International Conference on Motivation 2014
Understanding and Facilitating the Passion to Learn

PROGRAM & ABSTRACTS

JUNE 12–14, UNIVERSITY OF HELSINKI, FINLAND
Welcome to the International Conference on Motivation 2014

With great pleasure we welcome you to ICM2014 (the International Conference on Motivation 2014). This Conference is jointly organized by the University of Helsinki and EARLI SIG 8.

The 2014 ICM conference will bring together researchers who are interested in understanding human motivation and emotion. Previously meetings on motivation in Europe were called WATM (the Workshop in Achievement and Task Motivation). In order to acknowledge these roots we shall address a wide range of human domains and contexts where motivation and emotion play an important role.

Following the ICM tradition established in Landau (ICM2006) and continued in Turku (ICM2008), Porto (ICM2010) and Frankfurt (ICM2012) the ICM 2014 will be preceded by a Summer School in June 9-11, 2014 for young researchers interested in topics related to motivation and emotion. The Scientific Board selected 22 promising young scholars to participate in our SIG8 Summer School. The teachers are professors Alexander Minnaert, Markku Niemivirta, Thea Peetsma, and Kirsti Lonka. The beautiful Siikaranta is surrounded by a natural park on the lake are very near to Helsinki.

ICM2014 is entitled “Passion to Learn”. The location of the ICM2014, Minerva Plaza, provides an innovative platform that fosters interaction and makes it possible to facilitate human action with the help of mobile technology. We hope that we can offer you an unforgettable experience that motivates you all and promotes positive emotions in the participants. Once more: Welcome to Helsinki!

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Local Organizing Committee

Kirsti Lonka, University of Helsinki, Chair
Milla Räisänen, University of Helsinki, Coordinator
Elina E. Ketonen, University of Helsinki, SIG 8 Junior Assistant Coordinator
Heta Tuominen-Soini, University of Helsinki
Lauri Hietajärvi, University of Helsinki
Heidi Lammassaari, University of Helsinki
Maija Nuorteva, University of Helsinki
Elina Määttä, University of Oulu

International Scientific Board

Thomas Martens, DIPF, Germany
Marina Lemos, University of Porto, Portugal
Jenefer Husman, Arizona State University, USA
Markku Niemivirta, University of Helsinki, Finland
Hanke Korpershoek, University of Groningen, The Netherlands
Thea Peetsma, University of Amsterdam, The Netherlands

Keynote Speakers

Helen Watt, Monash University, Australia
Katariina Salmela-Aro, University of Jyväskylä, Finland
Ulrich Trautwein, University of Tübingen, Germany

Sponsors

University of Helsinki
EARLI – European Association for Research on Learning and Instruction
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## LIST OF AUTHORS
For updated information on all issues concerning the conference go to icm2014.fi.

**VENUE**

University of Helsinki  
Faculty of Behavioural Sciences  
Siltavuorenpenger 5 A  
FI-00014 University of Helsinki  
Finland

The ICM conference will be held at the University of Helsinki, at the City Centre Campus in the Faculty of Behavioural Sciences in the Minerva Building (Siltavuorenpenger 5 A), except for the Opening and the first keynote lecture, which will be held at the University Main Building (Fabianinkatu 33, see map on page 8) on Thursday the 12th at 12.00–14.00.

The Symposia, Paper Sessions and Poster session will take place in the new Minerva Building (Siltavuorenpenger 5A, see map on page 8) mainly at the Minerva Plaza, located on floor -K2. Some presentations will be held one floor above (floor -K1) in the room K113.

The Faculty of Behavioural Sciences is a traditional and beautiful university campus area in the Kruunuhaka district in the heart of Helsinki. Several old and historical university buildings have been renovated to serve as our Faculty premises (e.g. Athena building from the year 1828 and Old Minerva Building from the year 1904 – these used to be Anatomy and Physiology buildings). In the middle of these two, the new Minerva building was constructed in 2005, including our learning centre and Minerva Plaza. The modern university library Kaisa is in walking distance. The mission of the faculty is to engage in research and offer high quality education in educational sciences, teacher education, psychology, cognitive science, speech sciences, home economics and craft science in order to direct and increase our understanding about human development, behaviour, learning and activity.

**REGISTRATION & INFO DESK**

Registration opens on Thursday the 12th at 9 a.m. in the new Minerva Building, Hall on floor -K1 (Siltavuorenpenger 5 A, see pages 9–10), but you can also register after the Opening. In other times, you will find registration and info desk located next to Minerva Plaza (floor -K2, see chart on page 10). Info desk will be open daily from 8.30 a.m. to 7.00 p.m.

**COFFEE BREAKS**

**Thursday:** Registration & Coffee 2 p.m.  
**Friday:** 10:30 a.m. Coffee, 2:45 p.m. Posters and coffee
**Saturday**: 10:30 a.m. Posters and coffee, 2:30 p.m. Farewell session and coffee

During the Coffee breaks in the morning and in the afternoon, coffee and tea will be served in the Minerva Building either on floor -K1 Hall or Minerva Plaza, floor -K2.

**LUNCH**

**Friday & Saturday**: 12 a.m., served at Unicafe Olivia restaurant on the first floor of the Minerva Building. Lunch is included in the conference fee, and served on both days.

**WI-FI INTERNET**

You will find a temporary username and password in the conference bag to access the university HUPnet on the campus.

**PRINTING/COPYING**

You can print material at the info desk at Minerva Building on floor -K2.

**LUGGAGE**

Luggage can be stored temporarily at the Minerva Plaza room K229 on floor -K2.

**HOW TO REACH THE VENUE**

Helsinki city centre can be reached from Helsinki–Vantaa Airport by taxi in approximately 25 minutes. You can take the taxi, the Finnair City bus (6,30 €) or Bus 615 (3,00 €) to the Central Railway Station. A taxi from the airport to the centre costs approximately 45–50 €.

From the railway station you will have to walk for 10 minutes to the conference venue or you can take a tram:

- **Tram 9**, tram stop “Varsapuistikko “
- **Tram 7B, 1**, tram stop “Snellmaninkatu“

For further information, see [http://www.hsl.fi/en](http://www.hsl.fi/en)

**CITY OF HELSINKI**

Experience Helsinki, its wonderful nature and architecture! The Finnish capital city of Helsinki is well-known for its design culture, its historic architecture, fascinating east meets west history, and its outdoor lifestyle. In Helsinki you can shop for high quality design objects, visit museums and rent bikes to take a tour through the diverse selection of park areas.
Helsinki takes you on a fascinating architectural journey through the centuries. In Helsinki you have the possibility to experience both Swedish and Russian as well as modern Finnish architecture! The Senate Square of Helsinki is the Empire-style downtown area of the city including eg. its historically significant Helsinki Cathedral and the main building of the University of Helsinki! You can also easily reach the Temppeliaukio Church (also known as the Church of the rock) by tram.

Helsinki is also surrounded by the sea (the Baltic). From the Market square you can join several different cruise routes to experience Helsinki by sea and to get a glimpse of the Finnish archipelago, which consists of approximately 50 000 islands. Join a tour to the Suomenlinna Sea Fortress, which is situated on a group of islands just outside Helsinki. It was built during the Swedish era as maritime fortress and base for the Archipelago fleet. Today, the Fortress is on the Unesco World Heritages List and it is one of Finland’s most popular tourist attractions.

Helsinki offers something for everyone. Welcome to Helsinki!

HELSINKI TOURIST INFORMATION

http://www.helsinki.fi/eng/
http://www.visithelsinki.fi/en/

SOCIAL EVENTS

WELCOME RECEPTION, THURSDAY JUNE 12

On Thursday at 6:30 p.m., there will be a reception at Unicafe Olivia restaurant on the first floor of the Minerva Building.

CONFERENCE DINNER, FRIDAY JUNE 13

On Friday, there will be a dinner held at 7:30 p.m. The location will be in restaurant Bryggeri Helsinki, close to the University Main Building (see map on page 8).
## TIMETABLE

**Date: Thursday, 12/Jun/2014**

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<tr>
<th>Time</th>
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<td>12:00pm - 1:00pm</td>
<td>Opening</td>
<td>Great hall (main building)</td>
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<td>1:00pm - 2:00pm</td>
<td>KEYNOTE-01: Passion &amp; persistence in STEM pathways</td>
<td>Great hall (main building)</td>
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<td>Helen Watt, Monash University</td>
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<td>2:00pm - 3:00pm</td>
<td>Transfer, registration &amp; coffee</td>
<td>-K1 Hall</td>
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<td>3:00pm - 4:30pm</td>
<td>PAPER-01: Collaborative learning and motivation</td>
<td>K232</td>
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<td>Chair: Hanna Järvenoja</td>
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<td>4:45pm - 6:15pm</td>
<td>SYMP-02: Subjective task value in context: Exploring its dynamics</td>
<td>Minerva Plaza</td>
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<td>with motivational and school outcomes</td>
<td>Jenna Cambria</td>
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<td>Chair: Allan Wigfield</td>
<td>Discussant: Eleftheria N. Gonida,</td>
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<td>Discussant: Anna-Lena Dicke</td>
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<td>SYMP-03: Motivation for Learning at University</td>
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<td>Chair: Thomas Martens</td>
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<td>Organizer: Luke K. Fryer</td>
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<td>6:30pm - 8:00pm</td>
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| KEYNOTE-01: Passion & persistence in STEM pathways |
| Location: Great hall (main building) |
| Helen Watt, Monash University |

| Transfer, registration & coffee |
| Location: -K1 Hall |

| PAPER-02: Motivation in higher education |
| Location: K222.1 |
| Chair: Berit Lassesen |

| PAPER-03: ICT in motivation: e-learning, MOOCs and gaming |
| Location: K222.2 |
| Chair: Loredana Mihalca |

| PAPER-04: Support of teachers and parents |
| Location: K113 |
| Chair: Päivi Taskinen |

| PAPER-05: The role of motivational variables in students’ achievement and career choice |
| Location: K222.1 |
| Chair: Anne-Kathrin Mayer |

| PAPER-06: Self-determined Motivation |
| Location: K222.2 |
| Chair: Daniel Birrer |

| PAPER-07: The influence of autonomy-support and structure in school learning and adaptation |
| Location: K113 |
| Chair: W. L. Quint Oga-Baldwin |

| Reception |

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<tr>
<td>9:00am - 10:30am</td>
<td>SYMP-04: Affective and Motivational Aspects of Teachers’ Work</td>
<td>Minerva Plaza</td>
<td>Susan Beltman</td>
<td>Francisco Peixoto</td>
<td>Susan Beltman</td>
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<td>9:00am - 10:30am</td>
<td>SYMP-05: Mixed Methods in Motivation Research: Are More Methods Always Better?</td>
<td>K232</td>
<td>Andreas Gegenfurtner</td>
<td>Marja Vauras</td>
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<td>10:30am - 11:00am</td>
<td>Coffee break</td>
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<td>11:00am - 12:00pm</td>
<td>KEYNOTE-02: From burnout to engagement: Developmental-contextual approach</td>
<td>Minerva Plaza</td>
<td>Katarina Salmela-Aro</td>
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<td>SYMP-06: What can be said about the relation between interest and learning?</td>
<td>Minerva Plaza</td>
<td>K. Ann Renninger</td>
<td>Doris Lewalter</td>
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<td>SYMP-07: Goals, Goals, Goals: Social, instrumental and daily-life perspectives</td>
<td>K232</td>
<td>Kou Murayama</td>
<td>W. L. Quint Oga-Baldwin</td>
<td>Luke K. Fryer</td>
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<td>4:00pm - 5:30pm</td>
<td>PechaKucha: Present new ideas &amp; find new partners</td>
<td>K323</td>
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<td>4:00pm - 5:30pm</td>
<td>SYMP-08: Designing for interest, motivation and engagement: How can we help unmotivated learners become motivated to learn?</td>
<td>Minerva Plaza</td>
<td>Sanna Järvelä</td>
<td>Kirsti Lonka</td>
<td>K. Ann Renninger</td>
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<td>Chair: Kevin Pugh</td>
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<td>Chair: Christian Brandmo</td>
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<td>Katariina Salmela-Aro</td>
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<td><strong>PAPER-15: Motivation for reading and writing</strong></td>
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<td>Chair: Noona Kiuru</td>
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<td>9:00am - 10:30am</td>
<td>PAPER-17: Motivation and situational interest</td>
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<td>Chair: Niels Bonderup Dohn</td>
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<td>11:00am - 12:00pm</td>
<td>KEYNOTE-03: Expectancy-Value Theory: Still vital after all these years</td>
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<td>1:00pm - 2:30pm</td>
<td>SYMP-09: Teacher’s Support for Students’ Engagement and Deep Learning</td>
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<td>Organizer: Jeannine E. Turner</td>
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<td>2:30pm - 3:30pm</td>
<td>PAPER-25: Teachers and motivation</td>
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<td><strong>PAPER-18: Achievement</strong></td>
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<td><strong>PAPER-21: Social</strong></td>
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<td><strong>Chair:</strong> Birgit Spinath</td>
<td><strong>Chair:</strong> Cornelis J. de</td>
<td><strong>Chair:</strong> Stuart Karabenick</td>
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<td><strong>PAPER-23:</strong> Achievement-</td>
<td><strong>Interventions</strong></td>
<td><strong>PAPER-22: Achievement</strong></td>
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<td><strong>Chair:</strong> Melanie M. Keller</td>
<td><strong>Chair:</strong> Hanna Gaspard</td>
<td><strong>Chair:</strong> Gera Noordzij</td>
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Coffee break

**KEYNOTE-03: Expectancy-Value Theory: Still vital after all these years**

Ulrich Trautwein

Lunch

**Farewell session**

Location: Minerva Plaza
SESSION GUIDELINES

GENERAL INFORMATION

Individual Paper Session (PAPER)
Paper sessions are oral presentations, followed by a discussion with the audience. Each session has been assigned a chair who will take care of the timing of the presentations.

Symposium (SYMP)
Symposia provide an opportunity to examine a single topic in depth from multiple perspectives, providing a coherent set of papers for discussion. Symposia sessions consist of three presentations and a contribution by a discussant.

Poster session (POS)
The poster sessions offer researchers the chance to present their work in a visual format and offer more opportunities for interaction and discussion.

TECHNICAL INFORMATION

Oral Presentations
The rooms for the oral presentations are equipped with a Laptop that operates with Windows and Microsoft PowerPoint. Please bring your presentation on USB stick.

Poster Presentations
The room for the poster presentations is equipped with poster stands in which a Poster size A0 (0.84 meter x 1.18 meter) will fit perfectly. Pins for sticking will be provided. For the posters presented electronically, please contact the info desk.
OVERVIEWS

PRESENTATIONS ON THURSDAY – OVERVIEW

SYMP-01: New Directions in Help Seeking: Theory, Methods and Populations

*Time:* Thursday, 12/Jun/2014: 3:00pm - 4:30pm

*Location:* Minerva Plaza
Floor -K2, Siltavuorenpenker 5A

*Session Chair:* Lawrence Cho, University of Michigan

*Discussant:* Eleftheria N. Gonida, Aristotle University of Thessaloniki

*Organizer:* Kara Makara, University of Michigan

*Organizer:* Stuart Karabenick, University of Michigan

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**Student Teachers’ Help-Seeking Behavior: An Analysis of Their Experiences and Explanations**

Kati Mäkitalo-Siegl (University of Eastern Finland), Pekka Räähä (University of Eastern Finland)

**From Whom to Seek Help? High School Students’ Perceived Benefits, Costs and Preferences from Teachers, Friends and Parents**

Kara Makara (University of Michigan), Stuart Karabenick (University of Michigan)

**Help Seeking and Special Educational Needs: A Theoretical Perspective on an Understudied Area**

Minna Puustinen (INS HEA, France)
SYMP-02: Subjective task value in context: Exploring its dynamics with motivational and school outcomes

Time: Thursday, 12/Jun/2014: 4:45pm - 6:15pm

Location: Minerva Plaza
Floor -K2, Siltavuorenpeneg 5A

Session Chair: Jenna Cambria, University of Tuebingen
Discussant: Allan Wigfield, University of Maryland
Organizer: Anna-Lena Dicke, University of Tuebingen

Students’ math-specific achievement goal orientation profiles: Relations to value beliefs about math and school engagement, burnout, and perfectionism
Tuominen-Soini Heta (University of Helsinki), Salmela-Aro Katariina (University of Jyväskylä)

Alignment of momentary task values and momentary competence beliefs in different experience sampling method studies
Moeller Julia (University of Helsinki), Viljaranta Jaana (University of Jyväskylä), Schneider Barbara (Michigan State University), Salmela-Aro Katariina (University of Jyväskylä), Lavonen Jari (University of Helsinki), Linnansaari Janna (University of Helsinki)

Frame-of-reference Effects of Values on Student Performance in Mathematics and English
Cambria Jenna (University of Tübingen), Nagengast Benjamin (University of Tübingen), Trautwein Ulrich (University of Tübingen)
SYMP-03: Motivation for Learning at University

Time: Thursday, 12/Jun/2014:
4:45pm - 6:15pm

Location: Minerva Plaza
Floor -K2, Siltavuorenpengen 5A

Session Chair: Thomas Martens, German Institute for International Educational Research
Discussant: Hanke Korpershoek, University of Groningen
Organizer: Luke K. Fryer, Kyushu Sangyo University

Motivation for Learning at University and Gender Differences

Thomas Martens (German Institute for International Educational Research), Christiane Metzger (University of Applied Sciences Kiel), Rolf Schulmeister (University of Hamburg)

Future-orientated motivation and academic self-concept: For interest’s sake, above all else, be the author of your own goals.
Luke Fryer (Kyushu Sangyo University)

The interaction between motivation, the process of understanding and self- and co-regulation of learning of university students
Milla Räisänen (University of Helsinki), Liisa Postareff (University of Helsinki), Sari Lindblom-Ylänne (University of Helsinki)

PAPER-01: Collaborative learning and motivation

Time: Thursday, 12/Jun/2014:
3:00pm - 4:30pm

Location: K232
Floor -K2, Siltavuorenpengen 5A

Session Chair: Hanna Järvenoja, University of Oulu

How individual self-regulated learning skills influence socially shared regulated learning performance in collaborative groups
Ernesto Panadero¹, Sanna Järvelä¹, Jonna Malmberg¹, Hanna Jarvenoja¹, Paul Kirschner²
¹Department of Educational Sciences and Teacher Education. Learning and Educational Technology Research Unit (LET).University of Oulu, Finland; ²Welten Institute, Research Centre for Learning, Teaching and Technology. Open University of the Netherlands, The Netherlands; ernesto.panadero@oulu.fi
Relations between motivation for collaboration, perception of competence and skills, and learning environment
Nadira Saab¹, Jaap Schuitema², Astrid Schrama¹
¹Leiden University, Netherlands, The; ²University of Amsterdam, The Netherlands; nsaab@fsw.leidenuniv.nl

Promoting socially shared regulation of learning in CSCL: Patterns of socially shared regulation of learning between high – and low performing student groups
Jonna Malmberg, Sanna Järvelä, Hanna Järvenoja, Ernesto Panadero
University of Oulu, Finland; jonna.malmberg@oulu.fi

Situated Challenges in Collaborative Group Tasks: When Students Activate Shared Motivation and Emotion Regulation?
Hanna Järvenoja, Jonna Malmberg, Sanna Järvelä, Ernesto Panadero
University of Oulu, Finland; hanna.jarvenoja@oulu.fi

PAPER-02: Motivation in higher education

Time: Thursday, 12/Jun/2014:
3:00pm - 4:30pm

Location: K222.1
Floor -K2, Siltavuorenpenger 5A

Session Chair: Berit Lassesen, Aarhus Universitet, Centre for Teaching and Learning, School of Business and Social Science

Novice university students’ motivational study profiles: A person-centered approach
Elina E. Ketonen¹, Anne Haarala-Muhonen¹, Laura Hirsto¹, Jari Hänninen², Kirsti Keltikangas², Kristiina Wähälä¹, Kirsti Lonka¹
¹University of Helsinki, Finland; ²Aalto University, Finland; elina.e.ketonen@helsinki.fi

Passion to learn something new? Investigating school subject-specific intrinsic task value as a basis for intrinsic task value of unknown learning contents while controlling for academic self-concept of ability
Julia Gorges
Bielefeld University, Germany; julia.gorges@uni-bielefeld.de
Improvements in self-efficacy for engaging in patient-centered communication following a course in peer-supervision and communication for medical students – the role of motivational factors.

