Rebecca Müller, Benedikt Graf

*Team Business Informatics:* Prof. Dr. Ingo Timm, Dr. Jan Ole Berndt, Lukas Reuter

#### Selected Publications

Ulfert, A.S., Antoni, C.H., & Ellwart, T. (in press). The role of agent autonomy in using decision support systems at work. *Computers in Human Behavior*. <https://doi.org/10.1016/j.chb.2021.106987>

Reuter, L., Berndt, J.O., Ulfert, A.-S., Antoni, C.H., Ellwart, T. & Timm, I.J. (2019). Intentional Forgetting in Distributed Artificial Intelligence. *Künstliche Intelligenz [German Journal on Artificial Intelligence]*, 33(1), 69-77. <https://doi.org/10.1007/s13218-018-0566-4>

Timm, I.J., Berndt, J.O., Reuter, L., Ellwart, T., Antoni, C.H. & Ulfert, A.-S. (2017). Towards Multiagent-Based Simulation of Knowledge Management in Teams. In M. In Y. Sure-Vetter, S. Zander & A. Harth (Eds.) *Workshop Proceedings Professional Knowledge Management*, Vol. 1821, 25-40. <http://ceur-ws.org/Vol-1821/>

Ellwart, T. & Antoni, C. H. (2017). Shared and Distributed Team Cognition and Information Overload. Evidence and Approaches for Team Adaptation. In R. Marques & J. Batista (Eds.), *Information and Communication Overload in the Digital Age* (pp. 223-245). Hershey: IGI Global.

### ► BugWright2 "Autonomous Robotic Inspection and Maintenance on Ship Hulls and Storage Tanks "

(<https://www.bugwright2.eu>) (funded by the European Commission – Horizon 2020 /ICT-09-2019-2020)

The goal of the subproject is the employee-oriented design process of an autonomous robot system for cargo ship maintenance, the formative and summative evaluation of the human-robot interface (virtual reality, augmented reality), and the derivation of actions for successful implementation.

*Coordinator:* Prof. Dr. Cédric Pradalier / National Center for Scientific Research (CNRS) / Georgia Institute of Technology Lorraine

*Team Business Psychology:* Nathalie Schauffel, Benjamin Ewerz & Prof. Dr. Thomas Ellwart

*Team Human-Computer-Interaction:* Jan Gründling & Prof. Dr. Benjamin Weyers

#### *Selected Publications*

Ellwart, T. (2020). Mensch, Softwareagenten und Roboter in hybriden Teams. Auswirkungen auf Arbeit, Sicherheit und Gesundheit. [Human, softwareagents, and robots in hybrid teams. Effects on Work, Safety, and Health], R. Trimpop, A. Fischbach, I. Seliger, A. Lynnyk, N. Kleineidam & A. Große-Jäger (Hrsg.). 21. *Workshop Psychologie der Arbeitssicherheit und Gesundheit - Gewalt in der Arbeit verhüten und die Zukunft gesundheitsförderlich gestalten!* (pp. 25-40). Kröning: Asanger.

#### ► **Evaluation Online Police Station Rhineland-Palatinate (<https://www.polizei.rlp.de/de/onlinewache>)**

The project examines decision factors for/against the use of the online guard, evaluates the suitability for use/usability, and investigates the effects on the handling of digital reports at the permanent emergency police service, the local police, and the public attorney's office.

*Partner:* State Criminal Police Office Rhineland-Palatinate, Prof. Rüdiger Jacob (Soziologie, Trier)

#### *Selected Publications*

Schauffel, N. & Ellwart, T (2021). Forced Virtuality during Covid-19: A multigroup perspective on technology acceptance of public digital services. *Zeitschrift für Arbeits- und Organisationspsychologie*, 65 (4), 244-257 [*German Journal of Work and Organizational Psychology*].

<https://doi.org/10.1026/0932-4089/a000366>

#### ► **FlexiTeams. Artificial intelligence methods to support the flexible reorganization of work teams in response to requirements in pandemic and other crises.**

(funded by a state program to strengthen digitization at universities in Rhineland-Palatinate, 2021-2023)

The goal is to develop AI methods as digital tools to support the flexible reorganization of work teams in dealing with crises. The AI-based applications are used to generate and transparently explain decision proposals and to pro-and retrospectively evaluate alternatives and decision variants.

