

Peter A. Edelsbrunner

peter.edelsbrunner@ifv.gess.ethz.ch

ETH Zurich

Department of Humanities, Social and Political Sciences

Research on Learning and Instruction

RZ H 13

Clausiusstrasse 59

CH-8092 Zurich/Switzerland

Telephone: +41 44 632 46 46

www.ifvll.ethz.ch/people/petere

EDUCATION

- | | |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Since 2012 | Doctoral student in Learning Sciences: ETH Zurich, Switzerland. |
| 2007 - 2012 | Diploma Studies (MSc) in Psychology: University of Graz, Austria.
Thesis: The Assessment of Spatial Ability in Adolescence (Prof. Aljoscha Neubauer). |
| 2011 | Semester Abroad: University of Padova, Italy. |
| 2005 | High-school diploma: Federal Gymnasium Kirchengasse; Graz, Austria. |
| Advanced courses: | Mathematical Psychology, Generalised Linear Mixed Models, Bayesian Statistics, SEM, IRT, R, BUGS, JAGS, Mplus, Matlab. |

PROFESSIONAL EXPERIENCE

- | | |
|-------------|-------------------------------------------------------------------------------|
| Since 2012 | Research assistant and lecturer: ETH Zurich, Switzerland. |
| 2011 - 2012 | Student teaching assistant: University of Graz, Department of Psychology. |
| 2012 | Intern: Global Health Access Policy Project. University of Cambridge, UK. |
| 2011 | Intern: School Psychological Service. Leibnitz, Austria. |
| 2009 | Intern: Cognitive Science Section. University of Graz, Austria. |
| 2009 | Learning- and social-caretaker: Association of Foster-Parents, Graz, Austria. |
| 2009 | Paramedic and ambulance driver: Austrian Red Cross. |

REFEREED ARTICLES

- Ziegler, E., **Edelsbrunner, P. A.**, & Stern, E. (submitted). The benefit of teacher-directed instruction compared to self-directed learning settings.
- Edelsbrunner, P. A.**, Schalk, L., Schumacher, R., & Stern, E. (2015). Pathways of conceptual change: Investigating the influence of experimentation skills on conceptual knowledge development in early science education. *Proceedings of the 37th Annual Conference of the Cognitive Science Society*, 620-625. Austin: Texas.
- Agan, M. L. F., Costin, A. S., Deutz, M. H. F., **Edelsbrunner, P. A.**, Zalis, L. & Franken, A. (2015). Associations between risk behaviour and social status in European adolescents. *European Journal of Developmental Psychology*, 12, 189-203. doi:10.1080/17405629.2014.975790
- Edelsbrunner, P. A.**, & Schneider, M. (2013). Modelling for prediction vs. modelling for understanding: Commentary on Musso et al. (2013). *Frontline Learning Research*, 2, 99-101. doi:10.14786/flr.v1i2.74

TEACHING EXPERIENCE

- | | |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2014, 2015 | <i>Research Methods in Educational Science</i> . Seminar at ETH Zurich; co-teaching. |
| 2013 | <i>Human Learning</i> . Lecture at ETH Zurich; co-teaching. |
| 2011 - 2012 | <i>Research Methods in Developmental Psychology, Health Psychology, Differential Psychology</i> . Seminars at University of Graz; teaching assistant. |

ACADEMIC ACTIVITIES

- 2015 Invited talk: *Rasch Modeling Practices and Theory Development: Psychometric Issues in Research on Scientific Reasoning*. University of Trier, Germany.
- 2015 Invited talk: *Reductionist Practices in Research on Scientific Thinking. How much can the Rasch Model tell us?* University of Munster, Germany.
- 2015 Workshop: *Bayesian Statistics in Psychological Settings* (co-teaching with Fabian Dablander). Junior Researcher Programme, University of Cambridge, UK.
- 2015 Workshop: *The Bayesian Revolution: Why and How* (co-teaching with Fabian Dablander). 29th Congress of the European Federation of Psychology Students' Associations, Srní, Czech Republic.
- 2015 Workshop: *Structural Equation Modeling*. 29th Congress of the European Federation of Psychology Students' Associations, Srní, Czech Republic.
- 2014 Workshop: *Publication-Ready Graphics with R and ggplot2*. Association of Scientific Staff, ETH Zurich.
- 2014 Workshop: *Mixture Models in Psychology: Latent Class Analysis and Extensions*. Junior Researcher Programme, University of Cambridge, UK.
- 2013 Invited Talk: *Die Modellierung quantitativer und qualitativer Wissensentwicklung im Kindesalter [Modelling Quantitative and Qualitative Knowledge Development in Childhood]*. University of Munster, Germany.
- 2013 Invited Talk: *Konzeptwechsel in der Biologie [Conceptual change in biology]*. University of Zurich, Switzerland.