Berit Lassesen\textsuperscript{1}, Maja O’Connor\textsuperscript{2}, Louise Binnow Kjær\textsuperscript{3}, Anne-Mette Mørcke\textsuperscript{3}, Robert Zachariae\textsuperscript{2}

\textsuperscript{1}Aarhus Universitet, School of Business and Social Science, Denmark; \textsuperscript{2}Unit for Psychooncology and Health Psychology, Department of Oncology, Aarhus University Hospital and Department of Psychology and Behavioral Science, Aarhus University, Aarhus, Denmark; \textsuperscript{3}Center for Medical Education, Aarhus University, Aarhus, Denmark; belas@clu.au.dk

PAPER-03: ICT in motivation: e-learning, MOOCs and gaming

\textit{Time:} Thursday, 12/Jun/2014: 3:00pm - 4:30pm

\textit{Session Chair:} Loredana Mihalca, RWTH Aachen University

 ICT-orientation profiles among 6th graders and their association to schoolwork engagement and school burnout.

Lauri Hietajärvi\textsuperscript{1}, Kai Hakkarainen\textsuperscript{2}, Kirsti Lonka\textsuperscript{1}, Katarina Salmela-Aro\textsuperscript{3}, Heta Tuominen-Soini\textsuperscript{1}

\textsuperscript{1}University of Helsinki, Finland; \textsuperscript{2}University of Turku, Finland; \textsuperscript{3}University of Jyväskylä, Finland; lauri.hietajarvi@helsinki.fi

Self-efficacy and perceived competence as mediators for successful learning in computer-based environments among high school and college students

Loredana Mihalca\textsuperscript{1}, Jimmie Leppink\textsuperscript{2}, Dan Cernusca\textsuperscript{3}, Fred Paas\textsuperscript{4}, Kathrin Bürger\textsuperscript{1}

\textsuperscript{1}RWTH Aachen University, Germany; \textsuperscript{2}Maastricht University, the Netherlands; \textsuperscript{3}North Dakota State University, USA; \textsuperscript{4}Erasmus University Rotterdam; loredana.mihalca@rwth-aachen.de

Children’s Motivation in Digital Game-play: the Effects of Task-reward Structure and the Role of Self-efficacy

Zhenhua Xu\textsuperscript{1}, Earl Woodruff\textsuperscript{2}, Bodong Chen\textsuperscript{3}

\textsuperscript{1}University of Toronto, Canada, Canada; \textsuperscript{2}University of Toronto, Canada, Canada; \textsuperscript{3}University of Toronto, Canada, Canada; zhenh.xu@mail.utoronto.ca
PAPER-04: Support of teachers and parents

Time: Thursday, 12/Jun/2014: 3:00pm - 4:30pm

Session Chair: Päivi Taskinen, Friedrich-Schiller University Jena

Task-Focused Behavior Mediates the Associations Between Supportive Interpersonal Environments and Students’ Academic Performance
Noona Kiuru¹, Eija Pakarinen², Kati Vasalampi², Gintautas Silinskas¹, Kaisa Aunola¹, Anna-Maija Poikkeus², Riitta-Leena Metsäpelto², Marja-Kristiina Lerkkanen², Jari-Erik Nurmi¹
¹Department of Psychology, University of Jyväskylä, Finland; ²Department of Teacher Education, University of Jyväskylä, Finland; noona.h.kiuru@jyu.fi

Teacher Support as a Protective Factor in the Prediction of Academic Efficacy
Bridget V. Dever¹, Randy W. Kamphaus²
¹Lehigh University, United States of America; ²Georgia State University, United States of America; bdever@lehigh.edu

Role of Parents in Adolescents’ Interest in Science-Related Careers
Päivi Taskinen, Bärbel Kracke
Friedrich-Schiller University Jena, Germany; p.taskinen@uni-jena.de

Classroom effects on students’ motivational development
Julia Dietrich², Anna-Lena Dicke¹, Bärbel Kracke², Peter Noack²
¹University of Tuebingen, Germany; ²University of Jena, Germany; anna-lena.dicke@uni-tuebingen.de
PAPER-05: The role of motivational variables in students’ achievement and career choice

Time: Thursday, 12/Jun/2014: 4:45pm - 6:15pm

Session Chair: Anne-Kathrin Mayer, ZPID Leibniz - Zentrum

Motivation Contributes Incrementally over General Cognitive Ability in the Prediction of College Academic Achievement

Lawrence I. Cho, Stuart A. Karabenick
University of Michigan, United States of America; lawrcho@umich.edu

Profiles of Costs: How Expectancy-Value Profiles Relate to Undergraduates’ Choices in STEM

Tony Perez¹, Stephanie V. Wormington², Michael B. Barger³, Rochelle D. Schwartz-Bloom³, Lisa Linnenbrink-Garcia²
¹Old Dominion University, United States of America; ²Michigan State University, United States of America; ³Duke University, United States of America; acperez@odu.edu

High time investment = High effort? Results of a person-centered approach to students’ homework behavior

Barbara Flunger¹, Ulrich Trautwein¹, Benjamin Nagengast¹, Oliver Luedtke², Alois Niggli³, Inge Schnyder⁴
¹University Tuebingen, Germany; ²Humboldt University Berlin, Germany; ³University of Teacher Training and Department of Educational Science, University of Freiburg, Switzerland; ⁴University of Fribourg, Switzerland; Barbara.flunger@uni-tuebingen.de

Development of a Self-Efficacy Scale for Information Searching Behavior (SES-IB-16)

Anne-Kathrin Mayer¹, Thomas Behm¹, Guenter Krampen¹²
¹ZPID Leibniz-Zentrum, Germany; ²Universitaet Trier; mayer@zpid.de
PAPER-06: Self-determined Motivation

Time: Thursday, 12/Jun/2014: 4:45pm - 6:15pm

Session Chair: Daniel Birrer, Swiss Federal Institute of Sports Magglingen

PhD success and drop out under the lens of the self-determination theory
Christelle Devos¹, Gentiane Boudrenghien¹, Nicolas Van der Linden², Assaad Azzi², Mariane Frenay¹, Benoit Galand¹, Olivier Klein²
¹Université catholique de Louvain, Belgium; ²Université Libre de Bruxelles, Belgium; christelle.devos@uclouvain.be

Conflict and Motivation: The Influence of Life to Sport Conflicts on Motivation and Training Behaviours and Attitudes
Gareth Mark Paul Morgan¹, David Markland², James Hardy², Daniel Birrer³
¹Swiss Federal Institute of Sport Magglingen and Bangor University, Switzerland; ²Bangor University, North Wales; ³Swiss Federal Institute of Sport Magglingen; gareth.morgan@baspo.admin.ch
PAPER-07: The influence of autonomy-support and structure in school learning and adaptation

**Time:** Thursday, 12/Jun/2014: 4:45pm - 6:15pm

**Location:** K113
Floor -K1, Siltavuorenpenger 5A

**Session Chair:** W. L. Quint Oga-Baldwin, Fukuoka University of Education

**Motivation and Engagement in Student-Centered Learning: The Role of Autonomy Support and Structure**
Lisette Wijnia¹, Gera Noordzij¹, Sofie M. M. Loyens¹, Eva Derous²
¹Erasmus University Rotterdam, Netherlands, The; ²Ghent University, Belgium; noordzij@fsw.eur.nl

Are both autonomy-support and structure really important for engagement and learning?
**Virginie Hospel, Benoît Galand, Manon Wattiez**
Université Catholique de Louvain (UCL), Belgium; virginie.hospel@uclouvain.be

**Structure can support autonomy: Validating a short measure of autonomy supportive structure in Japanese elementary schools**
W. L. Quint Oga-Baldwin¹, Yoshiyuki Nakata²
¹Fukuoka University of Education, Japan; ²Hyogo University of Teacher Education, Japan; qogab1@fue.ac.jp
PRESENTATIONS ON FRIDAY – OVERVIEW

SYMP-04: Affective and Motivational Aspects of Teachers’ Work

Time: Friday, 13/Jun/2014: 9:00am - 10:30am

Session Chair: Susan Beltman, Curtin University
Discussant: Francisco Peixoto, ISPA - Instituto Universitário / UIPCDE
Organizer: Susan Beltman, Curtin University

Location: Minerva Plaza
Floor -K2, Siltavuorenpenenger 5A

Conceptualising teacher emotions: A review of the literature
Saul Karnovsky (Curtin University, Australia), Susan Beltman (Curtin University, Australia)

Teacher Resilience: A one or multi-dimensional construct influencing teacher motivation and coping?
Marold Wosnitza (RWTH-Aachen, Germany & Murdoch University, Australia), Lucas Lohbeck (RWTH-Aachen, Germany), Jennifer Schwarze (RWTH-Aachen, Germany)

How Do Initial Motivations and Coping Style Influence Early Career Teaching?
Paul W. Richardson (Monash University, Australia), Helen M.G. Watt (Monash University, Australia), Christelle Devos (Université Catholique de Louvain, Belgium)
SYMP-05: Mixed Methods in Motivation Research: Are More Methods Always Better?

**Time:**
Friday, 13 Jun/2014:
9:00am - 10:30am

**Location:** K232
Floor -K2, Siltavuorenpenker 5A

**Session Chair:** Andreas Gegenfurtner, Maastricht University
**Discussant:** Marja Vauras, University of Turku

Aspects of Instructional Quality and the Relation to Students’ Learning Enjoyment
Gerda Hagenauer (University of Jena), Michaela Gläser-Zikuda (University of Jena), Tina Hascher (Universität Bern)

Productive Tensions: Triangulating Qualitative and Quantitative Reconstructions in Goal Research
Michael Hellwig (Technische Universität München), Andreas Gegenfurtner (Technische Universität München)

The Benefits of Mixed Methods for Motivation Research in Classrooms
Julianne C. Turner (University of Notre Dame)

Using Multiple Qualitative Methods to Study Productive Disciplinary Engagement in STEM Learning Environments
Susan B. Nolen (University of Washington), Milo Koretsky (Oregon State University), Simone Volet (Murdoch University), Marja Vauras (University of Turku)

Discussion
Thea Peetsma (University of Amsterdam)
SYMP-06: What can be said about the relation between interest and learning?

*Time:* Friday, 13/Jun/2014: 1:00pm - 2:30pm

*Location:* Minerva Plaza
Floor -K2, Siltavuorenpenget 5A

*Session Chair:* K. Ann Renninger, Swarthmore College
*Discussant:* Doris Lewalter, TU Munich

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**Interest and Learning**

**K. Ann Renninger** (Swarthmore College)

Capturing the dynamics of interest at the ‘micro-level’ — interaction between the student and the task

**Anna Tapola** (University of Helsinki)

**Interest and Conscientiousness: How they predict academic effort and learning**

**Ulrich Trautwein** (University of Tübingen), Oliver Lüdtke (Humboldt University Berlin)
SYMP-07: Goals, Goals, Goals: Social, instrumental and daily-life perspectives

Time: Friday, 13/Jun/2014: 1:00pm - 2:30pm

Location: K232
Floor -K2, Siltavuorenpenkier 5A

Session Chair: Kou Murayama, University of Reading
Discussant: W. L. Quint Oga-Baldwin, Fukuoka University of Education
Organizer: Luke K. Fryer, Kyushu Sangyo University

Education-Related Goal Appraisals and Supportive Interpersonal Environment in Upper Secondary Education
Kati Vasalampi (University of Jyväskylä), Noona Kiuru (University of Jyväskylä)

The role of social goals on students’ social and academic adjustment
Teresa Gonçalves (University of Porto), Marina S. Lemos (University of Porto), Helena Meneses (University of Porto)

What students want and how they get it: Students’ goals and future strategies.
Luke K. Fryer (Kyushu Sangyo University), Paul Ginns (University of Sydney), Richard Walker (University of Sydney)

Self-determined goal pursuit and motivational experience: An Experience Sampling Approach
Julia Dietrich (University of Jena), Håkan Andersson Andersson (Swedish Higher Education Authority), Yi-Miau Tsai (University of Michigan), Katarina Salmela-Aro (University of Jyväskylä)
SYMP-08: Designing for interest, motivation and engagement: How can we help unmotivated learners become motivated to learn?

Time: Friday, 13/Jun/2014: 4:00pm - 5:30pm

Location: Minerva Plaza
Floor -K2, Siltavuorenpenger 5A

Session Chair: Sanna Järvelä, University of Oulu
Discussant: Kirsti Lonka, University of Helsinki
Organizer: K. Ann Renninger, Swarthmore College

Design principles for increasing learner engagement, interest, and motivation with content
Sanna Järvelä (University of Oulu)

Insight from Studies of the ICAN Intervention, Curricular Context, Science Interest and Learning
K. Ann Renninger (Swarthmore College), Alpha Chau (Swarthmore College), Samantha Stevens (Swarthmore College), Brian R. King (Swarthmore College), Melissa Emmerson (Swarthmore College), Lily Austin (Swarthmore College)

Contextual experiences of computer supported learning environments matter: their impact on (changes in) situational interest over time
Alexander Minnaert (University of Groningen)
A passion for research and exploration? How purpose and expectancy inform women’s identities and career choices in graduate chemistry programs.

**Megan Leanne Grunert, Allison Hart-Young**
Western Michigan University, United States of America; megan.grunert@wmich.edu

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**Julia Moeller¹, Julia Dietrich², Jacquelynne S. Eccles³, Barbara Schneider⁴**

¹University of Helsinki, Finland; ²University of Jena, Germany; ³University of Michigan, MI, U.S.A; ⁴Michigan State University, MI, U.S.A.; julia.moeller@helsinki.fi

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The effect of personalization and example choice on students’ interest in mathematics

**Sigve Høgheim, Rolf Reber**
University of Bergen, Norway; sigve.hogheim@psybp.uib.no

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Why Some Students Undergo Transformative Experiences and Others Do Not: Current Research and Future Directions

**Kevin Pugh, Cassendra Bergstrom**
University of Northern Colorado, United States of America; kevin.pugh@unco.edu
PAPER-09: Motivation in young children

*Time:* Friday, 13/Jun/2014: 9:00am - 10:30am

*Location:* K222.2

Floor -K2, Siltavuorenpenker 5A

*Session Chair:* Stephen Aguilar, University of Michigan

**Subjective and Contextual Contributors to Young Children’s Perceived Self-Efficacy**

Elina Määttä¹, Sanna Järvelä¹, Nancy Perry²

¹University of Oulu, Finland; ²University of British Columbia, Canada; elina.maatta@oulu.fi

**Measuring children’s interest in mathematics: different raters — different perspectives**

Anna-Kaarina Tapola, Markku Niemivirta, Riikka Mononen, Pirjo Aunio

University of Helsinki, Finland; anna.tapola@helsinki.fi

**How teachers support young children’s regulation of emotions and behaviour in challenging situations in day care settings**

Kristiina Kurki, Hanna Järvenoja, Sanna Jarvela

University of Oulu, Finland; kristiina.kurki@oulu.fi

**“What makes her succeed?” Children making interpretations of their peers’ success in learning situations**

Arttu Mykkänen, Sanna Järvelä, Elina Määttä

University of Oulu, Finland; arttu.mykkkanen@oulu.fi
PAPER-10: Stability and change in students’ motivation along schooling

Time: Friday, 13/Jun/2014: 9:00am - 10:30am

Location: K113
Floor -K1, Siltavuorenpenge 5A

Session Chair: Christian Brandmo, University of Oslo

Experiences of meaningful studying predict satisfaction with educational choices across the transition to upper secondary education – A latent growth curve analysis
Markku Niemivirta
University of Helsinki, Finland; markku.niemivirta@helsinki.fi

A comparison of the development in motivation for school in upper primary and early secondary school in the Netherlands
Ineke van der Veen¹, Lisette Hornstra², Jaap Schuitema², Thea Peetsma²
¹Kohnstamm Institute, University of Amsterdam, Netherlands, The; ²Research Institute Child Development and Education, University of Amsterdam; ivanderveen@kohnstamm.uva.nl

The development of achievement goal orientations in middle school
Désirée Theis, Wolgast Anett, Sauerwein Markus
German Institute for International Educational Research (DIPF), Germany; theis@dipf.de

Developmental stability of motivational orientation profiles from preschool to grade 3
Satu Laitinen¹, Janne Lepola²
¹University of Turku, Finland, Faculty of Education, Department of Teacher Education, Turku; ²University of Turku, Finland, Faculty of Education, Department of Teacher Education, Rauma; satu.laitinen@utu.fi
PAPER-11: Contextual and social influences on motivation

Time: Friday, 13/Jun/2014: 1:00pm - 2:30pm

Location: K222.1
Floor -K2, Siltavuorenpenger 5A

Session Chair: Eleftheria N. Gonida, Aristotle University of Thessaloniki

Classroom achievement goal structure, school engagement and substance use among lower secondary school students

Åge Diseth, Oddrun Samdal
University of Bergen, Norway; aage.diseth@psysp.uib.no

Teachers’ goal orientations as predictors of their classroom behaviours: From the perspectives of achievement goal theory

Sindu Vinod George
Monash University, Melbourne, Australia, Australia; sindu.george@monash.edu

Perceived Parent Goals and Student Goal Orientations as Predictors of Seeking or Not Seeking Help: Does Age Matter?