*Team Trier University:* Prof. Dr. Benjamin Weyers (speaker, Human-Computer-Interaction), Prof. Dr. Ralph Bergmann (Business Informatics, DFKI Trier), Prof. Dr. Ingo Timm (Business INformatics, DFKI Trier), Prof. Dr. Thomas Ellwart (Business Psychology)

#### **Further publications from the research field**

Konradt, U., Nerdinger, F. & Ellwart, T. (2016). A Model for Usability in E-Commerce Services: Theoretical Concept and Empirical Evidence. In I. Lee (Ed.), *Encyclopedia of e-commerce development, implementation, and management* (pp. 2332-2343). Hershey: IGI Global.

Konradt, U., Lueckel, L. & Ellwart, T. (2012). The Role of Usability in Business-to-business e-Commerce Systems: Predictors and its Impact on User's Strain and Commercial Transactions. *Advances in Human-Computer Interaction*. Open access article ID 948693. <https://doi.org/10.1155/2012/948693>

#### **Finished Projects**

##### ► **Project MIO. Management of Information Overload in Virtual Teams**

(funded by the Swiss National Science Foundation, 2013-2015)

A structured, moderated feedback-driven adaptation process should identify and manage information overload in virtual collaboration.

*Partner:* Prof. Oliver Rack (FHNW Olten), Prof. Andrea Gurtner (FH Bern)

Ellwart, T., Peiffer, H., Matheis, G. & Happ, C. (2016). Möglichkeiten und Grenzen eines Online Team Awareness Tools (OnTEAM) in Adaptationsprozessen [Opportunities and limitations of an online team awareness tool (OnTEAM) in adaptation processes]. *Zeitschrift für Wirtschaftspsychologie Zeitschrift für Arbeits- und Organisationspsychologie* [*Journal Business Psychology*], 4, 5-15.

<https://doi.org/10.1007/978-3-662-55689-4>

Ellwart, T., Happ, C., Gurtner, A. & Rack, O. (2015). Managing Information Overload in Virtual Teams. Effects of a structured Online Team Adaptation on Cognition and Performance. *European Journal of Work and Organizational Psychology*, 24(5), 812-826. <https://doi.org/10.1080/1359432X.2014.1000873>

## Diversity at the Workplace: Team diversity, leadership, and individual needs

**Keywords:** Personnel and team development, age diversity, leadership in reduced working hours, co-leadership, employee motives

### ► Project MotivSORT©. Assessing individual needs in the handicraft sector

(funded by the Chambers of Crafts in Rhineland-palatinate within „Handwerk Attraktiv Rheinland-Pfalz“)

MotivSORT© is a simple tool for managers to structure and conduct employee interviews. It gives smaller craft enterprises in particular, the opportunity to find out in discussions with staff which factors are decisive for employee satisfaction and what needs to be worked on.

*Team Business Psychology:* Christian Jaster (contact) & Prof. Dr. Thomas Ellwart

*Partner:* Arbeitsgemeinschaft der Handwerkskammern in Rheinland-Pfalz, Ministerium für Wirtschaft, Verkehr, Landwirtschaft und Weinbau (MWVLW) Rheinland-Pfalz

#### Selected Publications

Jaster, C. & Ellwart, T. (in press). Dem Fachkräftemangel das Handwerk legen. Entwicklung und Evaluation eines Instruments zur bedürfnis-orientierten Arbeitsanalyse und Strukturierung von Mitarbeitendengesprächen im Handwerk. *Zeitschrift für Arbeits- und Organisationspsychologie*.

### ► Project FIRA. Leadership with Reduced Working Hours and Co-Leadership

The project investigated fields of application, design concepts, risks, and leadership opportunities in reduced working hours.

#### Selected Publications

Rynek, M., Ellwart, T., Peiffer, H., Endres, E., & Moldzio, T. (in press). Threats to Professional Roles in Part-time Leadership. Effects of Dysfunctional Support on Leader identification, Rumination, and Job satisfaction. *Zeitschrift für Arbeits- und Organisationspsychologie [German Journal of Work and Organizational Psychology]*. <https://doi.org/10.1026/0932-4089/a000362>

Moldzio, T., Ellwart, T., Hofer, A., et al. (2016). Führen in reduzierter Arbeitszeit – Chancen und Risiken für die Personalarbeit der Zukunft Wirtschaftspsychologie aktuell [Leadership with reduced working hours. Opportunities and risks for future work models]. *Zeitschrift für Personalmanagement*, 1, 13-16.

Ellwart, T., Russell, Y. & Blanke, K. (2015). Führung als Doppelspitze: Co-Leitung erfolgreich managen [Dual Leadership. Successfull Management of Co-Leadership]. In R. v. Dick & J. Felfe (Eds.), *Handbuch Mitarbeiterführung, Wirtschaftspsychologisches Praxiswissen für Fach- und Führungskräfte* (pp. 251-262). Wiesbaden: Springer.