ACADEMIC SERVICES

- Since 2015 Assistant Coordinator: *EARLI Special Interest Group on Conceptual Change*.
- Since 2015 Director: *Peer Mentoring Group for Methods and Statistics*. University of Zurich, Switzerland. Jointly with Neela Muehleemann and Michel Philipp.
- Since 2014 President: *Association of Scientific Staff*, ETH Zurich.
- 2014 Organisation committee: *8th EFPSA European Summer School: The Psychology of Work: Research on Occupation & Organisations*. Mellau, Austria.
- 2012 Organisation committee: *6th EFPSA European Summer School: The Biased Brain: Research in Decision-Making*. Vila Nova de Foz Côa, Portugal.
- Ad-hoc peer review: *European Journal of Psychological Assessment*.

GRANTS, SCHOLARSHIPS, AWARDS

- 2015 Project Grant: *Peer Mentoring Group for Methods and Statistics* awarded from the Graduate Research Campus at University of Zurich (CHF 8080).
- 2012 Merit Scholarship awarded from the Faculty of Natural Sciences, University of Graz.
- 2011 Scholarship awarded from the Erasmus Student Exchange Programme.
- Travel grants: Overall CHF 2200/EUR 2000.

NON-REFEREED ARTICLES

- Edelsbrunner, P. A.** (2014). Bayesian Statistics: What is it and Why do we Need it? *JEPS Bulletin* (Nov 7th, 2014). Available from <http://blog.efpsa.org>
- Edelsbrunner, P. A.** (2012). Advice for the Next Generation of Researchers in Psychology from an Experienced Editor. *JEPS Bulletin* (Nov 30th, 2012). Available from <http://blog.efpsa.org>
- Edelsbrunner, P. A.** (2011). Research as an international project. *JEPS Bulletin* (Dec 1st, 2011). Available from <http://blog.efpsa.org>
- Edelsbrunner, P. A., & Bohak, S.** (2012). EFPSA-Kongress in Dänemark [The EFPSA-Congress in Denmark]. *Psychologie in Österreich*, 32, 224.