Eleftheria N. Gonida¹, Stuart A. Karabenick², Kara A. Makara², Kelly Hatzikyriakou¹
¹Aristotle University of Thessaloniki, Greece; ²University of Michigan, MI USA;
gonida@psy.auth.gr

Differential effects of the learning environment on the motivation of students with different cognitive abilities

Jaap Schuitema, Sonia Palha, Thea Peetsma, Carla van Boxtel
UvA, Netherlands, The; j.a.schuitema@uva.nl
PAPER-12: Motivation and different student backgrounds (ethnic and gender)

Time: Friday, 13/Jun/2014: 1:00pm - 2:30pm

Location: K113
Floor -K1, Siltavuorenpenge 5A

Session Chair: Idit Katz, Ben-Gurion University

Ethnic Identity, Academic Motivation, and Stereotype Threat: Breaking the Cycle
Tim Cameron Urdan
Santa Clara University, United States of America; turdan@scu.edu

Gender Differences in School Motivation Among Eight Ethnic Groups From Across the World.
H. Korpershoek¹, R.B. King², D.M. McInerney³, R. Nasser⁴, F.A. Ganotice³, D.A. Watkins⁵
¹University of Groningen, Netherlands, The; ²National Institute of Education, Singapore; ³The Hong Kong Institute of Education, Hong Kong; ⁴Qatar University, Qatar; ⁵University of Melbourne, Australia; h.korpershoek@rug.nl

Gender differences in behavioral engagement: The explanatory and protective role of teacher support
Sofie Lietaert, Bieke De Fraine, Karine Verschueren, Ferre Laevers
KU Leuven, Belgium; sofie.lietaert@ppw.kuleuven.be

In the Eye of the Beholder: Gender related differences in students' perception of teachers' behavior and their effect on students' motivation and emotion
Idit Katz
Ben-Gurion University, Israel; katzid@bgu.ac.il
Socio-emotional conflict in collaborative learning – a process oriented case study
Piia Näykki¹, Hanna Järvenoja¹, Sanna Järvelä¹, Paul Kirschner²
¹University of Oulu, Finland; ²Open University of the Netherlands; piia.naykki@oulu.fi

Negative emotions in group work at university: The role of control, value and overall group work appraisals
Karen Zschocke, Marold Wosnitza
RWTH Aachen University, Germany; karen.zschocke@rwth-aachen.de

Effects of achievement on self-representations, motivation and emotions of pre-adolescents
Francisco Peixoto, Lourdes Mata, Vera Monteiro, Cristina Sanches
ISPA - Instituto Universitário / UIPCDE, Portugal; fpeixoto@ispa.pt

The relation between academic emotions and learning strategies - Results of an intervention study in regular classrooms
Stefanie Obergriesser, Heidrun Stoeger
University of Regensburg, Germany; stefanie.obergriesser@ur.de
PAPER-14: Developmental trajectories of motivation

**Time:** Friday, 13/Jun/2014:
4:00pm - 5:30pm

**Location:** K113
Floor -K1, Siltavuorenpenker 5A

**Session Chair:** Noona Kiuru, University of Jyväskylä

**Motivation and academic skill development among first-graders: A person-oriented approach**
Jaana Viljaranta, Riikka Hirvonen, Kaisa Aunola
University of Jyväskylä, Finland; rikka.e.hirvonen@jyu.fi

**The impact of low academic achievement on intrinsic and extrinsic motivation: a longitudinal study**
Marina S. Lemos¹, Lurdes Veríssimo², João A. Lopes³
¹Universidade do Porto, Portugal; ²Universidade Católica do Porto, Portugal; ³Universidade do Minho, Portugal; marina@fpce.up.pt

**Developmental Trajectories of Motivation: differences and consequences on mathematic achievement**
Nadia Leroy
Université Cergy-Pontoise, France; nadia.leroy1@u-cergy.fr

**Developmental dynamics between children’s externalizing problems, task-avoidant behavior, and academic performance in early school years: A four-year follow-up**
Riitta-Leena Metsäpelto¹, Eija Pakarinen¹, Noona Kiuru², Anna-Maija Poikkeus¹, Marja-Kristiina Lerkkanen¹, Jari-Erik Nurmi²
¹Dept. of Teacher Education, University of Jyväskylä, Finland; ²Dept. of Psychology, University of Jyväskylä, Finland; riitta-leena.metsapelto@jyu.fi
The relationship between reading motivation, reading amount, and reading comprehension in beginning readers – A longitudinal perspective

Franziska Stutz, Ellen Schaffner, Ulrich Schiefele
University of Potsdam, Germany; stutz@uni-potsdam.de

Self-efficacy and performance in grammatical spelling: interventions on self-assessment and teacher feedback

Marie Van Reybroeck, Jessica Penneman, Charline Vidick, Benoît Galand
Université catholique de Louvain, Belgium; marie.vanreybroeck@uclouvain.be

Perceived utility of reading – predictor of reading competence?

Cornelia Schoor
University of Bamberg, Germany; cornelia.schoor@uni-bamberg.de

Motivation to write: Developmental aspects

Lerida Cisotto¹, Paola Cortiana², Pietro Boscolo³
¹Padua University, Italy; ²Padua University, Italy; ³Padua University, Italy;
paola.cortiana.1@studenti.unipd.it
Enhancing student participation in secondary vocational education: Testing the effectiveness of an intervention designed to improve motivation for school

**Thea Peetsma**¹, **Ineke Van der Veen**²

¹Department Child Development and Education, University of Amsterdam, Netherlands, The; ²Kohnstamm Institute, University of Amsterdam, Netherlands, The; T.T.D.Peetsma@uva.nl

How Structured Feedback Improves Student Performance and the Shadow Effects of Learning Emotions

**Alexandra Corina Niculescu**, **Dirk Tempelaar**, **Amber Dailey-Hebert**, **Mien Segers**, **Wim Gijselaers**

Maastricht University, Netherlands, The; a.niculescu@maastrichtuniversity.nl

The Effect of Forbiddance on Intrinsic Motivation

**Ayumi Tanaka**, **Takashi Asano**

Doshisha University, Japan; aytanaka@mail.doshisha.ac.jp

Situational interest in higher education

**Marjaana Veermans**¹, **Andreas Gegenfurtner**²

¹University of Turku, Finland; ²Technische Universität München, Germany; marjaana.veermans@utu.fi
POSTERS

Time: Friday, 13/Jun/2014: 2:45pm - 4:00pm

Location: Minerva Plaza
Floor -K2, Siltavuorenpenkeri 5A

POS-01
Academic Achievement Trends in a Context of Differentiated Talent Development
Lindy Wijsman, Michiel Westenberg, Jan van Driel
Leiden University, The Netherlands; l.a.wijsman@fsw.leidenuniv.nl

POS-02
ACHIEVEMENT EMOTIONS IN JOB SELECTION INTERVIEWS: INTERVIEWEES’ AND INTERVIEWERS’ EXPECTATIONS
DANIELA RACCANELLO
UNIVERSITY OF VERONA, Italy; daniela.raccanello@univr.it

POS-03
The Achievement Emotions Questionnaire – Adaptation to middle school students
Francisco Peixoto¹, Lourdes Mata¹, Vera Monteiro¹, Cristina Sanches¹, Reinhard Pekrun²
¹ISPA - Instituto Universitário / UIPCDE, Portugal; ²Ludwig-Maximilians-Universität München; fpeixoto@ispa.pt

POS-04
Achievement goals, emotions and academic performance: A closer look at their associations
Marko Lüftenegger, Katharina Harrer, Marie Langer, Barbara Schober, Christiane Spiel
University of Vienna, Austria; marko.lueftenegger@univie.ac.at

POS-05
Applying Motivation Theories to Teacher Selection
Rob Klassen
University of York, United Kingdom; robert.klassen@york.ac.uk

POS-06
Are All Performance Goals Created Equal? A Meta-Analysis of Effects Produced by Different Measures
Blair Dawson, Corwin Senko
State University of New York - New Paltz, United States of America; n02597465@hawkmail.newpaltz.edu
POS-07
Assessing Autonomous Motivation in Students with cognitive impairment
Rinat Cohen, Idit Katz
Ben Gurion University, Israel; rinat_sabag@hotmail.com

POS-08
The associations between post-secondary engineering students’ future-oriented motivation and their creativity in academic settings
Katherine C Cheng¹, Jenefer Husman¹, Duane F Shell²
¹Arizona State University, United States of America; ²University of Nebraska - Lincoln, United States of America; Katherine.Cheng.1@asu.edu

POS-09
Basic Psychological Need Satisfaction, Motivation and Flow in Peruvian Visual Arts Students
Maria Paula Acha Abusada¹, Lennia Matos Fernandez²
¹Pontifical Catholic University of Peru, Peru; ²Pontifical Catholic University of Peru, Peru; acha.paula@gmail.com

POS-10
Career values and work engagement: What is the role of job characteristics?
Florencia Sortheix
University of Helsinki, Finland; florencia.sortheix@helsinki.fi

POS-11
Children’s Serendipitous Engagement in Science: An Ethnographic Study
Dana Vedder-Weiss
The Weizmann Institute of Science, Israel; weissda@gmail.com

POS-12
Comparing the Achievement Goal Questionnaire-Revised and the Modified Achievement Goal Questionnaire
Masaru Tokuoka
Hiroshima University, Japan; mtokuoka37@hiroshima-u.ac.jp

POS-13
The consequences of low academic achievement on subsequent engagement and perceived academic competence
Lurdes Veríssimo¹, Marina Serra Lemos², João Lopes³
¹Catholic University of Portugal, Portugal; ²University of Porto, Portugal; ³University of Minho, Portugal; lverissimo@porto.ucp.pt
POS-14
Dealing with conflicting scientific information: The role of induced motivational goals
Dorothe Kienhues, Rainer Bromme
WWU Muenster, Germany; kienhues@uni-muenster.de

POS-15
Developmental Trajectories of Emotional Engagement and Disengagement in School Among Finnish Adolescents
Angela Chow¹, Ming-Te Wang², Tara Hofkens², Katariina Salmela-Aro³
¹University of Alberta; ²University of Pittsburgh; ³University of Jyväskylä;
angelachow@ualberta.ca

POS-16
The development of emphasized and general class pupils’ attitudes towards school from grade 4 to 6 in Finland
Satu Koivuhovi, Markku Niemivirta
University of Helsinki, Finland; satu.koivuhovi@helsinki.fi

POS-17
The development of talent perceptions across grades 7-9 and the role of perceived parental beliefs
Laura Annukka Pesu¹, Helen M.G. Watt², Jaana Hannele Viljaranta¹, Kaisa Mirjami Aunola¹
¹University of Jyväskylä, Finland; ²Monash University, Australia; laura.a.pesu@jyu.fi

POS-18
Development of Undergraduates’ Motivation in Science: A Person-Centered Approach
Lisa Linnenbrink-Garcia¹, Tony Perez², Stephanie Wormington¹
¹Michigan State University, United States of America; ²Old Dominion University, United States of America; llgarcia@msu.edu

POS-19
Developments in motivation and achievement of high ability students: A person-centred approach
Lisette Hornstra¹, Ineke Van der Veen², Thea Peetsma¹
¹University of Amsterdam, Netherlands, The; ²Kohnstamm Institute, Amsterdam, Netherlands, The; t.e.hornstra@uva.nl
POS-20
Do contextual features really help? The effects of contextual features on students’ interest, anxiety, and probability of success.
Marcela Gerardina Pozas, Patrick Löffler, Prof. Dr. Wolfgang Schnitz, Prof. Dr. Alexander Kauertz
University of Koblenz-Landau, Germany; pozas@uni-landau.de

POS-21
Effect of classroom activities on 3rd and 5th graders’ affective states
Lucile Chanquoy, Michael Fartoukh
Univ. Nice Sophia Antipolis / CNRS, France; lucile.chanquoy@unice.fr

POS-22
Effects of autonomous motivation about correlation among approach and avoidance achievement goals
Tsuyoshi Yamaguchi1,2
1Graduate School of Humanities, Hosei University, Japan; 2Japan Society for the Promotion of Science; t.yamaguchi13@gmail.com

POS-23
The Effects of Motivation and Strategy on Learning Outcomes and Teaching Effectiveness in Higher Education in Taiwan
Pao-Feng Lo
National Dong Hwa University, Taiwan, Republic of China; pplo@mail.ndhu.edu.tw

POS-24
The Effects of Social Comparison on Emotions and Illness Symptoms in Teachers
Sonia Rahimi, Nathan Hall, Hui Wang, Rebecca Maymon
McGill University, Canada; sonia.rahimi@mail.mcgill.ca

POS-25
Efficiency and effectiveness of an EI program: an evaluation proposal based on motivational theories of the patient.
Arantxa Ribot-Horas, Carla Quesada-Pallarès
Universitat Autònoma de Barcelona, Spain; arantxa.ribot@uab.cat

POS-26
Enthusiasm and Enjoyment as Two Distinct Phenomena
Jamie Taxer, Anne Frenzel
University of Munich, Germany; jamie.taxer@psy.lmu.de
POS-27
Exploring how Finnish adolescents use social media: A study of social network analysis
Shupin Li, Kai Hakkarainen, Tuire Palonen, Kaisa Hytönen
University of Turku, Finland; penny_shopping@hotmail.com

POS-28
Family Involvement in Literacy – Parents’ beliefs and background
Lourdes Mata¹, Patricia Pacheco²
¹ISPA - Instituto Universitário, Portugal; ²ESE Torres Novas; lmata@ispa.pt

POS-29
Focus on flow: The effect of recall ability on flow experience
Tahmine Tozman¹, Bruce Burns², Martin Wieczorek², Regina Vollmeyer¹
¹Goethe University Frankfurt, Germany; ²University of Sydney, Australia; t.tozman@psych.uni-frankfurt.de

POS-30
Gender Differences in Science Motivations and Self-concept: Potential Effects of Teachers’ Implicit Stereotypes?
Almut Elisabeth Thomas
University College of Teacher Education Carinthia, Austria, Austria; almut.thomas@ph-kaernten.ac.at

POS-31
Group-problem solving with friends and acquaintances: Multilevel study of self-beliefs and observable behaviours.
Jose Hanham
University of Western Sydney, Australia; j.hanham@uws.edu.au

POS-32
A Heuristic Framework of Responsibility in the School Context – A Validation Study
Kerstin Helker¹, Marold Wosnitza¹,²
¹RWTH Aachen University, Germany; ²Murdoch University, Perth, Australia; Kerstin.helker@rwth-aachen.de
POS-33
How do interest, effort management and academic self-concept of ability affect school achievement across exclusive and inclusive school-settings? Results from students with learning disabilities
Daniela Stranghöner, Sittipan Yotyodying, Julia Gorges
Universität Bielefeld, Germany; daniela.stranghoener@uni-bielefeld.de

POS-34
How should researchers in education operationalise on-task behaviour?
Philip Gill, Richard Remedios
Durham University, United Kingdom; p.m.gill@durham.ac.uk

POS-35
Influence of motivational and emotional factors in mathematical learning in Belgium secondary education
Vanessa Hanin, Catherine Van Nieuwenhoven
University of Louvain, Belgium; vanessa.hanin@uclouvain.be

POS-36
Inspiration as Academic Emotion: An Appraisal Theory Approach
Jeffrey Albrecht, Libby Messman, Stuart Karabenick
University of Michigan, United States of America; jrajr@umich.edu

POS-37
Is it possible to use intention to transfer as a proxy for transfer of training?
Carla Quesada-Pallarès¹, Andreas Gegenfurtner²
¹Universitat Autònoma de Barcelona, Spain; ²Technische Universität München, Germany; carla.quesada@uab.cat

POS-38
A Longitudinal Study of learning Conceptions consisting: motivation, regulation and mental processing activities, on the Threshold between primary and Secondary Education
Eric Robbers, Peter VanPetegem, Vincent Donche, Sven Demaeyer
University of Antwerp, Belgium; e.robbers@candea.nl
POS-39
Motivational balance, co-development and levels of social complexity
Catalin Mamali
NICC, United States of America; catalin.mamali@loras.edu

POS-40
Motivational climate in physical education: Validation of the Motivational climate scales in school sport.
Daniel Birrer, Philipp Röthlin
Swiss Federal Institute of Sports Magglingen, Switzerland; daniel.birrer@baspo.admin.ch

POS-41
Motivational Profiles by Level of Behavioral and Emotional Risk
Bridget V. Dever¹, Randy W. Kamphaus²
¹Lehigh University, United States of America; ²Georgia State University, United States of America; bdever@lehigh.edu

POS-42
Motivational profiles of adult learners
Ana Rothes¹, Marina S. Lemos¹, Teresa Goncalves²
¹Universidade do Porto, Portugal; ²Instituto Politécnico de Viana do Castelo, Portugal; anarothes84@gmail.com

POS-43
Motivation for doing homework in mathematics – relationship with conscientiousness, motivational beliefs and achievement in mathematics
Daria Rovan¹, Marija Matić², Vesna Vlahović-Štefić²
¹Faculty of Teacher Education University of Zagreb, Croatia; ²Faculty of Humanities and Social Sciences University of Zagreb, Croatia; daria.rovan@ufzg.hr

POS-44
Playworlds: Creating meaningful learning communities through harnessing ambivalence
Anna Pauliina Rainio¹, Beth Ferholt²
¹University of Helsinki, Finland; ²Brooklyn College, City University of New York, USA; anna.rainio@helsinki.fi

POS-45
Policy and Motivation: Unintended Consequences of Accountability on Teachers’ Classroom Goal Orientation
Brandi Nicole Hinnant-Crawford¹, Meilin Chang²
¹Emory University, United States of America; ²Kennesaw State University, United States of America; chang.meilin@gmail.com
Predicting interest and achievement in learning exponential and logarithmic functions

Daria Rovan¹, Pavlin-Bernardić Nina², Vlahović-Štetić Vesna², Šikić Tomislav³
¹Faculty of Teacher Education University of Zagreb, Croatia; ²Faculty of Humanities and Social Sciences University of Zagreb, Croatia; ³Faculty of Electrical Engineering and Computing University of Zagreb, Croatia; nbernardi@ffzg.hr

Relations Between Teacher and Student Motivation in Math Class

Inok Ahn, Helen Patrick
Purdue University, United States of America; iahn@purdue.edu

Relations of motivation and reading skills with teaching styles from first to second grade

Piret Soodla, Eve Kikas
Tallinn University, Estonia; piret.soodla@tlu.ee

Resilience and Motivation – The Impact of Extrinsic and Intrinsic Life Goals on Resilience

Lucas Lohbeck
RWTH Aachen University, Germany; Lucas.Lohbeck@rwth-aachen.de

The role of intrinsic motivation, information quality and usability on e-learner satisfaction

Hossein kareshki, Akram Kharazmi, Mohammad Saeid Abdekhodaei
Ferdowsi University of Mashhad, Iran; karshki@gmail.com

The Role of Social Interactions in Teachers’ Motivation for Instructional Change in the Context of Professional Development

Yonaton Sahar Davidson¹, Avshalom Kaplan², Joanna K. Garner³
¹Harvard University, Graduate School of Education, United States of America; ²Temple University, College of Education, Department of Educational Psychology, United States of America; ³Old Dominion University, Center for Educational Partnerships, United States of America; yonaton_davidson@mail.harvard.edu
POS-52
Selected element of teachers' work motivation: What motivates students to become teachers and what motivate teachers to stay?
Christian Brandmo, Katrine Nesje, Dijana Tiplic, Eyvind Elstad
University of Oslo, Norway; christian.brandmo@ils.uio.no

POS-53
SELF-DETERMINATION THEORETICAL PERSPECTIVE ON CHEMISTRY STUDENTS’ EXPERIENCES OF PHYSICAL SPACE
Kirsi Marja Liisa Sjöblom, Kaisu Tellervo Mälikki, Caj Niclas Sandström, Kirsti Maaria Lonka
University of Helsinki, Finland; kirsi.sjoblom@helsinki.fi

POS-54
Self-regulatory process oriented studying in teacher education - an emotional challenge or a trigger for internally regulated motivation?
Suvi Krista Westling
University of Helsinki, Finland; suvi.westling@helsinki.fi

POS-55
The strategic impact of performance-approach goal pursuit on performance when facing scheduled vs. unscheduled tests: Students’ initial level matters
Marie Crouzevialle, Fabrizio Butera
University of Lausanne, Switzerland; marie.crouzevialle@unil.ch

POS-56
Students' characteristics, their Perception of Teachers' Support of Basic Psychological Needs and the Relation to Autonomous Motivation, Well-Being and Emotion
Rinat Cohen, Idit Katz
Ben Gurion University, Israel; rinat_sabag@hotmail.com

POS-57
Students’ motivation toward practical work in physiology education
Niels Bonderup Dohn
Aarhus University, Denmark; nibd@dpu.dk

POS-58
Supporting Students’ Autonomy through Gameful Course Design
Stephen Aguilar, Stuart Karabenick, Barry Fishman, Caitlin Holman
University of Michigan, United States of America; aguilars@umich.edu
Teacher Professional Development in Higher Education: An Expectancy-Value Theory Approach
**Annette Roche Ponnock**
Temple University, United States of America; annette.ponnock@temple.edu

Teacher professional identity: The structuring role of ethical orientation and the mediating role of self-esteem
**Manuel Granjo, Francisco Peixoto**
ISPA - Instituto Universitário / UIPCDE, Portugal; fpeixoto@ispa.pt

Teachers’ Achievement Goals, Emotions, and Perceived Students’ Emotions: A Mediational Analysis
**Hui Wang¹, Nathan Hall¹, Sonia Rahimi¹, Anna Sverdlik¹, Anne C. Frenzel²**
¹McGill University, Canada; ²University of Munich, Germany; hui.wang4@mail.mcgill.ca

Unpacking passion to learn: three facets of intrinsic motivation.
**Tamara Gordeeva¹, Oleg Sychev², Eugene Osin³, Victor Gizhitsky¹**
¹Lomonosov Moscow State University, Russian Federation; ²Altay State Academy of Education, Russian Federation; ³Higher School of Economics, Moscow, Russia; tamgordeeva@gmail.com

Validation of the Intrinsic Motivation Inventory for mathematics and portuguese language
**Vera Monteiro, Lourdes Mata, Francisco Peixoto**
ISPA- Instituto Universitário, Portugal; veram@ispa.pt

The well-being of high school students from high school to university
**Sirpa Hannele Vahtera**
University of Helsinki, Finland; sirpa.vahtera@helsinki.fi
Why do I study this field? An integrative motivation concept on the choice of field of study.