## Further publications from the research field

Junker, N. M., van Dick, R., Häusser, J. A., Ellwart, T., & Zyphur, M. J. (in press). The I and we of team identification: A multilevel study of exhaustion and (in)congruence among individuals and teams in workgroup identification. *Group & Organization Management*.

<https://doi.org/10.1177/10596011211004789>

Happ, C., Dias, J. & Ellwart, T. (2017). Predictors of successful teamwork in care management for people with intellectual disability. *Journal of Mental Health Research in Intellectual Disabilities*, 10, Supplement 1, 96-97. <https://doi.org/10.1080/19315864.2017.1368259>

## Finished Projects

### ► Knowledge transfer, leadership, and collaboration in age-diverse teams

(funded by the Swiss National Science Foundation and the foundation Suzanne und Hans Biäsch, 2009-2013)

Ellwart, T. (2018). Altersdiversität in Teams – (K)ein Erfolgsfaktor? [Age Diversity in Teams – A factor of Success?] In A. Beinicke & T. Bipp (Hrsg.), *Strategische Personalentwicklung* (pp. 21-41). Berlin: Springer.

- Ellwart, T., Bündgens, S. & Rack, O. (2013). Managing Knowledge Exchange and Identification in Age Diverse Teams. *Journal of Managerial Psychology*, 28(7/8), 950-972. <https://doi.org/10.1108/JMP-06-2013-0181>
- Wegge, J., Schmidt, K.-H., Piecha, A., Ellwart, T., Jungmann, F. & Liebermann, S.C. (2012). Führung im demografischen Wandel [Leadership in the context of demographic change]. *Report Psychologie*, 37(9), 344-354.

► NOWO. New forms of age-appropriate living in the Eifel region

(funded by federal funding of support programs "Experimenteller Wohnungs- und Städtebau (ExWoSt)" des Ministeriums der Finanzen RLP, 2015-2017)

## Behavior and experience in critical situations in the workplace

**Keywords:** Threat to role-based self-esteem, teams in critical and exceptional situations, monitoring and evaluation of new techniques and tools, team reflection and process optimization

### ► Project Role threat: Threats to professional roles.

Threats to occupational roles from situational and social triggers are examined, particularly in the application fields of emergency services, police, train escorts, government agencies, and schools.

**Team:** Mona Rynek (contact) & Prof. Dr. Thomas Ellwart

#### Selected Publications

Rynek, M., Ellwart, T., Peiffer, H., Endres, E., & Moldzio, T. (in press). Threats to Professional Roles in Part-time Leadership. Effects of Dysfunctional Support on Leader identification, Rumination, and Job satisfaction. *Zeitschrift für Arbeits- und Organisationspsychologie [German Journal of Work and Organizational Psychology]*. <https://doi.org/10.1026/0932-4089/a000362>

Ellwart, T. & Rynek, M. (2020). Mechanismen der Rollenbedrohung im Berufsalltag: Ansätze zur Messung und Veränderung. R. Trimpop, A. Fischbach, I. Seliger, A. Lynnyk, N. Kleineidam & A. Große-Jäger (Hrsg.). *21. Workshop Psychologie der Arbeitssicherheit und Gesundheit - Gewalt in der Arbeit verhüten und die Zukunft gesundheitsförderlich gestalten!* (pp. 573-576). Kröning: Asanger.

Rynek, M. & Ellwart, T. (2020). Rollenbedrohung im Berufsalltag – Eine Systematisierung von Triggern, Targets und Konsequenzen. R. Trimpop, A. Fischbach, I. Seliger, A. Lynnyk, N. Kleineidam & A. Große-Jäger (Hrsg.). *21. Workshop Psychologie der Arbeitssicherheit und Gesundheit - Gewalt in der Arbeit verhüten und die Zukunft gesundheitsförderlich gestalten!* (pp. 581-584). Kröning: Asanger.