CONTRIBUTIONS TO CONFERENCES

- Edelsbrunner, P. A.,** Schalk, L., Schumacher, R., & Stern, E. (2015). Experimentation Skills and Conceptual Knowledge Development in Early Science Education: A Latent Transition Analysis. Talk at the *12th Meeting of the Interest Group Methods & Evaluation of the DGPS*, Jena, Germany.
- Edelsbrunner, P. A.,** Schalk, L., Schumacher, R., & Stern, E. (2015). The influence of experimentation skills on the development of physics knowledge in primary school. Talk at the *16th Biennial Conference of the European Association for Research in Learning and Instruction*, Limassol, Cyprus.
- Stern, E., **Edelsbrunner, P. A.,** Schumacher, R., Schalk, L., & Deiglmayr, A. (2015) Physics instruction in elementary school can boost general experimentation skills. Talk at the *16th Biennial Conference of the European Association for Research in Learning and Instruction*, Limassol, Cyprus.
- Edelsbrunner, P. A.,** Schalk, L., Schumacher, R., & Stern, E. (2015). Pathways of Conceptual Change: Investigating the Influence of Experimentation Skills on Conceptual Knowledge Development in Early Science Education. Talk at the *37th Annual Conference of the Cognitive Science Society*. Pasadena, USA.
- Dablander, F., & **Edelsbrunner, P. A.** (2015). Item Response Theory Harming Research Progress? The Influence of Uninformed Statistical Practices on a Blooming Research Field. Poster at the *4th Junior Researcher Programme Conference*, Cambridge, UK.
- Edelsbrunner, P. A.,** & Dablander, F. (2015). Statistical and theoretical reductionism in research on scientific thinking: How much can the Rasch model tell us? Talk at the *13th European conference on Psychological Assessment*. Zurich, Switzerland.
- Edelsbrunner, P. A.,** Deiglmayr, A., Schalk, L., Schumacher, R., & Stern, E. (2015). The Development of Physics Knowledge in Elementary School: Relations with Cognitive Skills. Poster at the *1st REASON Spring School on the Assessment of Scientific Reasoning and Argumentation*. Munich, Germany.
- Edelsbrunner, P. A.,** Schalk, L., & Stern, E. (2014). Abstract Reasoning in Maths and Non-Maths Students. Poster at the *15th Conference of the International Society for Intelligence Research*, Graz, Austria.
- Edelsbrunner, P. A.** (2014). Sustainability of Science Instruction in Childhood: Teaching Children About Air and Air Pressure. Poster at the *3rd EFPSA Junior Researcher Programme Conference*, Cambridge, UK.
- Edelsbrunner, P. A.** (2014). Psychometric Evaluation of a Questionnaire for Large-Scale Assessment of Basic Experimentation Skills in Childhood. Talk at the *18th Conference of the Junior Researchers of EARLI*, Nicosia, Cyprus.
- Edelsbrunner, P. A.** (2014). Development of an Instrument for Large-Scale Assessment of Experimentation Skills in Childhood. Talk at the *18th Conference of the Junior Researchers of EARLI*, Nicosia, Cyprus.
- Edelsbrunner, P. A.** (2014). Design und Interpretation von Versuchsplänen im Kindes- und Jugendalter: Entwicklung eines multiple-choice-Instruments [Design and interpretation of experimental designs in childhood and adolescence: Development of a multiple-choice instrument]. Talk at the *11th Conference of the Austrian Association for Psychology*, Vienna, Austria.
- Edelsbrunner, P. A.,** Deiglmayr, A., & Schalk, L. (2014). Experimentation skills: Shares of general and specific abilities. Poster at the *2nd Conference of the Society for Empirical Educational Research*, Frankfurt, Germany.
- Edelsbrunner, P. A.,** Schalk, L., Schumacher, R., & Stern, E. (2013). Short-term benefits of learning physics in elementary schools. Talk at the *15th Biennial Conference of the European Association for Research in Learning and Instruction*, Munich, Germany.
- Schneider, M., **Edelsbrunner, P. A.,** Hardy, I., Schalk, L., Schumacher, R., & Stern, E. (2013). Inconsistent Knowledge in Children's Pathways of Conceptual Change: A Latent Transition Analysis. Invited co-presentation at the *15th Biennial Conference of the European Association for Research in Learning and Instruction*, Munich, Germany.
- Franken, A., Agan, M. L. F., Buzila, A. S., Deutz, M. H. F., **Edelsbrunner, P. A.,** & Zalis, L. (2013). Risk behaviour, classroom behaviour and social status in a european sample of late adolescents. Talk at the *2nd EFPSA Junior Researcher Programme Conference*, Cambridge, UK.
- Edelsbrunner, P. A.,** & Schalk, L. (2013). Exploring children's knowledge about hypothesis testing and control of variables. Poster at the *2nd EFPSA Junior Researcher Programme Conference*, Cambridge, UK.
- Franken, A., Agan, M. L. F., Buzila, A. S., Deutz, M. H. F., **Edelsbrunner, P. A.,** & Zalis, L. (2013). Risk Behaviour, Classroom Behaviour, and Social Status in European Adolescents. Poster presented at the *2nd EFPSA Junior Researcher Programme Conference*, Cambridge, UK.
- Schneider, M., **Edelsbrunner, P. A.,** Hardy, I., Schalk, L., Schumacher, R., & Stern, E. (2013). A Latent Transition Model of Naïve and Scientific Knowledge in Conceptual Change. Invited co-presentation at the *35th Annual Conference of the Cognitive Science Society*, Berlin, Germany.
- Edelsbrunner, P. A.,** Schalk, L., Schumacher, R., & Stern, E. (2013). Knowledge Structure Changes Towards Understanding Buoyancy Force. Poster at the *10th Congress of Licentiate- Master- and Doctorate Students (LiMaDoKo)*, University of Zurich, Switzerland. Voted 4th place in the category "PhD-student posters".
- Franken, A., Agan, M. L. F., Buzila, A. S., Deutz, M. H. F., **Edelsbrunner, P. A.,** & Zalis, L. (2013). The relationship between risk behaviour and social status in adolescence. Talk at the *3rd National Undergraduate Research Conference of the National University of Ireland*, Maynooth, Ireland.
- Franken, A., Agan, M. L. F., Buzila, A. S., Deutz, M. H. F., **Edelsbrunner, P. A.,** & Zalis, L. (2012). What Moderates the Association between Risk Behavior and Popularity in Adolescence? Talk at the *1st EFPSA Junior Researcher Programme Conference*, Cambridge, UK.
- Franken, A., Agan, M. L. F., Buzila, A. S., Deutz, M. H. F., **Edelsbrunner, P. A.,** Ralic, L., & Zalis, L. (2012). Associations between Popularity and Risk Behaviour in Adolescence: A European Study. Talk at the *26th Congress of the European Federation of Psychology Students' Associations (EFPSA)*, Lolland, Denmark.