Philipp Nolden, Marold Wosnitza, Kathrin Buerger
RWTH Aachen University, Germany; philipp.nolden@rwth-aachen.de

Would witness cause emotional disturbance? The students after Hurricane trauma

Chih-Ju Liu¹, Ying-Shao Hsu²
¹National Dong Hwa University, Taiwan, Republic of China; ²Ming Chuan University; ljr@mail.ndhu.edu.tw
PRESENTATIONS ON SATURDAY – OVERVIEW

SYMP-09: Teacher’s Support for Students’ Engagement and Deep Learning

*Time:*

**Teachers’ Views of Enacting Challenging Instruction**
Julianne Turner (University of Notre Dame), Sara M. Fulmer (State University of New York at Oneonta)

**Teachers Scaffolding Motivationally Vulnerable Low-Achievers to Take up Challenges**
Anu Kajamies (University of Turku), Marja Vauras (University of Turku), Erno Lehtinen (University of Turku), Riitta Kinnunen (University of Turku)

**Classroom processes fostering students’ motivational engagement: Preliminary findings from a teacher intervention case study**
Anna-Maija Poikkeus (University of Jyväskylä), Marja-Kristiina Lerkkanen (University of Jyväskylä), Kati Vasalampi (University of Jyväskylä), Helena Rasku-puttonen (University of Jyväskylä)

PAPER-17: Motivation and situational interest

*Time:*

Saturday, 14/Jun/2014: 9:00am - 10:30am

*Location: K232 Floor -2, Siltavuorenpenger 5A*

**Session Chair:** Niels Bonderup Dohn, Aarhus University

**The role of motivation and participation for predicting performance in Massive Open Online Courses**
Paula de Barba, Mary Ainley, Gregor Kennedy
The University of Melbourne, Australia; pbarba@student.unimelb.edu.au
Stimulating situational interest by contradictory information in a museum context

Doris Lewalter¹, Sielle Phelan¹, Rahel Grüniger², Inga Specht¹, Wolfgang Schnitz²
¹TU Munich, Germany; ²University Koblenz-Landau; doris.lewalter@tum.de

Science outreach programs and students' interest development in science

Niels Bonderup Dohn, Tomas Højgaard
Aarhus University, Denmark; nibd@dpu.dk

Situational Interest and Learning: The Underlying Psychological Mechanisms

Jerome Ingmar Rotgans
Nanyang Technological University, Singapore; rotgans@gmail.com

PAPER-18: Achievement Goals, Motivation and Learning

Time:  
Saturday, 14/Jun/2014:  
9:00am - 10:30am

Session Chair: Birgit Spinath, Heidelberg
University

Antecedents and Consequences of Achievement Goal Profiles in Elementary School: A Seven-Wave Longitudinal Study

Malte Schwinger¹, Ricarda Steinmayr², Birgit Spinath³
¹University of Marburg, Germany; ²TU Dortmund, Germany; ³Heidelberg University, Germany; malte.schwinger@uni-marburg.de

Using a 2 x 2 achievement goal framework to predict students' self-regulation, self-efficacy, positive and negative affect and academic achievement in a Peruvian sample of university students

Lennia Matos
Pontifical Catholic University of Peru, Peru; lenniamatos@gmail.com
The role of goal orientations for learning behavior and achievement during teacher training.
Sebastian Nitsche¹, Stefan Janke¹, Oliver Dickhäuser¹, Michaela Fasching², Markus Dresel²
¹University of Mannheim, Germany; ²University of Augsburg, Germany;
sebastian.nitsche@uni-mannheim.de

PAPER-19: Self-determination theory and motivation
Time: Saturday, 14/Jun/2014:
9:00am - 10:30am
Location: K222.2
Floor -K2, Siltavuorenpenker 5A
Session Chair: Cornelis J. de Brabander, Open University

Testing a Unified Model of Task-specific Motivation: how teachers appraise three professional learning activities
Cornelis J. de Brabander¹,², Folke J. Glastra²
¹Open University, Netherlands, The; ²Department of Educational Studies, Leiden University;
Kees.deBrabander@ou.nl

The effect of competency-differentiated classes on students’ basic needs satisfaction and school engagement
Kaare Bro Wellnitz
Aarhus University, Denmark; kaare@psy.au.dk

Choosing a high-school major: Parents’ involvement, type of motivation and success
Moran Green, Idit Katz
Ben-Gurion University, Israel; katzid@bgu.ac.il
PAPER-20: Motivation & Emotion II

Time: Saturday, 14/Jun/2014: 9:00am - 10:30am

Location: Minerva Plaza
Floor -K2, Siltavuorenpuenger 5A

Session Chair: Kristina Kögler, Goethe University
Frankfurt

The Developmental Dynamics of Children’s Academic Performance and Mothers’ Homework-related Affect and Practices
Gintas Silinskas, Noona Kiuru, Kaisa Aunola, Marja-Kristiina Lerkkanen, Jari-Erik Nurmi
University of Jyväskylä, Finland; g.silinskas@gmail.com

Peer mentors’ positive and negative emotions
Susan Beltman1, Sarina Fischer2
1Curtin University, Australia; 2RWTH-Aachen, Germany; S.Beltman@curtin.edu.au

The relationships between job demands, stress, depression and alcohol use among a large-scale sample of Australian school principals.
Christelle Devos1, Simon Beausaert1, Philip Riley2
1Université catholique de Louvain, Belgium; 2Monash University, Melbourne;
christelle.devos@uclouvain.be

PAPER-21: Social motivation in the school context

Time: Saturday, 14/Jun/2014: 9:00am - 10:30am

Location: K113
Floor -K1, Siltavuorenpuenger 5A

Session Chair: Stuart Karabenick, University of Michigan

Pupils’ Academic and Non-Academic State Goals in Authentic Learning Situations and their Impact on Aspects of Functional State
Kathrin Bürger
RWTH Aachen University, Germany; kathrin.buerger@rwth-aachen.de
Do always social development goals predict optimal functioning?
Aikaterini Michou¹, Hasan Ugur², Saniye Yelcin¹, Athanasios Mouratidis³
¹Bilkent University, Turkey; ²Fatih University, Turkey; ³Hacettepe University, Turkey; aliки.michou@bilkent.edu.tr

Necessary but not sufficient alone: The role of autonomy-support and mastery-goal orientation in the reduction of cheating
Caroline Julia Pulfrey¹, Maarten Vansteenkiste², Aliki Michou³, Fabrizio Butera¹
¹University of Lausanne, Switzerland; ²University of Gent, Belgium; ³Bilkent University, Turkey; caroline.pulfrey@unil.ch

Student Responsibility: Its Assessment and Links to Students’ Self-efficacy, Intrinsic Interest, and Achievement
Fani Lauermann, Stuart A. Karabenick
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PAPER-22: Achievement Goals: Conceptual and methodological issues

Time: Saturday, 14/Jun/2014: 1:00pm - 2:30pm

Location: K113
Floor -K1, Siltavuorenpeneg 5A

Session Chair: Gera Noordzij, Erasmus University
Rotterdam

Corwin Senko
State University of New York - New Paltz, United States of America; senkoc@newpaltz.edu

A new rationale for situated antecedents of learning goal orientation – integrating need fulfillment into the theoretical framework of Achievement Goal Theory
Stefan Janke, Sebastian Nitsche, Oliver Dickhäuser
University of Mannheim, Germany; stefan.janke@uni-mannheim.de
Are adult students’ goal orientation profiles and self-defined course goals equally associated with course evaluations?

Antti-Tuomas Pulkka¹, Markku Niemivirta²
¹University of Helsinki, Finland; ²University of Helsinki, Finland; antti-tuomas.pulkka@helsinki.fi

The impact of state goal orientation on motivation and performance: A meta-analytic review

Gera Noordzij, Lissenne Giel, Heleen Van Mierlo
Erasmus University Rotterdam, Netherlands, The; l.i.s.giel@gmail.com

PAPER-23: Achievement- and learning-related emotions

Time: Saturday, 14/Jun/2014:
1:00pm - 2:30pm

Session Chair: Melanie M. Keller, University of Konstanz

A SECOND VERSION OF A PICTORIAL INSTRUMENT ASSESSING ACHIEVEMENT EMOTIONS IN CHILDREN AND ADULTS

Daniela Raccanello, Caterina Bianchetti, Nicole Carantani, Esmeralda Galazzini, Mara Ghiro, Solda’ Stefania
UNIVERSITY OF VERONA, Italy; daniela.raccanello@univr.it

Emotion and writing: A study from 3rd to 11th grade

Michael Fartoukh, Lucile Chanquoy
Univ. Nice Sophia Antipolis / CNRS, France; michael.fartoukh@unice.fr

Emotion Experiences and Emotional Dissonance of Teachers During Class and How They Relate to Emotional Exhaustion: An Experience-Sampling Study

Melanie M. Keller¹, Mei-Lin Chang², Eva S. Becker¹, Thomas Goetz¹, Anne Frenzel³
¹University of Konstanz, Germany; ²Kennesaw State University, USA; ³LMU Munich, Germany; melanie.keller@uni-konstanz.de
How does studying in teacher education feel like? Student teachers’ academic emotions in teacher education
Henrika Häikiö¹, Kirsi Pyhältö¹, Tiina Soini², Janne Pietarinen³
¹University of Helsinki, Finland; ²University of Tampere, Finland; ³University of Eastern Finland, Finland; henrika.haikio@helsinki.fi

PAPER-24: Interventions of mathematics motivation
Time: Saturday, 14/Jun/2014:
1:00pm - 2:30pm
Location: K222.2
Floor -K2, Siltavuorenpenger 5A
Session Chair: Hanna Gaspard, University of Tübingen

Motivation in learning mathematics and attitudes towards word problems
Nonmanut Pongsakdi, Teija Laine, Erno Lehtinen
University of Turku, Finland; nopong@utu.fi

Effects of a utility-value intervention on students’ competence beliefs and achievement in mathematics
Brigitte Maria Schreier, Anna-Lena Dicke, Hanna Gaspard, Isabelle Häfner, Barbara Flunger, Benjamin Nagengast, Ulrich Trautwein
University of Tuebingen, Germany; brigitte.schreier@uni-tuebingen.de

Promoting students’ motivation and achievement in mathematics: Differential effects regarding parents’ intrinsic math values
Isabelle Häfner, Barbara Flunger, Hanna Gaspard, Brigitte Schreier, Anna-Lena Dicke, Benjamin Nagengast, Ulrich Trautwein
University of Tübingen, Germany; isabelle.haefner@uni-tuebingen.de

Promoting Value Beliefs for Mathematics with a Relevance Intervention in the Classroom
Hanna Gaspard, Anna-Lena Dicke, Barbara Flunger, Brigitte Schreier, Isabelle Häfner, Ulrich Trautwein, Benjamin Nagengast
University of Tübingen, Germany; hanna.gaspard@uni-tuebingen.de
PAPER-25: Teachers and motivation

Time: Saturday, 14/Jun/2014: 1:00pm - 2:30pm

Location: K232
Floor -K2, Siltavuorenpenkey 5A

Session Chair: Nathan Chad Hall, McGill University

A Longitudinal Study on Motivation to Teach, Causal Attributive Style, Perception of Teaching Experience, and Burnout
Jean-Louis Berger¹, Helen Watt², Paul Richardson²
¹Swiss Federal Institute for Vocational Education and Training, Switzerland; ²Monash University, Australia; jean-louis.berger@iffp-suisse.ch

How secondary school teachers’ work environments influence motivation for professional learning
Joost Jansen in de Wal¹, Antoine van den Beemt¹, Rob Martens¹, Perry den Brok²
¹Open University, the Netherlands, Netherlands, The; ²Eindhoven School of Education, TU Eindhoven; Joost.Jansenindewal@ou.nl

Online Motivational Interventions: Promoting Psychological and Physical Health in Teachers
Nathan Chad Hall¹, Anne C. Frenzel², Thomas Goetz³, Hui Wang¹, Sonia Rahimi¹
¹McGill University, Canada; ²University of Munich; ³University of Konstanz; nathan.c.hall@mcgill.ca
ABSTRACTS

PRESENTATIONS ON THURSDAY – ABSTRACTS

SYMP-01: New Directions in Help Seeking: Theory, Methods and Populations

Time: Thursday, 12/Jun/2014: 3:00pm - 4:30pm

Location: Minerva Plaza
Floor -K2, Siltavuorenpuenger 5A

Session Chair: Lawrence Cho, University of Michigan
Discussant: Eleftheria N. Gonida, Aristotle University of Thessaloniki
Organizer: Kara Makara, University of Michigan
Organizer: Stuart Karabenick, University of Michigan

New Directions in Help Seeking: Theory, Methods and Populations

Chair(s): Lawrence Cho (University of Michigan), Eleftheria Gonida (Aristotle University of Thessaloniki), Kara Makara (University of Michigan), Stuart Karabenick (University of Michigan)

Seeking help when needed is an important adaptive self-regulated learning strategy. While there exists a strong conceptual and evidentiary base for the role of motivation in help seeking, recent work has expanded the scope of theoretical and methodological issues yet to be addressed. The papers in this symposium highlight three understudied populations that may especially benefit from adaptive help seeking and the role of motivation in supporting help-seeking processes for these populations, along with multiple methodological approaches. The first paper uses qualitative group interviews of student teachers to explore why preservice teacher educators fail to seek needed help from their instructors and, in turn, where they go to seek help instead. The second paper utilizes quantitative methods to examine the relationship between high school students’ perceived benefits and costs of help seeking and their preferences for interpersonal sources of help at school, which is critical given the changing role of interpersonal relationships during late adolescence. The third paper provides a theoretical basis for studying students with special education needs’ motivation to seek academic help, including the role of emerging technologies in their help seeking. The three papers illuminate the important role of motivational beliefs of these various populations for decisions around whether and from whom to seek help. A discussion by an expert in the field will synthesize the theme of new directions for theory and applications around individuals’ motivations to seek needed academic help.
Student Teachers’ Help-Seeking Behavior: An Analysis of Their Experiences and Explanations

Kati Mäkitalo-Siegl (University of Eastern Finland), Pekka Räihä (University of Eastern Finland)

From whom students seek help is a critical step in the help-seeking process, since it often involves a trade-off between source expertise and negative motivational consequences in terms of its costs (e.g., time, effort, and self-threat). Although there have been many studies of K-12 and college students, few have explored student teachers’ help seeking, a critical group given their future role as help sources themselves. Previous research has shown that student teachers find it difficult to seek help from their instructors. To determine why this is true, we conducted group interviews of a total of 28 Finnish student teachers who were asked to describe their behavior when facing difficulties, for example while learning a foreign language. The student teachers typically reported starting by trying to solve their difficulties on their own, for example searching for help on the internet. If the internet search (or other individual activity) turned out to be unsuccessful, they reported meeting with their fellow students in order to solve the problem collectively in a group. Thus student teachers did not choose their instructors as a first source of help, even when that would have been the best source. A detailed analysis of student teachers’ descriptions revealed that an implicit cultural structure of teacher education, as well as the culture of their own school education, guided student teachers’ help-seeking behavior. The role of pre-service education in modeling student teachers’ conceptions of help seeking and implications for their students is discussed.

From Whom to Seek Help? High School Students’ Perceived Benefits, Costs and Preferences from Teachers, Friends and Parents

Kara Makara (University of Michigan), Stuart Karabenick (University of Michigan)

Seeking academic help when needed, an important adaptive learning strategy, includes the critical component of obtaining help from the most appropriate source. However, students’ motivational beliefs about the benefits and costs of seeking help may impact whom they go to when they need help. Absent from the literature are studies of helping source preferences during the critical high school years when contextual and developmental changes impact students’ interpersonal relationships. The objectives of the study were 1) to assess high school students’ preferences for seeking needed academic help from friends, non-friends, teachers in their class, other teachers at school, and parents, and 2) to assess how perceived benefits and costs of help seeking, along with academic achievement, predict students’ likelihood of seeking help from each source. A survey administered to 959 US high school students measured their perceptions of help seeking and likelihood of seeking help from the five interpersonal sources. Students preferred their teachers foremost, followed by friends, while seeking help from non-friend classmates was rated lowest. In general, academic achievement positively predicted likelihood of seeking help from others. Perceived benefits were positively predictive of likelihood of seeking help from all of the interpersonal sources, while costs only predicted help seeking from teachers, and did so negatively. The results, particularly for perceived costs, suggest that teachers are the most conflicted source of help for high school students. Educational implications are discussed.
Help Seeking and Special Educational Needs: A Theoretical Perspective on an Understudied Area

Minna Puustinen (INS HEA, France)

Students with special educational needs (SEN) require additional human, material, and/or financial resources in order to access the regular curriculum and have the same learning opportunities as do other students (cf. OECD, 2005). Students with a visual or hearing impairment, autism, dysphasia, as well as gifted students, newly arrived immigrant students, or incarcerated students, are all examples of those who potentially have SEN. Academic help seeking in students with SEN is an understudied research topic. This is all the more surprising because the notion of help (e.g., in the form of the presence of additional teachers and assistants) occupies a central place among the additional resources provided to support these students' learning and education. In the absence of empirical work, the aim of this theoretical paper is to lay the foundations for future research in this domain, by (1) presenting the SEN that constitute a particular challenge from the viewpoint of help seeking and/or help giving, and by (2) discussing the role of emerging technologies (cf. Karabenick & Puustinen, 2013) in help seeking in students with SEN.

SYMP-02: Subjective task value in context: Exploring its dynamics with motivational and school outcomes

Time:
Thursday, 12/Jun/2014:
4:45pm - 6:15pm

Session Chair: Jenna Cambria, University of Tuebingen
Discussant: Allan Wigfield, University of Maryland
Organizer: Anna-Lena Dicke, University of Tuebingen

Subjective task value in context: Exploring its dynamics with motivational and school outcomes

Chair(s): Jenna Cambria (University of Tuebingen), Allan Wigfield (University of Maryland), Anna-Lena Dicke (University of Tuebingen)

Presenting research from Finland, the US and Germany, the objective of the symposium is to illuminate the interplay of students’ subjective task values with relevant motivational and school outcomes to gain a deeper understanding of how subjective task values develop and take effect. Students’ beliefs about the importance and value of tasks, objects and activities play an important role in determining their achievement-related behavior and choices (Wigfield & Eccles, 2000). However, value beliefs and their development are deeply intertwined with various social, motivational and individual context factors. To explore these interactions, the present symposium highlights students’ subjective task values from an intra- and inter-
individual perspective using cutting edge research methods. In the first contribution, Tuominen-Soini and Salmela-Aro apply latent profile analyses to examine the motivational profiles of students. By investigating the interrelations of students’ task values, their achievement goal orientations and their well-being, the intricacies of students’ motivational make-up are highlighted. The second contribution by Moeller et al. aims to further explore the dynamics of students’ task value and competence beliefs using the experience sampling method. Their research, thus, highlights the situation-specificity of subjective task values and its close relatedness with expectancy beliefs. In the third contribution Cambria, Nagengast and Trautwein take into account how subjective task values interact with students’ achievement levels. Applying the frame-of-reference model, they show that average school achievement levels affect students’ task values above and beyond actual achievement level. In sum, the symposium will provide a deeper insight into the dynamics of students’ value beliefs.