#### Finished Projects

### ► Project TICAS.Teams in critical adversity situations.

- Semling, C. & Ellwart, T. (2018). Teamresilienz als Beitrag zu schwierigen Entscheidungen in Ausnahmesituationen [Team Resilience as Important Factor for Making Decisions in Critical Adversity Situations. In M. Eigenstetter, S. Darlington & F. Klingels (Hrsg.), *Verantwortlich Denken und Handeln in komplexen Umwelten* (pp. 44-55). Frankfurt a.M.: Verlag für Polizeiwissenschaft.
- Semling, C. & Ellwart, T. (2016). Entwicklung eines Modells zur Teamresilienz in kritischen Ausnahmesituationen [Modeling of team resilience under exceptional circumstances]. Gruppe. Interaktion. Organisation: *Zeitschrift für Angewandte Organisationspsychologie* (GIO), 47,119–129. <https://doi.org/10.1007/s11612-016-0322-x>

### ► Projekt DEIG. Evaluation of electroshock pistols in police use. (2017-2018)

"DEIG" stands for Distance Electro Impulse Device, an electro-shock gun which, when used, paralyzes the muscles of attackers for 5 seconds, thus incapacitating them for a short period of time. In the pilot project of the state of Rhineland-Palatinate with the Trier police department, ten patrol teams were equipped with the DEIG for one year for the first time in Germany. The pilot was also being accompanied by an interdisciplinary team of sociologists and psychologists at the University of Trier to evaluate the conditions of use, usefulness, and consequences of the DEIG.

**Partner:** Police Inspection Trier, Prof. Rüdiger Jacob & Prof. Johannes Kopp (Soziologie, Trier)

#### Selected Publications

Rynek, M. & Ellwart, T. (2020). Modellbasierte Situations- und Prozessanalysen in Einsatzteams. Ansatzpunkte zur Messung, Reflexion und Veränderung. In A. Fischbach, P.W. Lichtenhaller & S. Fink: *Psychische Gesundheit und Suizidprophylaxe in der Polizei* (S. 73-102). Frankfurt: Verlag für Polizeiwissenschaft.

## Occupational competence development and Learning

Keywords: Diagnostics and training of professional competencies and skill perceptions (self-efficacy, self-concepts), digital competences

### ► Digital Competences at University and at Work

The studies focus on measuring and changing digital competencies in the workplace.

*Team:* Nathalie Schauffel, Dr. Henrike Peiffer & Prof. Dr. Thomas Ellwart

*Selected Publications*

Peiffer, H., Schmidt, I., Ellwart, T., & Ulfert, A.-S. (2020). Digital Competences in the Workplace: Theory, Terminology, and Training. In: E. Wuttke, J. Seifert, & H. Niegemann (eds.), Vocational Education and Training in the Age of Digitization – Challenges and Opportunities. (pp. 157-181). Opladen: Barbara Budrich.

### Further publications from the research field

Konradt, U., Ellwart, T. & Gevers, J. (in press). Wasting effort or wasting time? A longitudinal study of pacing styles as a predictor of academic performance. *Learning and Individual Differences*.

<https://doi.org/10.1016/j.lindif.2021.102003>

Moldzio, T., Peiffer, H., Dreier, K., Gergovska, T., Rainer, A. & Felfe, J. (2019). *Arbeitsbezogene Belastbarkeits- und Gewissenhaftigkeitsskalen (ABGS). Testmanual*. Göttingen: Hogrefe.

Ellwart, T., Hertel, G., Lang, J., Ohly, S., Trimpop, R. (2016). Perspektiven für die AOW-Psychologie in Bachelor- und Masterstudiengängen. Bericht der Arbeitsgruppe „Perspektiven AOW in BA und MA Studiengängen“ im Auftrag der Fachgruppe Arbeits-, Organisation- und Wirtschaftspsychologie (AOW) der Deutschen Gesellschaft für Psychologie (DGPs).

### Finished Projects

#### ► Projekt CoCheck. Kommunikation und Förderung beruflicher Kompetenzen

(funded by the Nikolaus Koch Foundation)

The project aimed to record and promote the self-perception of one's professional competencies as an essential factor in motivation to learn, success in studies, dropping out of studies, and successful career choices.

*Team:* Dr. Henrike Peiffer, Prof. Dr. Thomas Ellwart, Prof. Franzis Preckel (Hochbegabtenforschung, Trier)

*Selected Publications*

Peiffer, H., Ellwart, T. & Preckel, F. (2020). Ability Self-Concept and Self-Efficacy in Higher Education: An Empirical Differentiation Based on Their Factorial Structure. *PlosOne* 15(7).

<https://doi.org/10.1371/journal.pone.0234604>

Peiffer, H., Ellwart, T., & Preckel, F. (2018). Selbstwirksamkeitserwartung von Studierenden: Facettentheoretische Validierung eines Messmodells am Beispiel der Psychologie [Self-efficacy of university students: Validation of a facet model and measurement on the example of psychology]. *Diagnostica*, 64(3), 133-144.

<https://doi.org/10.1026/0012-1924/a000199>