Students’ math-specific achievement goal orientation profiles: Relations to value beliefs about math and school engagement, burnout, and perfectionism

Tuominen-Soini Heta (University of Helsinki), Salmela-Aro Katariina (University of Jyväskylä)

In this study, we integrate the theoretical frameworks of achievement goal theory, expectancy-value theory, and academic well-being literature. A person-centred approach was employed in order to investigate general upper secondary school (academic track) students’ (N=286, Mage=16.78) math-related achievement goal orientation profiles and profile differences in math value beliefs and school engagement, burnout, and perfectionism. Value beliefs were assessed with a new instrument including 11 subscales: intrinsic value, attainment value (i.e., importance of achievement, personal importance), utility value (i.e., general, daily life, job, school, social), and cost (i.e., effort required, emotional cost, opportunity cost). Using latent profile analysis, four math goal orientation groups were identified: indifferent (41%), mastery-oriented (26%), success-oriented (24%), and avoidance-oriented (9%). Indifferent and avoidance-oriented students showed less adaptive patterns of motivation and academic well-being than did mastery- and success-oriented students. Both mastery- and success-oriented students strove for learning and gaining good grades in math, valued math, and were engaged in studying, but success-oriented students’ stronger concerns with performance were related to higher perceived cost in math as well as higher levels of burnout and maladaptive perfectionism (i.e., discrepancy). Interestingly, although mastery- and success-oriented students had equally high scores on the other utility dimensions, they differed in the social aspect: success-oriented students considered impressing others with good knowledge in math more important. Girls and boys were equally distributed in the groups. In conclusion, students show various patterns of math-specific goal orientations and these patterns are associated in meaningful ways with math value beliefs and more general academic well-being.
Alignment of momentary task values and momentary competence beliefs in different experience sampling method studies

Moeller Julia (University of Helsinki), Viljaranta Jaana (University of Jyväskylä), Schneider Barbara (Michigan State University), Salmela-Aro Katarina (University of Jyväskylä), Lavonen Jari (University of Helsinki), Linnansaari Janna (University of Helsinki)

This study investigated patterns of momentary task value and momentary competence beliefs in three Experience Sampling Method studies. Task values and competence beliefs are conceptualized as evaluations of tasks and oneself with context- or situation-specific and person-specific components. Previous studies have mostly investigated the person-specific components and found moderate correlations between task values and competence beliefs on the level of individuals. Less is known about the situation-specific variability of these constructs. The previously applied measures were not situation-specific and could not clarify how task values and competence beliefs are related on the level of specific situations. Therefore, this study applies situation-specific measures of momentary task values and competence beliefs. Their relation within specific situations was examined with latent profile analyses and multilevel correlation analyses in five Experience Sampling Method Studies (N_{total} = 2635).

As expected, task values and competence beliefs were moderately correlated on both levels of specific situations and individuals. In most situations, momentary task value and momentary competence beliefs were aligned, meaning both scores were similarly high, or similarly moderate, or both low in most situations. This was found in all five samples. The only cluster with discrepancies between momentary task values and momentary competence beliefs contained situations in which individuals reported high competence beliefs but low task values, i.e. easy but non-motivating tasks. This cluster was observed in four of our five samples and was relatively small (1.5% to 16.1%).

Frame-of-reference Effects of Values on Student Performance in Mathematics and English

Cambria Jenna (University of Tübingen), Nagengast Benjamin (University of Tübingen), Trautwein Ulrich (University of Tübingen)

Expectancy-value theorists have focused primarily on students' subjective task values and their relations to achievement outcomes (Wigfield & Eccles, 2000); however, little is known about frame-of-reference effects of schoolmates' achievement on students' valuing of that subject. That is, is being surrounded by high achieving students detrimental for the value ascribed to a subject? Task values in mathematics and English were assessed using Likert scale surveys. We measured cost, intrinsic, attainment, and utility values and performance for English and mathematics in a sample 2,508 academic track students from 156 randomly selected schools in Baden-Württemberg, Germany. The performance measures included the standardized mathematics test used in the Third International Mathematics and Science Study (TIMSS) and for English performance, a shortened version of the Test of English as a Foreign Language (TOEFL). Multilevel modeling was used to examine standardized coefficients. For each of the variables examined, there was a significant negative effect, suggesting that individual students in higher achieving schools had lower values for English and mathematics. This study helps us to better understand contextual effects in order to create better class-level task value
interventions. That is, there is evidence that students consider achievement comparisons to anchor value judgments and this should be taken into account when creating class-level interventions designed to increase students' task values. Finally, from a developmental perspective, learning whether value judgments are prone to social comparison will offer additional information about how value judgments are formed.

SYMP-03: Motivation for Learning at University

Time: Thursday, 12/Jun/2014:
4:45pm - 6:15pm

Location: K232
Floor -K2, Siltavuorenpengen 5A

Session Chair: Thomas Martens, German Institute for International Educational Research
Discussant: Hanke Korpershoek, University of Groningen
Organizer: Luke K. Fryer, Kyushu Sangyo University

Motivation for Learning at University

Chair(s): Thomas Martens (German Institute for International Educational Research), Hanke Korpershoek (University of Groningen), Luke Fryer (Kyushu Sangyo University)

This symposium investigates the motivation for learning at university from different points of view.

Paper one is profiling students' motivational regulation based on quantitative data, within a learning model of action phases. Results suggested that for the highly and the lowly motivated learning type gender can play a substantial motivating (women in educational sciences) and demotivating (women in business administration) role, depending on the subject of study.

Paper two employs longitudinal structural equation modeling to test a reciprocal model of achievement and self-concept, while examining the potential role of instrumental goals within key learning outcomes. While modeling strongly supported the reciprocal nature of self-concept on achievement, the modeling of gender revealed a broad substantial negative effect for male students on prior achievement, self-concept and distal-internal goals.

Paper three is a qualitative examination of motivation within self- and co-regulation of learning at university. This study employs profiling based on qualitative data and identifies three student profiles that differ in regard to deep processing within a specific course.

The results of this symposium stress the importance of internal motivation processes like acceptance of responsibility (study 1) and distal-internal goals (study 2). They play a crucial role for motivation and future interest and are influenced by gender and prior self-concepts, at
least for some parts of the investigated samples. However, within a specific university course co-regulation of learning can compensate a lack of initial interest and proper challenge is important for some students to maintain deep processing (study 3).

**Motivation for Learning at University and Gender Differences**

**Thomas Martens** (German Institut for International Educational Research), **Christiane Metzger** (University of Applied Sciences Kiel), **Rolf Schulmeister** (University of Hamburg)

This study investigates the motivation for learning at university with a special focus on gender differences. As theoretical background served a comprehensive theoretical approach of action and learning which broadens the theory of action phases with specific elements of emotional regulation. 205 students of business administration and 207 students of educational sciences bachelor students of business administration filled out an online questionnaire.


In a 2-step-analysis process based on IRT methods, 4 pattern of motivational regulation were identified for each sample: Pragmatic Learning Motivation, Strategic Learning Motivation, Threat Oriented Learning Motivation, Negative Learning Motivation, Self-Determined Learning Motivation. The fifth pattern was different in both samples: in educational science a type of Unsecure Learning Motivation and in business administration a type of Anxious Learning Motivation were identified.

The Integrated Model of Learning and Action seems very useful to identify different styles of motivational regulation. Furthermore, two samples show an opposite effect of gender. While the proportion of women is increased for the type Negative Learning Motivation in business administration, conversely, the proportion of male students is slightly increased for the type Negative Learning Motivation as well as the proportion of female students is increased for the type Self-Determined Learning Motivation in educational sciences.

**Future-orientated motivation and academic self-concept: For interest’s sake, above all else, be the author of your own goals.**

**Luke Fryer** (Kyushu Sangyo University)

After achievement, academic self-concept and interest are essential learning outcomes for the transition from higher education to lifelong learning. Understanding the development and interrelationship of these variables is, however, a theoretically and empirically complex field of inquiry. Longitudinal modelling is a valuable tool for both observing snapshots of this development, and asking specific questions which might further our understanding.
The current study examines self-concept, instrumental goals, interest and three types of achievement in the context of English language learning at one Japanese university. In addition to these latent and achievement variables, the role of gender is tested as a key presage variable. First and second year students (n = 635) from eight departments participated in a yearlong study by completing surveys at three time points. In addition, classroom grade, pre-post language ability tests and a final vocabulary knowledge test were collected and included in longitudinal modelling.

The final lagged model indicated that the self-concept and ability students come to university with, play a substantial role in their future motivation and achievement. Distal-internally regulated goals had the overall largest predictive effect on future interest, reinforcing considerable past research pointing to their importance for learning. One finding of some concern, however, was the small to moderate predictive effect of gender on three key variables: self-concept, prior ability and distal-internal goals. Results indicate that male students may be entering university at a distinct disadvantage to female students, a trend widely observed throughout formal education.

The interaction between motivation, the process of understanding and self- and co-regulation of learning of university students

Milla Räisänen (University of Helsinki), Liisa Postareff (University of Helsinki), Sari Lindblom-Ylänne (University of Helsinki)

The present study explores the interaction between motivation, the process of understanding and self- and co-regulation of learning of university students. The data were collected through student interviews. The data were analysed using qualitative content analysis. Three different student profiles were identified. In the first group, students were highly motivated in studying. They showed excellent self-regulation skills. Students described deep processing of knowledge in studying. In the second group, students were highly motivated in studying and they showed good self-regulation skills. However, their motivation had decreased in the specific course because of a lack of challenges in studying and they described that deep processing of knowledge had decreased in the course. The third group was divided into two subgroups. Characteristic for students in this profile was that they described surface processing of knowledge. They differed in that students in the first subgroup usually processed knowledge deeply in studying but deep processing had sharply decreased in the specific course. Students in the second subgroup described surface processing of knowledge in studying. All students in this profile showed problems in self-regulation, for example in the regulation of motivation. Students in the first subgroup had difficulties in maintaining their motivation in studying because of a lack of interest in the specific course. Students in the second subgroup described a lack of interest and motivation also in more general. In this group, co-regulation of learning and motivation was also emphasised.
How individual self-regulated learning skills influence socially shared regulated learning performance in collaborative groups

Ernesto Panadero\textsuperscript{1}, Sanna Järvelä\textsuperscript{1}, Jonna Malmberg\textsuperscript{1}, Hanna Jarvenoja\textsuperscript{1}, Paul Kirschner\textsuperscript{2}

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Crucial in collaborative learning are the individual skills each group member brings to the joint activity. For example, the motivational orientation of each group member will affect the overall group motivation and, therefore, group performance. There is, however, a lack of research on how the students’ individual self-regulated learning (SRL) skills affect overall group performance, use of strategies and motivational regulation. The first aim of this study is to explore the influence individual SRL on both group performance and the use of motivational regulation strategies. The second aim is to explore the effects of prompting the use of the group regulatory skills, named socially shared regulated learning (SSRL). Participants were 103 first-year teacher education students attending a ‘Multimedia as a learning project’ course. They first filled out three instruments measuring individual self-regulation skills (MSLQ), motivation regulation (Wolters) and emotion regulation (AERS). They then worked as a group (3 or 4 members) for 9 sessions with a face to face and an online phase. Using a CSCL environment named Virtual Collaborative Research Institute, the groups reported their projected use of regulation strategies before each session (planning phase using a tool called OurPlanner) and their real use of strategies at the end of each session (evaluation phase using a tool called OurEvaluator). Results indicate that individual self-regulation skills do not have as much weight as could have been expected in the groups’ performance and that the groups’ use of motivational strategies decreased over time.

Relations between motivation for collaboration, perception of competence and skills, and learning environment

Nadira Saab\textsuperscript{1}, Jaap Schuitema\textsuperscript{2}, Astrid Schrama\textsuperscript{1}

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Various review studies show that CL can positively influence learning (e.g., Lou, 2004). Intrinsic motivation for collaboration is important for an effective CL process (Slavin, 1996). In the current study, we focus on what factors influence intrinsic motivation for CL. We distinguish
between individual differences of students such as collaborative skills and perceived competence, and features of the learning environment, such as perceived autonomy support and frequency of CL opportunities in class. The research question is: What are the relations between intrinsic motivation for collaboration, perception of competence and skills, and features of the learning environment in grade 5 and 6?

This study involved 3487 fifth- and sixth-grade students of 88 primary schools in The Netherlands. Students were administered to a paper and pencil questionnaire during school hours. The influence of collaborative skills, autonomy support and frequency of CL on feelings of competence and intrinsic motivation was examined through structural equation modelling analysis with Mplus.

These results show that practicing CL in class can increase intrinsic motivation for CL. Providing options to choose when or how to collaborate does not influence intrinsic motivation directly, but seem to influence the development of collaborative skills which can be useful for an effective learning process and increased the feelings of competence. This means that it is important for a teacher in order to stimulate the intrinsic motivation of students for CL to teach autonomy-supportively and to often use CL as a didactic method.

**Promoting socially shared regulation of learning in CSCL: Patterns of socially shared regulation of learning between high – and low performing student groups**

Jonna Malmberg, Sanna Järvelä, Hanna Järvenoja, Ernesto Panadero

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This study explores the process of socially shared regulation of learning (SSRL) in the context of computer supported collaborative learning (CSCL). Based on research considering SSRL, learners are required to identify a need for regulated learning. Hadwin, Järvelä and Miller (2011) argue that learning tasks need to be authentic as well as optimally challenging to invite SSRL. That is, challenges noted by learners create opportunities for the regulation of learning.

Despite the potential of CSCL technology to provide targeted support for collaboration, socially shared regulation has been largely overlooked (Järvelä & Hadwin, 2013). We agree that prompts offered by the CSCL environments provide many opportunities to help student groups to engage in SSRL. In this study it was explored high- and low performing student groups’ process on how they engage in SSRL, especially in the face of challenges. Teacher education students (N = 103) participated in a multimedia course that lasted for two months. The students collaborated in groups of three to four students resulting altogether 30 groups. The students used a CSCL environment called Virtual Collaborative Research Institute (VCRI) (Janssen, Erkens & Kirschner, 2011) tailored to promote socially shared regulation of learning (Järvelä et al., 2014). To enhance their collaboration, a regulation tool namely “OurEvaluator” was implemented into the VCRI environment. OurEvaluator asked groups to explicate the challenges and SSRL strategies they confronted during collaborative learning tasks. In this study, we explored patterns that emerge between high and low achieving performing groups SSRL at various points of time.
Situated Challenges in Collaborative Group Tasks: When Students Activate Shared Motivation and Emotion Regulation?

Hanna Järvenoja, Jonna Malmberg, Sanna Järvelä, Ernesto Panadero
University of Oulu, Finland; hanna.jarvenoja@oulu.fi

Today there are lots of arguments for the importance of self-regulated learning (SRL). However, if the learners don’t recognize challenges calling for regulation, they hardly activate regulation processes even if they possess right strategies. In group learning, many of these challenges are social in nature. Furthermore, they include possibilities for motivational and socio-emotional challenges even when the challenge is originally deriving from other causes. The aim of this paper is to study 1) What kind of challenges groups of students face during their collaborative group task?, and 2) When groups’ activate shared motivation and emotion regulation?

The participants of the study were 103 higher education students working in groups of 3-4 during 9 online tasks. In every task the groups responded to a planning sheet (OurPlanner) and evaluation sheet (OurEvaluator), which included questions about challenges and regulation. The responses where categorized, and motivational challenges and motivation & emotion regulation was studied in more detailed. Results show that motivational challenges covered 15% of the reported challenges, whereas motivation and emotion regulation was reported in 40% of the responses. In the beginning, especially environmental challenges and in the end also cognitive challenges were regulated with motivation and emotion regulation strategies. This indicates that the situational challenges can include motivational and/or socio-emotional features even when the principal source of the challenge is not motivational. Furthermore, it can be argued that there is a need to support students to better recognize the challenges that call for strategic regulation at individual and group levels.
Novice university students’ motivational study profiles: A person-centered approach

Elina E. Ketonen¹, Anne Haarala-Muhonen¹, Laura Hirsto¹, Jari Hänninen², Kirsti Keltikangas², Kristiina Wähälä¹, Kirsti Lonka¹

¹University of Helsinki, Finland; ²Aalto University, Finland; elina.e.ketonen@helsinki.fi

Previous research indicates that the first-year experience at university predicts future success. Novice university students perceive studying in various ways: some encounter lack of motivation and problems, while others start their studies with enthusiasm and become increasingly engaged in studying.

This study examined novice university students’ (N=740) motivational study profiles and variation in profiles in terms of domain. The participants were Finnish students from five subjects: law, theology, science, electrical engineering, and teacher education. Following a person-centered approach, latent profile analysis (LPA) was used. Students were classified into homogenous groups with similar patterns of the following variables: certainty of one’s career choice, lack of interest towards studies, study engagement, study related exhaustion, regulation of learning, and lack of self-regulation.

Four groups of students were identified: engaged, dysfunctional, misplaced, and alienated. According to the results of χ²-test, the engaged students were more likely to be law and teacher students and most unlikely science students, while those who belonged to the groups of dysfunctional or misplaced students were more likely to be science students and most unlikely law or teacher students.

In conclusion, already the novice students’ motivational profiles varied considerably, especially with respect to the domain. This may be due to the fact that many science students are preparing to apply to medical school or engineering, whereas the programs of law and teacher education are most difficult to get in and prepare for a specific academic profession. Future follow-up shall reveal how early motivational profiles predict later engagement and academic achievement.
Passion to learn something new? Investigating school subject-specific intrinsic task value as a basis for intrinsic task value of unknown learning contents while controlling for academic self-concept of ability

Julia Gorges
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Empirical studies show that school subject-specific intrinsic task value predicts choice of a field of study in higher education. However, some fields of study do not have obvious relations to specific school subjects (e.g., media science). Therefore, the present paper addresses the formation of intrinsic task value with respect to unknown learning contents. More specifically, it is hypothesized that learners generalize their intrinsic value of known learning contents to unknown learning contents if those are deemed similar to known learning contents. In addition, academic self-concept of ability was considered as a covariate. Analyses are based on a sample of N=334 first-year students at universities of applied science. Ratings for academic self-concept of ability and intrinsic value with respect to four school subjects and four corresponding—but not congruent—fields of study was collected using an online questionnaire. Perceived similarity between school subjects and fields of study was assessed by direct questions. One full path model and three nested path models, in which paths were fixed to zero based on similarity ratings for the school subject/field of study relation, were computed. Results generally confirm the hypothesis. School-based intrinsic task value seems to be still valid and used in adulthood as a blueprint to assess task value of unknown learning contents. However, similarity does not seem to be the key criteria used for generalization. Implications for research on intrinsic task value and higher education are discussed.

Improvements in self-efficacy for engaging in patient-centered communication following a course in peer-supervision and communication for medical students— the role of motivational factors.

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Aim: The aim was to evaluate the outcome of a training course in peer-supervision and communication with the aim of improving medical student self-efficacy for engaging in patient-centered communication and examine the influence of course-related motivation to learn, course-related self-efficacy, and medical student well-being at baseline.

Methods: A total of 127 graduate school medical students in clinical clerkship who participated in a course in peer-supervision and communication completed a pre-course questionnaire package including: 1) The Patient-Centeredness Self-Efficacy Questionnaire (PCSEQ), 2) Course-Related Motivation to Learn (CRML), 3) Course-Related Self-Efficacy (CRSE), and 4) the Medical Student Well-Being Index (MSWBI). After the course, PCSEQ was administered a second time.
Results: At baseline, PCSEQ-scores were positively correlated with age (r = 0.12), CRML (0.49), CRSE (0.58) and inversely correlated with medical student distress (MSWBI) (-0.22) (p<0.05-0.01). PCSEQ scores increased from pre-to-post (Cohen’s d= 0.73; p < 0.001). When adjusting for pre-course PCSEQ scores in a multiple linear regressions, CRML was a statistically significant independent predictor of post-course PCSEQ scores (Beta: 0.25; p<0.005). CRSE (Beta: 0.18, p=0.06) and MSWBI (Beta: -0.01, p=0.90) did not reach statistical significance.

Conclusion: The students’ motivation to learn the skills taught in the course emerged as a significant independent predictor of the desired learning outcome, supporting self-regulated learning theory stating that motivational factors are important predictors of learning outcome, suggesting the importance of assessing and promoting student motivation to learn both in higher education in general and in medical education in specific.

PAPER-03: ICT in motivation: e-learning, MOOCs and gaming

Time: Thursday, 12/Jun/2014: 3:00pm - 4:30pm

Session Chair: Loredana Mihalca, RWTH Aachen University

Location: K222.2
Floor -K2, Siltavuorenpenger 5A

ICT-orientation profiles among 6th graders and their association to schoolwork engagement and school burnout.

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Today’s youth engage in heterogeneous ways of using ICTs. This study took a person-oriented approach and identified different ICT-orientation profiles. In addition, this study examined how these profiles would differ with respect to motivational variables in academic context. We examined students (N=735) ICT-orientation profiles and profile differences in school related engagement and well-being (i.e., school value, schoolwork engagement, fear of failure and school burnout). The students were grouped into four profiles by means of latent profile analysis (LPA). The identified groups were basic-users (64.4%), active participators (9.4%), gamers (20.5%) and power-users (5.8%). The group differences were then analyzed using ANOVAs.
Gamers and power-users reported the highest skill levels as well as the most positive attitudes towards ICT-related problem-solving. Interestingly, students engaging in more complex activities (active participators, gamers, and power-users) were also more likely to show signs of school burnout and/or lower school value and engagement. The basic-users showed the least active ICT-orientation, but higher school value and engagement, and also the least signs of school burnout.

In conclusion, the results indicate that already in 6th grade level some students engage in highly complex ICT-related activities, but on the other hand show signs of academic disinterest and related negative emotions. This supports the hypothetical gap between the practices of the youth and the practices of the educational system and should be taken into account by educators, administrators, and educational designers.

Self-efficacy and perceived competence as mediators for successful learning in computer-based environments among high school and college students

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The question of how students’ competence-related beliefs (i.e., self-efficacy and perceived competence) facilitate learning has been the focus of the motivational research in the last decades. Despite the fact that numerous studies have documented a relationship between competence-related beliefs and performance, little is still known about how different features of computer-based learning environments (CBLEs) influence students’ competence-related beliefs and their relation with performance. The purpose of this study was to explore the mediating functions of self-efficacy and perceived competence beliefs on performance and cognitive load (i.e., perceived task difficulty) for various types of instructional control embedded in a CBLE. In a randomized controlled trial, 97 high school students and 169 college students received one of the four types of instructional control: a non-adaptive program control, an adaptive program control, a full learner control, and a limited learner control. Path analysis indicated a predictive utility only for grade level (i.e., high school vs. college), not for type of instructional control on the dependent variables: self-efficacy, perceived competence, performance and perceived task difficulty on a genetics test. Specifically, college students had higher perceived competence, self-efficacy, and performance, while they experiencing lower task difficulty during the test compared to high school students. Furthermore, students’ perceived competence significantly predicted their performance and perceived task difficulty, whereas self-efficacy had a significant effect only on perceived task difficulty. Results also support the hypothesized conceptual distinction between perceived competence and self-efficacy beliefs in Eccles et al.’s (1983) expectancy-value model and Bandura’s (1986) social-cognitive theory.
Children’s Motivation in Digital Game-play: the Effects of Task-reward Structure and the Role of Self-efficacy

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Recent commercial success and the increased use of digital games have provided impetus to the study of motivation in the field of gaming. Recent books by game theorists have pointed out that the world of gaming has produced a large amount of data illuminating how games deepen engagement, enhance self-directed learning and foster important 21st century learning skills. Indeed, studies of video games have provided an alternate route to understanding motivational processes. However, although current literature typically addresses player’s motive and subjective experience in game-play through the lens of existing motivation theories, few studies have examined the efficacy of game mechanics on motivation. To address this problem, this study is designed to assess the efficacy of task-reward structure on both Canadian and Chinese children’s motivation and the extent to which their self-efficacy affects their performance in a number-matching game with Sifteo cubes.

Results from both the analysis of covariance (ANCOVA) and t-tests revealed that the variable reinforcement schedule effectively sustained children’s motivation in the game-play. Both Canadian and Chinese children, regardless of their age and gender, showed a higher level of engagement when there is a change in the reward frequency. Further, children’s belief in their ability to complete tasks has an important influence on their willingness and engagement in game-play. The correlation between children’s self-efficacy, time spent playing the game and the number of game trials are statistically significant. Children with high self-efficacy have high levels of task persistency and a higher perception of fun.
Task-Focused Behavior Mediates the Associations Between Supportive Interpersonal Environments and Students’ Academic Performance

Noona Kiuru¹, Eija Pakarinen², Kati Vasalampi², Gintautas Silinskas¹, Kaisa Aunola¹, Anna-Maija Poikkeus², Riitta-Leena Metsäpelto², Marja-Kristiina Lerkkanen², Jari-Erik Nurmi¹

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This longitudinal study tested the theoretical assumption that children’s task-focused behavior in learning situations mediates the associations between supportive interpersonal environments and academic performance. The sample consisted of 2,137 Finnish-speaking children. Data on supportive interpersonal environments (authoritative parenting, positive teacher affect for the child, and peer acceptance) were gathered in Grade 1. The children’s task-focused behavior was measured in Grades 2 and 3 and academic performance in Grades 1 and 4. The results supported the assumption by showing that all three supportive environments were positively associated with children’s subsequent academic performance via increased task-focused behavior in learning situations. These findings suggest that students’ academic performance can be promoted by increasing the support they receive from peers, parents, and teachers, as this leads to better task-focus in learning tasks.

Teacher Support as a Protective Factor in the Prediction of Academic Efficacy

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Research indicates that behavioral and emotional difficulties among students are related to academic difficulties (e.g. Algozzine, Putnam, & Horner, 2010; Catalano et al., 2004; Frick et al., 1991; Kazdin, 1993). Among students at-risk for lower motivation and achievement, research has found that teacher support serves a protective role (Dever & Karabenick, 2012). The present study sought to determine whether teacher support served as a protective factor in predicting academic efficacy among students who were at an elevated level of behavioral and emotional risk (BER).

Participants in the present study were 4,358 students from 7 high schools in the southeastern United States. A hierarchical regression analysis was conducted to test the hypotheses of the present study. It was hypothesized that higher levels of BER would be associated with lower levels of efficacy. In addition, it was hypothesized that teacher support would predict academic
efficacy. Finally, teacher support was hypothesized to operate as a protective factor, such that teacher support would be more important in the prediction of efficacy among those with elevated levels of BER.

Support was found for the hypotheses of the present study. The statistically significant interaction between BER and teacher support in the prediction of academic efficacy suggests that teachers could serve an integral role in prevention and intervention efforts for students with elevated BER, particularly when increased academic motivation is a desired intervention outcome.

Role of Parents in Adolescents’ Interest in Science-Related Careers
Päivi Taskinen, Bärbel Kracke
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Individual Interest in science can be seen as a prerequisite to voluntarily engage in science-related activities and to enroll in studies in science. Additionally, individuals tend to strive for career goals, which they anticipate they will be able to reach. It can be concluded that one should commonly foster students’ interest in science and their ability-beliefs to promote students’ interest in science-related careers. However, the question, how these characteristics may optimally be promoted, is still partly unanswered. Even if researchers suggest, that parents could be a supporting factor, family is an under-investigated subject matter regarding students’ science involvement.

In line with the social-cognitive perspective, parents affect their children’s motivational characteristics like interests and self-cognitions through different processes. The effect of parents on career outcomes mainly takes place indirectly via motivational characteristics. In addition, parents may also have a direct effect on career preferences of their children: Social learning theories argue that people hold a preference for an occupation with a valued model or with positive images stressed by valued relatives.

We examined the direct and indirect effects of familial factors on students’ career preferences in the German PISA-Database (N = 674). The results showed significant indirect familial effects on students’ motivation to take up a science-related career. The effects of familial factors on students’ interest in science were partly surprisingly high since adolescents were examined. Our conclusion is; focusing on family context is important in order to be able to understand how students’ deliberations about science-related careers are established.
Classroom effects on students’ motivational development

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A substantial body of research has examined the positive influence of classroom factors for children’s and adolescents’ motivational development (see Wentzel, 2009). However, students’ school experiences need to be seen as highly interrelated across classrooms and subjects. As research on the internal/external frame of reference (Marsh, 1986) has shown achievement within one subject can affect students’ motivation, i.e. their self-concept, in another subject (Möller, Pohlmann, Köller, & Marsh, 2009). It remains unclear whether similar contrast effects exist with regards to the perception of the classroom environment. The aim of the present study was, thus, to investigate (a) the effects of the classroom environment on students’ motivational development and (b) potential contrast effects of one subject’s classroom environment on students’ motivation in another subject. Using a sample of 1,029 German students, multilevel latent change models revealed positive associations between the classroom environment in one subject and the related subject-specific motivation. Furthermore, some support for the expected contrast effects were found. More positive student perceptions of the classroom environment in one subject were related to a lower initial level of motivation in another subject, and a stronger decrease in motivation in that subject. The current study, thus, calls for the examination of students’ classroom experiences as interrelated across subjects; illustrating further the manifold influences at play in the development of student motivation.

PAPER-05: The role of motivational variables in students’ achievement and career choice

Time: Thursday, 12/Jun/2014: 4:45pm - 6:15pm

Location: K222.1
Floor -K2, Siltavuorenpenge 5A

Session Chair: Anne-Kathrin Mayer, ZPID Leibniz-Zentrum

Motivation Contributes Incrementally over General Cognitive Ability in the Prediction of College Academic Achievement

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There is considerable controversy about the extent to which motivation accounts for variation in academic performance above and beyond that of intelligence, given that approximately 75% of the variance in academic achievement remains unexplained after controlling for general
cognitive ability (GCA). To examine the contribution of motivation in more detail, data on 12 different motivational variables, along with ACT scores, were collected from 798 undergraduate students. GCA accounted for 12% of the variance in achievement. When entered altogether as a block in regression, the 12 motivational variables collectively explained a significant amount of variance above and beyond GCA ($\Delta R^2 = 6.8\%$). In terms of individual incremental validity analyses for each motivational variable, the most notable were: effort-avoidance ($\Delta R^2 = 2.5\%$), mastery-avoidance goal orientation ($\Delta R^2 = 1.5\%$), and performance-avoidance goal orientation ($\Delta R^2 = 1.0\%$). Thus motivation, especially avoidance-motivation tendencies, clearly contributes to academic performance above and beyond GCA. Rather than examine motivation in general, we suggest that further research is required to determine which motivational variables are more or less important and for what types of performance.

Profiles of Costs: How Expectancy-Value Profiles Relate to Undergraduates’ Choices in STEM

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Retaining students on a path toward science, technology, engineering, and math (STEM) professions is of global concern. A prominent framework for understanding STEM career choice is Eccles’ (1983) expectancy-value model; however, important questions remain concerning the role of perceived costs in students’ decision-making. Furthermore, profile-centered approaches offer a method for examining how combinations of expectancy-value beliefs relate to important outcomes. In this study, we examined (1) how competence beliefs, values, and two types of perceived cost (opportunity and effort) combined into expectancy-value profiles within a sample of undergraduate chemistry students ($N = 177$), (2) how students’ profiles shifted over time, and (3) how profiles related to achievement, course selection, and career intentions in STEM. Participants completed two rounds of surveys assessing the expectancy-value constructs. Using i-States-as-Objects-Analysis we identified three expectancy-value profiles: (1) Motivated (high competence beliefs, values, and low costs), (2) Motivated with High Opportunity Cost (high competence beliefs, values, opportunity cost, and low effort cost), and (3) Costly (low competence beliefs, values, and high costs). While profiles were relatively stable over time, most students who shifted from high-motivated profiles shifted to the Costly profile. Analyses examining differences among the profiles on the outcome variables resulted in significant differences in STEM GPA between the Costly profile and the Motivated profile, and significant differences in STEM course selection and science-career intentions between the Costly profile and the Motivated with High Opportunity Cost profile. These findings highlight the importance of cost perceptions in STEM achievement and choice.
High time investment = High effort? Results of a person-centered approach to students' homework behavior

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This study re-analyzed a 2-wave study on the French homework of 1812 Swiss 8th grade students with a person-centered approach. Homework behavior can be assumed to consist of two dimensions: homework effort and homework time investment. As students individually differ on these dimensions, it might be valuable to investigate the interplay of homework effort and homework time investment and study configurations of homework behavior, rather than focus on individual scores on only one single dimension. Referring to students' homework effort and homework time investment, five learning types were yielded via latent profile analyses: fast learners, conscientious learner, average students, procrastinators and minimalists. Latent transition analyses confirmed that the learning types were stably identified over time. We assessed if student characteristics were associated with the assignment of students to homework learning types and investigated if students classified to distinct learning types differed in achievement outcomes. Students with higher conscientiousness and higher value beliefs had a higher probability to be assigned to the fast or conscientious learner group. Moreover, students with lower conscientiousness and lower value beliefs had a higher probability to be assigned to the procrastinator or minimalist group. When studying the association of the homework types with achievement, the conscientious learners, a learning type characterized by high time investment and high effort, were shown to have favorable achievement outcomes, especially in terms of grades. The study showed that investigating the interplay of homework time investment and homework effort with a person-centered approach yields new results for homework research.

Development of a Self-Efficacy Scale for Information Searching Behavior (SES-IB-16)

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Self-regulated learning as a lifelong activity requires a considerable amount of information literacy, i.e. knowledge and skills needed to perform effective and efficient information searches. In addition, it is assumed that self-efficacy beliefs about information searching skills determine whether people are motivated to initiate information searches and continue them even against obstacles or in case of failures. Therefore, the aim of the present research was to develop a questionnaire assessing subjects’ beliefs about their ability to perform successful information searches in everyday life as well as in formal or informal learning contexts. Drawing on an information problem-solving model, a pilot version of the questionnaire included beliefs seven behavioral, cognitive, and metacognitive activities during the process of information searching. The online questionnaire was administered to three samples of German students (psychology and computer sciences, total N = 277). Exploratory factor analyses pointed to the unidimensionality of the scale. Reliability of the final 16-item version SES-IB-16 was high (Cronbachs Alpha >= .84 in all samples). With regard to validity, the scale proved to be
moderately correlated with measures of students’ knowledge about information resources, previous information search experience as well as established measures of academic self-concept and motivational orientations. It is concluded that the SEB-IB-16 may be used to identify learners who are at risk of underperforming in situations requiring autonomous, self-regulated searches for information because of doubts about their competencies.

PAPER-06: Self-determined Motivation

Time: Thursday, 12/Jun/2014: 4:45pm - 6:15pm

Session Chair: Daniel Birrer, Swiss Federal Institute of Sports Magglingen

PhD success and drop out under the lens of the self-determination theory

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An increasing body of research analyses PhD students’ experiences and the factors at play in their persistence or drop out from this process. In the present study, this phenomenon is analyzed under the lens of the self-determination theory (SDT; Deci & Ryan, 2000). We investigate how the SDT constructs manifest themselves in the doctoral context and what are the most prominent factors in their discourse, i.e. the factors that are the most extensively mentioned by the participants and that differentiate successful participants from participants who dropped out. Semi-structured interviews were conducted with 17 former PhD students from different disciplines and from various positions, who either obtained or dropped out from their PhD. Results show that the need and support for autonomy refers to both the development of the research project itself and the daily organization of the work (e.g. home working). Also central is the extent to which their research project is internalized and considered to be theirs. Regarding to competence, two major emerging themes are (a) the PhD students’ perception that they have a clear and long term vision of where they are heading to with their work and (b) the perception that they are moving forward toward this goal. Finally, the need for affiliation refers to aspects such sharing a positive relationship with their colleagues and supervisor(s) and being part of a real team. Those results therefore contribute to unfolding the motivational processes at play during the PhD process. Practical implications for supporting PhD students are discussed.
Conflict and Motivation: The Influence of Life to Sport Conflicts on Motivation and Training Behaviours and Attitudes

Gareth Mark Paul Morgan\textsuperscript{1}, David Markland\textsuperscript{2}, James Hardy\textsuperscript{2}, Daniel Birrer\textsuperscript{3}

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In addition to their sporting lives, athletes have other important life domains that could potentially conflict with and negatively impact their sport involvement and well-being. The purpose of this study was to test a model which posits that the experience of life-sport conflicts facilitates psychological need thwarting. Need thwarting in turn impedes self-determined motivation, which in turn interferes with the quality of athletes’ training behaviours and attitudes.

A cross-sectional, survey-based design was employed. Two hundred and fifty eight elite Swiss athletes (149 male, 109 female; M age = 20.03, SD = 2.11) were recruited from national sport associations and completed measures of life-sport conflicts, psychological need thwarting, motivation and optimal training behaviours. In addition, they completed measures of perfectionism and subjective well-being, the results of which are not reported here. Results from a structural equation modeling analysis indicated that life-sport conflicts were positively associated with thwarting of needs for autonomy, competence and relatedness. In turn, autonomy thwarting related positively to controlled motivation and negatively to autonomous motivation. Competence thwarting related negatively to autonomous motivation, and relatedness thwarting related positively to controlled motivation. Autonomous motivation was positively associated with all training behaviours and attitudes and controlled motivation correlated negatively with three training behaviours and attitudes: commitment, effort in session and professional attitudes. The findings suggest that in order to fully understand athletes’ sporting lives, and the influence of motivation on sport involvement, the interplay between different aspects of their lives and their psychological needs to be taken into consideration.
Motivation and Engagement in Student-Centered Learning: The Role of Autonomy Support and Structure

Lisette Wijnia¹, Gera Noordzij¹, Sofie M. M. Loyens¹, Eva Derous²
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The main goal of this study was to examine the role of teacher-provided autonomy support and structure on motivation, behavioral engagement, and test performance in a student-entered, problem-based learning (PBL) environment. In PBL, small group of students work together on meaningful problems under guidance of a tutor/teacher. PBL is assumed to increase intrinsic motivation for studying because tutors have a mere facilitating role during group meetings and are believed to be autonomy-supportive. However, this claim has not been studied empirically. In the current study, all first-year students in a PBL bachelor course (N = 230) were asked to rate their tutor on autonomy support and provided structure. These data were coupled with a measure of behavioral engagement and test performance. In contrast to our expectations, autonomy support and structure did not have a significant main effect on autonomous motivation. The interaction between autonomy support and structure did effect motivation, indicating most optimal results on autonomous motivation were achieved when high autonomy support was combined with high levels of structure. Autonomous motivation in turn affected test performance through behavioral engagement. The lack of a main effect of autonomy support on autonomous motivation might be explained by the student-centered nature of PBL in which autonomy support is already built into the learning environment through its design. In these curricula teacher provided autonomy support only affects autonomous motivation when enough guidance or structure is present.

Are both autonomy-support and structure really important for engagement and learning?

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According to the self-determination theory, autonomy-support and structure are two fostering-engagement and learning practices. However, few studies, mostly correlational, simultaneously tested the effects of both practices on engagement. Regarding learning, studies focused only on autonomy-support and produced inconsistent findings. Some authors found higher learning in autonomy-supportive contexts (Vansteenkiste et al., 2004) while others found higher learning
in less autonomy supportive contexts (Furtak and Kunter, 2012). In some cases, the conditions may also have manipulated structure, which would explain contradictory findings. Clearly differentiate the effects of structure and autonomy-support is therefore needed. The current study aimed at testing the main effects and interaction of both dimensions on engagement and learning. Eighty-four students in psychology performed a learning task on computer. They were randomly assigned to one of the four conditions determined by the manipulation of autonomy-support (low vs. high) and structure (moderated vs. high). After the task, participants filled in questionnaires about their engagement and learning. The results showed that they were significantly more engaged and learned more in highly structured conditions. These results stress the importance of structure for engagement and learning. Contradictory to previous findings, no effects of autonomy-support were found. Given the study design, these results cannot be generalized to all situations. In classroom settings, other variables as teacher support could also be influential for students’ outcomes (Furrer & Skinner, 2003). However, this study is a step forward in the understanding of respective effects of autonomy-support and structure.

Structure can support autonomy: Validating a short measure of autonomy supportive structure in Japanese elementary schools

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Self-determination theory (SDT) research on motivating teacher behaviors has consistently indicated both autonomy support and structure to influence students’ engagement and achievement. At the same time, research in collectivist settings has indicated that settings with less ambiguity and uncertainty may satisfy learners needs. This presentation reports on the creation of a theoretically valid, culturally sensitive instrument for use by both researchers and teachers in collectivist settings. Groups of Japanese elementary teachers and students worked together to write and select items that could be used to measure autonomy support and structure. The instrument was tested, indicating a single factor solution. Longitudinal structural equation modeling was then used in two phases to test the validity and reliability of the instrument over time in relation to engagement and autonomy, relatedness, and competence need satisfaction. In phase 1, a sample of 344 students took surveys on two occasions. Results indicated a strong effect from teachers’ autonomy supportive structure on student engagement. In the second phase, 312 students again completed surveys on two occasions. This sample indicated a strong influence of autonomy supportive structure on SDT need satisfaction. The strongest relationship was found between structure and autonomy need satisfaction. These results indicate that, in collectivist settings, clear direction and management of uncertainty may have a positive effect on students’ psychological needs and engagement.
Affective and Motivational Aspects of Teachers’ Work

Chair(s): Susan Beltman (Curtin University, Australia), Francisco Peixoto (ISPA - Instituto Universitário, Portugal), Susan Beltman (Curtin University, Australia)

Teaching is more than a job. It is associated with “a strong sense of professional goals and purposes, persistence, professional aspirations, achievement and motivation” (Gu & Day, 2007, p. 1311). This symposium represents the beginning of work that aims to develop an overarching conceptual framework and future research directions for the affective and motivational dimensions of a teacher. Four of the critical constructs that will be the basis of the work are: teacher emotion, teacher resilience, and teacher motivation and coping.

In the current quest for “effective” teachers, certain aspects of teachers and teaching are highlighted but explicit requirements for teachers in areas such as those explored in this symposium are limited. For example, in newly introduced Australian Professional Standards for teacher (AITSL, 2013) key affective constructs such as emotions and motivation are missing.

Recent independent and collaborative work by the participants in this symposium has led to the desire for an understanding of how the conceptual and empirical work regarding motivational and affective constructs significant for teachers may be examined with the possibility of developing an overarching conceptual framework. Ways forward include thorough current reviews of the literature relating to each construct (Paper 1 presents a review of the literature on teacher emotions), measures of each construct (Paper 2 presents empirical work relating to measurement of teacher resilience), and empirical work drawing together multiple constructs and examining their interrelationship (Paper 3 presents research on teaching career motivations, profiles of emotional coping and teaching style).
Conceptualising teacher emotions: A review of the literature

Saul Karnovsky (Curtin University, Australia), Susan Beltman (Curtin University, Australia)

Teaching is known to be a demanding, pressured and stressful profession. Examining teacher emotions is important for understanding not only what teachers do in their daily work lives, but also what allows them to thrive in schools and sustain their careers. This paper reviews literature from the past 25 years and focuses on conceptualisations of teacher emotions. The search process located journals, books and edited books referenced in previous key literature reviews, plus online journal databases and library searches. Selection was limited to research specifically examining emotions in teachers' lives. Three conceptual perspectives have emerged. From a psychological perspective, emotions are conceptualised as private, individual components. Researchers focus on the internal characteristics of a teacher's emotional responses and the way these shape cognitions. The sociological perspective is embedded in broad sociological studies of teachers' lives. Emotions are seen to be socially or culturally constructed and effective teaching and learning is necessarily affective. The third view, critical perspectives, pays attention to the link between microscopic (psychological) perspectives focused at the level of the individual, and the macroscopic (sociological) level of social, cultural, and political structures of schooling. Both practitioners and researchers are acknowledging the role emotions play in teaching, however, reliance on a single perspective can limit how the problems teachers face in maintaining long-term career satisfaction are addressed. It is necessary to examine teacher emotions in a holistic way that aligns with current views regarding the critical importance of emotional health and well-being.

Teacher Resilience: A one or multi-dimensional construct influencing teacher motivation and coping?

Marold Wosnitza (RWTH-Aachen, Germany & Murdoch University, Australia), Lucas Lohbeck (RWTH-Aachen, Germany), Jennifer Schwarze (RWTH-Aachen, Germany)

There is an urgent need for safe-guarding and improving teachers' health, not only with regard to their quality of life but also because there is a direct influence of teachers' health on the quality of their teaching. One concept that has become more salient in the last decade is that of teacher resilience. In this paper we are presenting a survey study that focuses on the interplay between the two perspectives of resilience (one-dimensional and multi-dimensional), the relevance of coping as a potentially related dimension and the motivation to become a teacher. The study focuses on the following three major research questions: Is there a relation between teacher motivation and teacher resilience and does teacher motivation explain teacher resilience? What implications does the two different perspectives of teacher resilience (one-dimensional and multi-dimensional) have on this relation and on the relation to coping? Are there differences between teacher education students and early career teachers? The sample consists of 225 teacher education students in the higher educational track at a German University and 125 early career secondary school teachers in their first 6 months on the job. The study supports the content validity of the new multi-dimensional teacher resilience scale. A prominent result is that relationships with coping and motivation could only be identified with the multi-dimensional and not with the uni-dimensional approach. The identified relations demonstrate the relevance of the construct of teacher resilience for the life-circle of a teacher and of programs to enhance teacher resilience.
How Do Initial Motivations and Coping Style Influence Early Career Teaching?
Paul W. Richardson (Monash University, Australia), Helen M.G. Watt (Monash University, Australia), Christelle Devos (Université Catholique de Louvain, Belgium)

Teaching is increasingly recognised as a complex, demanding career, and teachers report higher levels of stress and burnout than other professionals. Beginning teachers were generally highly positively motivated, yet we know they are susceptible to concerns associated with the multiple roles required of teachers. We examine how motivational and coping resources predict early career teachers’ positive and negative reported teaching behaviours. Using data from three timepoints with 627 primary/secondary teachers from the longitudinal Factors Influencing Teaching Choice research program (www.fitchoice.org), we measured initial motivations at degree commencement (Time-1), professional engagement and career development aspirations at degree completion (PECDA; Time-2), coping and reported teaching behaviours up to 8 years in teaching (Time-3). SEM examined predictions from initial motivations, via PECDA, to positive/negative teaching behaviours. Perception of ability at Time 1 predicted later positive teaching behaviour, so did social utility value through its influence on planned persistence in the profession. Conversely, fallback motivations had a strong negative impact on professional engagement and career development aspirations, and thereby on positive teaching behaviour. Six coping profiles, identified using cluster analysis, were compared on positive/negative teaching behaviours: (healthy)Ambitious (19%) and Diligent (11%) reported most positive teaching, Good health (25%) and Sparing (18%) middling, and (path to)Burnout (18%) and Wornout (9%) reported most negative teaching. Motivations and coping were unrelated. Implications for theory, teacher education and career induction are discussed.

SYMP-05: Mixed Methods in Motivation Research: Are More Methods Always Better?

Time: Friday, 13/Jun/2014: 9:00am - 10:30am
Location: K232, Floor -K2, Siltavuorenpuenger 5A

Session Chair: Andreas Gegenfurtner, Maastricht University
Discussant: Marja Vauras, University of Turku

Mixed Methods in Motivation Research: Are More Methods Always Better?
Chair(s): Andreas Gegenfurtner (Technische Universität München), Marja Vauras (University of Turku)

A growing number of studies in the social sciences employs a combination of qualitative and quantitative methods for data collection and analysis. Among the reasons for this growth of mixed method research is the belief that multi-method studies produce more robust findings than mono-method studies. This belief can be contested. Is the examination of motivational phenomena with a combination of qualitative and quantitative methods always better? The
Aspects of Instructional Quality and the Relation to Students’ Learning Enjoyment

Gerda Hagenauer (University of Jena), Michaela Gläser-Zikuda (University of Jena), Tina Hascher (Universität Bern)

Theoretical models on student’ learning emotions suggest that – besides factors of the individual learner – school environmental conditions contribute to the elicitation of students’ emotions. Students’ learning enjoyment can be regarded as a crucial learning emotion impacting on various educational outcomes (e.g. willingness for participating in lifelong learning), but is decreasing during the school years. Thus, the present study aimed at investigating students’ learning enjoyment during the critical period of early adolescence identifying factors of instruction that are influential for students’ learning enjoyment. Relying on empirical research on quality of instruction, deep structures of instruction (derived from basic assumptions of self-determination theory) were chosen as predictors. It was found that these deep structures have more impact on students’ learning as sight structures. As research suggests that learning emotions have to be differentiated on a trait and a state level, qualitative and quantitative methods have been applied in this study: Students in grade 7 filled in questionnaires (n = 356) and also completed daily-diaries (n = 110). The results reveal that clarity of instruction and the quality of teacher-student-relationship predicted learning enjoyment at the trait level whereas the student-student-relationship and autonomy support did not add significant explained variance to the calculated regression model. These instructional factors were also found in the diary entries; dominated by clarity of instruction, followed by the quality of the teacher-student relationship as preconditions for students’ state learning enjoyment. The results will be discussed regarding the strengths and constraints of cross-validating results using a mixed methods design.

Productive Tensions: Triangulating Qualitative and Quantitative Reconstructions in Goal Research

Michael Hellwig (Technische Universität München), Andreas Gegenfurtner (Technische Universität München)

The symposium sets out to explore whether the use of multiple methods is beneficial or detrimental for our understanding of motivational phenomena in learning environments. As a contribution to the symposium, this study presents a case on goals, goal contents, and goal orientations. Situated in staff development programs in higher education, we trace reconstructions of the goals of university teachers after they attend training programs designed to advance their teaching. This case is used to illustrate how collecting different sources of data around a shared phenomenon produces tensions that can help negotiate models and instruments in motivation research. Productive tensions occur when data interpretations from one methodological arena are challenged by data interpretations from a second methodological arena. Typically, this implies the use of quantitative and qualitative approaches. At the same time, productive tensions can also occur by triangulating multiple qualitative methodologies or diverse quantitative methodologies. In this presentation, we focus on productive tensions that arise from
triangulating retrospective interview data and self-reported questionnaire data, and we articulate how the occurring tensions afford a dialogue on conceptualizing the goals of university teachers enrolled in staff development programs.

The Benefits of Mixed Methods for Motivation Research in Classrooms

**Julianne C. Turner (University of Notre Dame)**

Motivation research in education has been dominated by quantitative, mostly correlational, studies of individual perceptions. However, these methods are limited in explaining behaviors and outcomes. Most education takes place in schools where participants interact with people and materials. This view of motivation extends beyond the individual and requires additional methods that can help explain why participants think and act as they do. These situated findings both complement theoretical generalizations by explaining stability and change in systems and provide concrete examples of discourse, actions and interpretations that can be useful for educators and researchers in guiding practice.

In this presentation I will provide three examples from my research which illustrate the usefulness of mixed method research. 1) Qualitative discourse data from observations in classrooms helped explain why students perceived their classrooms as emphasizing high or low mastery and why those perceptions were related to reports of avoidance behavior. 2) Video data collected in classrooms during a 3-year intervention to increase engagement revealed why some teacher-student interactions were more “engaged” than others. 3) Interviews with teacher leaders elicited their goals for leading teacher learning communities. The goals and strategies helped explain why some communities were more successful than others.

Research questions suggest which methods are most fruitful. As a motivation researcher in classrooms, my goal is to understand how people acting together create more or less positive environments for teaching and learning. In order to do this, I must use methods that help explain how motivation develops and changes.

Using Multiple Qualitative Methods to Study Productive Disciplinary Engagement in STEM Learning Environments

**Susan B. Nolen (University of Washington), Milo Koretsky (Oregon State University), Simone Volet (Murdoch University), Marja Vauras (University of Turku)**

This symposium asks the question: “Are multiple methods always better?” When researchers discuss “multiple methods,” they are generally referring to the mixture of qualitative and quantitative approaches, as others in this symposium describe. However, it is possible to ask this question of multiple qualitative approaches. In the project we will describe, we consider whether it is possible (and desirable) to use multiple methods and frameworks from different disciplines to study productive disciplinary engagement in complex, realistic, and challenging science, technology, engineering and mathematics (STEM) learning environments. Productive disciplinary engagement occurs when learners use the discourses and practices of the discipline in authentic tasks in order to “get somewhere” (develop a product, improve a process, and gain better understanding of a phenomenon) over time.

Productive engagement is usually studied single contexts (e.g., high school environmental science classrooms, engineering design projects), so the knowledge gained, though rich, is difficult to transfer to new settings. Although qualitative methods of analyzing discourse and behavior are labor-intensive, we are leveraging data analyses of through collaboration among researchers from Finland, Australia, and the US who study these systems
in different curricular, institutional and cultural contexts using complementary qualitative methods. We focus on group settings in authentic contexts, where students must integrate and flexibly apply concepts and practices. We will bring examples from ongoing analyses to illustrate the benefits and challenges of integrating qualitative methods from different disciplinary backgrounds (engineering education, learning sciences, and educational psychology).

Discussion

Thea Peetsma (University of Amsterdam)

Discussion

SYMP-06: What can be said about the relation between interest and learning?

Time: Friday, 13/Jun/2014: 1:00pm - 2:30pm

Location: Minerva Plaza
Floor -K2, Siltavuorenpenker 5A

What can be said about the relation between interest and learning?

Chair(s): K. Ann Renninger (Swarthmore College), Doris Lewalter (TU Munich), Doris Lewalter (TU Munich), K. Ann Renninger (Swarthmore College)

In discussions of interest, learning is typically described as benefitted by the presence of interest; however, the nature of the relation between interest and learning is not well detailed, at least in part because of differences among researchers in the questions that they ask, and the measures that they use. This symposium is designed to allow exploration of this relation in depth. It is organized as a panel discussion, in order to allow participants, the discussant, and the audience to engage together in serious consideration of what is presently understood and to identify open questions. Presenters whose research agendas regularly include consideration of issues related to interest and learning have been asked to each use findings from their research to describe their own: (1) conceptualization and measurement of interest, addressing consideration of adjustment of measures for different age groups and learning environments; (2) research findings on the relation between interest and learning based on several studies; (3) open questions that should be addressed in future research. The panelists' research represents varying contexts (lab experimentation, classroom practice), learners from different age groups (from young children to elementary/middle/high school students, to college students) whose interest is more or less developed, and performance demands that vary in terms of being more or less explicit. The discussant for the session will moderate the session and will draw on her own work on the relation between interest and learning in out-of-school learning environments to challenge the panelists and promote interaction with the audience.
Interest and Learning

K. Ann Renninger (Swarthmore College)

Three studies will be used for purposes of addressing session questions: (1) a study of the effect of interest on the attention and memory of young children who were studied during free play and then in experimental tasks assessing attentional shift, recognition and recall memory; (2) a short-longitudinal, cross-sectional survey and interview study of grade 5-12 students’ perceptions of science and their interest development; and (3) a multi-method study of college physics students’ learning through use of life-science examples. In each study, interest is studied as a content-specific, motivational variable that is both a psychological state and in later phases of development a relatively enduring disposition to return to engagement with that content over time. In each, four indicators of participants’ developing interest have been used, with adaptations based on the participant group and the learning environment: whether participant engagement is: frequent, deep, voluntary, and independent relative to other engagements. Regardless of their particular focus, the studies suggest that developing interest is beneficial to motivation, engagement, and learning, and that learners in different phases of interest engage differently with the opportunities that the environment provides— and, as such, are differently positioned to learn. Moreover, they suggest that how the environment responds to the learner in terms of the scaffolding that is (or is not) provided contributes to whether and how interest develops.

Capturing the dynamics of interest at the ‘micro-level’ — interaction between the student and the task

Anna Tapola (University of Helsinki)

Despite the motivational effects an inspiring learning task may have, individual differences in the intensity of students’ engagement still exist (Ainley & Patrick, 2006). In order to illustrate the formation of such differences, the presentation summarizes the results of four studies on the role of student and task characteristics in the arousal of and changes in situational interest across the course of a learning task. Depending on the study, different student characteristics (e.g., prior knowledge, achievement goal orientations, and interest in specific school-subjects) were measured before the task. In all of the studies, students reported their situational interest, conceptualized as a dynamic affective state, in three different phases of the task. The predictors of learning outcomes were also investigated. Three of the studies concentrated on students from grades four to six (N1 = 57, N2 = 140, N3 = 270) and one study focused on ninth-graders (N4 = 100). Variable- and person-centred statistical analyses supported the following findings. Students’ goal orientations and subject-specific interest influenced both the level of and changes in situational interest. Although the level of students’ situational interest did not predict learning, two of the studies suggested that the increase in interest during the task was related to higher performance. The results emphasize the need for process-oriented data on individual patterns in students’ task-related activities that might mediate the effect of interest on learning. An open question also still is whether and how transient states of interest contribute to the development of students’ continuing motivation.
Interest and Conscientiousness: How they predict academic effort and learning

Ulrich Trautwein (University of Tübingen), Oliver Lüdtke (Humboldt University Berlin)

Although both conscientiousness (e.g., McCrae & Löckenhoff, 2010) and domain-specific interest (e.g., Renninger, Hidi & Krapp, 1992) are believed to be major determinants of academic effort and learning, they have rarely been brought together in empirical studies. In the present research, it was hypothesized that both interest and conscientiousness uniquely predict academic effort, as well as statistically interacting with each other to predict academic effort. Three studies with 415, 1,025, and 1,531 students, were conducted using varying analytical designs (between-person level, within persons over various school-subjects, and within-person over time). The analyses revealed moderate associations between conscientiousness and interest. Both constructs meaningfully and uniquely predicted academic effort. In addition, conscientiousness interacted with interest, indicating that conscientiousness is especially important when a student finds a school subject uninteresting, and that domain-specific interest plays a particularly important role for students low in conscientiousness.


SYMP-07: Goals, Goals, Goals: Social, instrumental and daily-life perspectives

Time: 1:00pm - 2:30pm

Location: K232
Floor -K2, Siltavuorenpenger 5A

Session Chair: Kou Murayama, University of Reading
Discussant: W. L. Quint Oga-Baldwin, Fukuoka University of Education
Organizer: Luke K. Fryer, Kyushu Sangyo University

Goals, Goals, Goals: Social, instrumental and daily-life perspectives

Chair(s): Kou Murayama (Reading University), Quint Oga (Fukuoka Education University), Luke K. Fryer (Kyushu Sangyo University)

Goals are essential for persistence and engagement in learning. To move beyond this broadly accepted precept, however, educators must understand the range of goals students pursue, how these goals develop and their diverse outcomes. This symposium contains four perspectives on goals and how they affect students' lives both in and outside the classroom.
Paper one examines students’ appraisals of their goals and interpersonal relationships on satisfaction and educational trajectories. The second paper also examines the social nature of goals. Across three studies, paper two explores the relationship between social goals and social competence, perceptions of disabled students and academic goals. Paper three tests two instrumental-goal directed models of studying/learning strategies. The final paper employs a smartphone-based diary study to examine the role of autonomous and controlled goals on motivational states throughout students’ daily lives.

The first two papers each make a distinct but connected case for the reciprocal effect of the social environment on students’ goals, and goals on a range of important learning outcomes. Results from the third paper, while examining social goals only secondarily to the role of internally versus externally regulated goals, found that despite being externally regulated they can lead to self-regulated learning. The final paper concludes that in addition to the effect that moderate and long-term goals have on our lives, that proximal autonomous and controlled goals play a significant role throughout our daily lives. The discussant will review and then work to integrate these findings into a cohesive whole ready for discussion.

**Education-Related Goal Appraisals and Supportive Interpersonal Environment in Upper Secondary Education**

*Kati Vasalampi (University of Jyväskylä), Noona Kiuru (University of Jyväskylä)*

This study examined the extent to which education-related goal appraisals such as autonomous and controlled motivation, effort and progress relating to educational goals are associated with adolescents’ satisfaction with their education during upper secondary education (i.e., satisfaction with studying place vs. risk to drop out from school) as well their subsequent educational trajectories. The study further examined whether peers’ acceptance and parents’ affection serve as antecedents of these variables. The sample consisted of 1522 upper secondary education students who were surveyed three times: (1) in the first and (2) in the second grade of upper secondary education, and (3) two years later. The results showed that when adolescents’ pursued their educational goals for autonomous reasons, they also invested effort in their goal, which was reflected in a high level of goal progress. Goal progress, in turn, was related to a high level of satisfaction and low intention to drop out from school during upper secondary education. Moreover, peers’ acceptance and mothers’ affection supported adolescents’ autonomous motivation regarding their educational goals. Fathers’ affection was, instead, a direct predictor of the high level of satisfaction with educational choice. Finally, goal progress and satisfaction with studying place predicted completed qualification after upper secondary education.
The role of social goals on students’ social and academic adjustment

**Teresa Gonçalves** (University of Porto), **Marina S. Lemos** (University of Porto), **Helena Meneses** (University of Porto)

Social motivation is thought to strongly influence social behavior, social adjustment and socialization experiences that stimulate and underpin not only social development but also academic school adjustment.

In the present communication we report on three independent studies examining the role of students’ social goals, using Wentzel’s framework (1993, 2002). Participants were 797 5th and 6th graders (study 1), 200 students from 6th to 12th grade (study 2) and 394 9th graders (study 3). Students’ pursuit of social goals – both prosocial and social responsibility goals – were assessed in relation with (1) students’ prosocial behavior (social skills, behavior problems, peer acceptence), (2) students’ attitudes towards peers with disabilities, and (3) students’ academic motivation (achievement goals and perceived academic competence).

Social goals predicted social skills and the absence of behavior problems rated by teachers. In the peer relations domain, social motivation was related to student’s higher peer social status and to the acceptance of peers with disabilities. Also social goals were positively related to a specific motivational pattern of mastery orientation and specific school-related action-control beliefs (such as the perceived access to effort exertion and to teachers’ help). Overall results highlighted the role that social motivation may play on school relevant social and academic outcomes.

What students want and how they get it: Students’ goals and future strategies.

**Luke K. Fryer** (Kyushu Sangyo University), **Paul Ginns** (University of Sydney), **Richard Walker** (University of Sydney)

Research has consistently demonstrated that the regulation of an individual’s goals plays an essential role within both learning experiences and future outcomes. The majority of past research has, however, been carried with cross-sectional data, and primarily employed observed variables.

The current research is carried out in the under-researched context of Japanese higher education, with first-year students from eight departments of study (n = 920). Employing two lagged data points, separated by nine month, this study develops and test two goal directed models of studying and then learning. Four types of instrumental goals, adapted to the Japanese context, are the focus of this study: distal-internal, distal-external, proximal-external and socially instrumental goals. In addition, to two well known correlates of the study/learning strategies research are employed as benchmarks for gauging the predictive effect of instrumental goals. Internally regulated goals were hypothesized to be broadly adaptive while externally regulated goals were hypothesized to be maladaptive in their predictive effects. This study’s results reflected the importance of internal regulation for goals, both with regard to learning strategies and learning outcomes. In addition to the theoretically consistent results, social goals, ostensibly an externally regulated goal, positively predicted self-regulated strategies. This unusual result may have been due to the research context of Japan.

This presentation, in addition to discussing these predictive key results, will engage in updating Pintrich’s “multiple goals, multiple pathways” goal framework conception by including instrumental goals and a wider breadth of learning pathways.
Self-determined goal pursuit and motivational experience: An Experience Sampling Approach

Julia Dietrich (University of Jena), Håkan Andersson Andersson (Swedish Higher Education Authority), Yi-Miau Tsai (University of Michigan), Katariina Salmela-Aro (University of Jyväskylä)

Based on self-determination theory, this study tested the assumption that motivational states experienced by students in their daily life, such as being bored or in flow, are impacted by educational goals. We aimed, first, to identify individuals’ motivational state in a given situation based on their ratings of intrinsic interest, competence, and challenge. We, second, sought to test whether setting autonomous vs. controlled educational goals predicted motivational states. Autonomous goals should increase the likelihood of positive motivational states such as flow. Controlled goals were assumed to increase the likelihood of negative motivational states such as feeling overwhelmed. In a standardized diary study, 55 university students (76% female) were beeped five times a day for 14 consecutive days. In the morning, participants named up to three educational goals for the current day. They then reported to what extent they pursued these goals for autonomous and controlled reasons. During the day, participants reported their current activity, appraised that activity in terms of challenge and competence, and indicated to what extent they felt interest. I-states-as-objects analysis yielded six motivational states. We next applied multilevel modeling to examine the effects of goals on motivational states. Results showed that setting autonomous goals was related to a higher likelihood of flow and a lower likelihood of boredom. Controlled motivation was unrelated to motivational experience. Our findings imply that the principles of self-determination theory operate not only for mid- and long-term personal goals, but also for the short-range educational goals that students set every day.

SYMP-08: Designing for interest, motivation and engagement: How can we help unmotivated learners become motivated to learn?

Time: Friday, 13/Jun/2014: 4:00pm - 5:30pm

Session Chair: Sanna Järvelä, University of Oulu
Discussant: Kirsti Lonka, University of Helsinki
Organizer: K. Ann Renninger, Swarthmore College

Designing for interest, motivation and engagement: How can we help unmotivated learners become motivated to learn?

Chair(s): Sanna Järvelä (University of Oulu), Kirsti Lonka (University of Helsinki), Sanna Järvelä (University of Oulu), K. Ann Renninger (Swarthmore College)

The aim of this symposium / panel is to update the theoretical and empirical discussion related on the concept of engagement - and especially show it's value and importance to designing
learning and new learning environments. When we think of engaged learners, we typically think of learners who have more developed interest and are motivated to learn. They are involved behaviorally, intellectually, and emotionally in learning tasks. Learners who are not engaged, on the other hand, lack interest and are unmotivated. Understanding how to support both groups of learners is critical. In this symposium / panel we start with presenting the design principles identified by Järvelä & Renniger (2014) and summarize that these principles need to account for differences of interest, motivation, and engagement. Then each participant will present their earlier research findings to verify or further nuance the design principles. Finally, the discussant will conclude our discussion and propose next steps for research and practice for designing engaged learning.

Design principles for increasing learner engagement, interest, and motivation with content

Sanna Järvelä (University of Oulu)

This paper presents the grounding for the symposium / panel by presenting the design principles identified by Järvelä & Renniger (2014). The two core questions for the learning regarding the roles of interest, motivation, and engagement in designing for learning are discussed: a) How do we enable those who are not yet engaged to develop their will and skill for learning? How can we help unmotivated learners become motivated to learn? And b) How do we design in order to continue to support those who are already engaged, such that they continue to deepen their interest and, as a result, their motivation to learn particular disciplinary content? With the survey the current state of research a set of key themes that emerge from our own and other the empirical research, and a sample of studies that address interest, motivation, and engagement focusing on differing participant groups across a variety of learning environments. Finally, it is concluded by proposing potential design principles that emerge from this review.

Insight from Studies of the ICAN Intervention, Curricular Context, Science Interest and Learning

K. Ann Renniger (Swarthmore College), Alpha Chau (Swarthmore College), Samantha Stevens (Swarthmore College), Brian R. King (Swarthmore College), Melissa Emmerson (Swarthmore College), Lily Austin (Swarthmore College)

Studies of the ICAN Intervention provide the basis for considering the roles of interactions informed by disciplinary content and scaffolding in designing for learning. They extend Järvelä and Renninger’s (in press) chapter to consider the environment as scaffolding learners’ work with content and their interactions. The studies focus on ICAN Intervention as a support for developing science interest and learning in two types of inquiry-informed workshops, discipline-based (biology) and iSTEM (integrated science, technology, engineering, and mathematics). Studies of the ICAN Intervention indicate that: (a) an inquiry-informed workshop can trigger and enable the development of interest that continues to be sustained 5-weeks following workshop completion, (b) an open-ended, ungraded, and implicit writing intervention that targets consolidation and reflection of the science content of inquiry-informed workshop activity supports science learning that is sustained 5-weeks following workshop completion, and (c) when the curricular context of the inquiry-informed workshop is iSTEM and coupled with the
ICAN Intervention, it may provide an additional boost to participants’ science learning and also support positive changes in participants’ self-efficacy and motivation-based identity.

**Contextual experiences of computer supported learning environments matter: their impact on (changes in) situational interest over time**

**Alexander Minnaert (University of Groningen)**

In classroom environment research, it is already documented that differences in the engagement of students was related to (perceived) characteristics of the learning environment. To prepare students for engaged learning within a Computer Supported Collaborative Learning setting (CSCL) it is less known, however, how contextual characteristics affect students’ (changes in) situational interest. A field study was conducted among students in secondary vocational education. Students and teachers made use of an electronic instrument that assessed and visualized students’ experiences of the quality of group learning over time. 137 vocational students in commerce and business administration participated in a six months project requiring to work in small learning groups. Multilevel growth curve analyses were used to analyze the data. Huge amounts of within-students variability over time was encountered for competence (66%), autonomy (62%), relatedness (84%), and situational interest (51%), indicating the zone of changeability by the environment. Perceived autonomy, competence, and social relatedness seemed to be good predictors of students’ linear growth in situational interest. At the initial level of the project, relatedness and autonomy predicted interest growth significantly, while changes from the initial level in interest (i.e. change over time in interest) was best predicted by changes in competence and in autonomy. Implications for educational practice will be discussed upon.

**PAPER-08: Passionate learning**

*Time:* Friday, 13/Jun/2014: 9:00am - 10:30am

*Location: K222.1*

*Floor -K2, Siltavuorenpenker 5A*

*Session Chair: Kevin Pugh, University of Northern Colorado*

**A passion for research and exploration? How purpose and expectancy inform women’s identities and career choices in graduate chemistry programs.**

**Megan Leanne Grunert, Allison Hart-Young**

Western Michigan University, United States of America; megan.grunert@wmich.edu

In a qualitative study of women’s career choices in chemistry, one noteworthy finding was that women PhD candidates in chemistry were overwhelmingly not interested in pursuing careers at research-intensive institutions. These findings have been supported by large-scale data collection in the U.S. and the U.K. (NRC, 2009; Rice, 2012). Using a constructivist grounded theory approach (Charmaz, 2006; 2003), qualitative interviews were conducted with women graduate students and faculty members in chemistry to understand the career decision-making process and to explore the role of passion for research and exploration in this process. The two
The constructs of focus here are expectancy of success (Wigfield & Eccles, 2000) and career purpose (Diekman, et al., 2010). With regards to expectancy of success, the graduate student participants felt more confident in their abilities as teachers than as researchers based on their experiences in graduate school and the feedback they received related to these activities. With regards to career purpose, most participants wanted to make a difference in the world and were seeking careers that allowed them to pursue this goal. Faculty at research-intensive institutions stated intellectual freedom as their primary motivator for selecting their career. Conversely, many graduate students felt that chemistry research lacked tangible outcomes and was primarily unrelated to social benefit. This presentation will describe the orientations to learning in the graduate students as well as to explore the dichotomy between research faculty and graduate students with respect to differences in motivation to conduct chemistry research and how this affects career selection.

**Situational Variability and Long-term Stability of Passionate Experiences: A longitudinal Experience Sampling Approach**

Julia Moeller¹, Julia Dietrich², Jacquelynne S. Eccles³, Barbara Schneider⁴

¹University of Helsinki, Finland; ²University of Jena, Germany; ³University of Michigan, MI, U.S.A; ⁴Michigan State University, MI, U.S.A; julia.moeller@helsinki.fi

Theories regarding passion for activities gain increasing attention on the psychology on motivation. Passion is conceptualized as a stable inclination of a person towards an activity, characterized e.g. by intense affects and strong commitment. The stability of passion is often assumed, but has not been studied over extended time periods. Moreover, passion is supposed to be partially explained by stable personality traits, but situation-specific determinants have also been discussed. Most previous studies have addressed one-sidedly either situation-specific or person-specific influences. There is a need to disentangle situation- and person-specific components by simultaneously assessing them both in one study.

This study investigated the long-term stability of passion for activities and disentangles situation-specific states and person-specific trait aspects of passion.

First, we suggest a new Experience Sampling Method tapping passion for activities in the everyday life situations in which they occur. Second, multilevel analyses are conducted to disentangle situation-specific and person-specific sources of variability. Third, longitudinal ESM data are used to examine whether an individual’s likelihood to experience passionate experiences remained stable across a two-year period during adolescence. For these analyses, a representative sample of 490 U.S. American adolescents from the Alfred P. Sloan Study of Youth and Social Development (Schneider, 1992-1997) was analyzed.

Results show that passion has both state and trait components. Situational determinants accounted for 80% of variance in passion, whereas 20% of the variance is due to stable person-specific determinants. The person-specific component of passion remained stable across a two-year period (rank-order stability r = .51).
The effect of personalization and example choice on students’ interest in mathematics

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The purpose of this study was to explore the effect of context personalization and example choice on middle school student interest in mathematics. Participant in this study were 736 students from Norwegian middle school. Data was collected by means of an online questionnaire containing a learning material (presentation and tasks) in mathematics. Students were randomly assigned to one of four instructional conditions: personalization, example choice, example given and a control condition. Interest was measured at three time points during testing; prior to the learning material (individual interest), after reading the presentation on a mathematical topic (triggered situational interest), and after working on seven problems (maintained situational interest). Data were analyzed by means of multiple regression analysis. Results revealed that personalization had an effect on triggered situational interest compared to the control condition, and an effect on maintained situational interest compared to the remaining conditions. Example choice had an effect on triggered situational interest compared to control condition. Results from interaction terms showed that personalization had a positive effect students low in mathematical interest and a negative affect for the highly interested students. Personalization and example choice had a positive effect on effort for students low in interest. No significant effect of the interventions was observed for performance on tasks. This study highlights the importance of focusing on the written material in mathematics and its effect on situational interest. The results of the study are discussed together with limitation and suggestion for educational practice.

Why Some Students Undergo Transformative Experiences and Others Do Not: Current Research and Future Directions

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Transformative experiences represent a particular type of passionate engagement characterized by three qualities: motivated use (active application of school learning in out-of-school contexts), expansion of perception (re-seeing everyday objects and events through the lens of the content), and experiential value (valuing the content for the way it enriches everyday experience). This paper addresses an under-researched question regarding transformative experiences: why is learning transformative for some students but not others? We review the existing research and then discuss promising directions for future research. These directions include an investigation of epistemological beliefs, a willingness to “surrender” to the experience, transformative personalities, and supportive out-of-school contexts. Epistemological beliefs refer to beliefs about knowledge/knowing and have been associated with a number of engagement outcomes. We present an argument for why particular epistemological beliefs are likely to foster transformative experiences while others inhibit them. “Surrender” is a construct derived from Dewey’s (1980/1934) theory of aesthetic experience. We explain this construct, describe why it is important to passion and transformation, and discuss reasons why some students may be more willing to surrender than others. Transformative personalities refer to individuals with traits that seem to be associated with engagement in transformative experiences. We identify and discuss such traits. Finally, some
students may be more likely to undergo transformative experience because they have more supportive out-of-school contexts. We review research on cultural learning pathways (i.e., learning experiences students have across formal and informal contexts) and identify particular pathways likely to support transformative experiences.

PAPER-09: Motivation in young children

Time: Friday, 13/Jun/2014:
9:00am - 10:30am

Session Chair: Stephen Aguilar, University of Michigan

Subjective and Contextual Contributors to Young Children’s Perceived Self-Efficacy

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Children’s self-efficacy may vary depending on the situation and learning context. This is because children have qualitatively different learning experiences within various subject areas and they interpret the factors influencing their competence perceptions through unique lens. The focus of the study is to investigate subjective and contextual influences to young children’s perceived self-efficacy.

Participants (N=24, 6-8 years) from four Finnish primary school classrooms participated during seven weeks. First, the participants were videotaped in successful learning situations and interviewed about their self-efficacy perceptions with video-stimulated recall. Second, the participants together with their teachers were asked to rate child’s social competence.

Using a mixed method approach, children’s self-efficacy perceptions were investigated in 45 social (whole-class and small-group) and 15 independent learning situations. The results showed that children experienced higher self-efficacy in social learning situations, and the perceptions were more stable, than did children with lower perceived self-efficacy. However, a significant relation between self-efficacy and social competence was not found. Children named four factors promoting their perceived self-efficacy; feedback and support (contextual), positive emotional states, mastery experiences, and own strategic behaviour (subjective).

These findings are important given that young children’s early educational experiences have immediate and long-term effects on their cognitive and social development and achievement. Also, these results show that children in kindergarten to second-grade have distinct competence beliefs and can fairly judge their own competence.
Measuring children’s interest in mathematics: different raters — different perspectives
Anna-Kaarina Tapola, Markku Niemivirta, Riikka Mononen, Pirjo Aunio
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In order to explore different perspectives on children’s interest, in this study we examined the associations between teacher- parent- and child-reported child interest in mathematics. The aim was to find out the correspondence of teacher- and parent-reported child interest to the child’s own experience, while controlling for the child’s gender, and mother’s educational level. Also, the influence of the child’s mathematics skills on the different interest measurements was investigated. The participants were kindergartners (N = 238) and first-graders (N = 112), their teachers and parents. Children’s mathematics skills were assessed using validated tests, and reports on children’s interest were gathered through self-report questionnaires. Results of hierarchical multiple regression analyses on both samples indicated that the child’s subjective experience of interest was independent of their mathematics skills, corresponded to some extent the parent-reported child interest, while not being related to teacher-reported child interest. Especially teachers’ evaluations of the child interest were strongly associated with the child’s mathematics skills. The results suggest that it is important to acknowledge that different informants evaluate the phenomenon from different perspectives and in different contexts.

How teachers support young children’s regulation of emotions and behaviour in challenging situations in day care settings
Kristiina Kurki, Hanna Järvenoja, Sanna Jarvela
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Decades of research have associated different aspects of self-regulation with learning and social competence among children. The importance of social interaction in learning and development of self-regulation skills has also been acknowledged in several studies. In order to understand how self-regulation manifests and develops in children’s early years, there is a need to study the interactive situations in children’s everyday lives. This study focuses on investigating the ways early childhood teachers regulate children’s activities, behaviour and emotions in various socio-emotionally challenging situations. The data consists of 76 video episodes of different challenging situations among 2-5 year old children (N=31) day care activities and stimulated recall interviews conducted with the teachers (N=5). The data is analysed using interaction- and content analysis as well as assessments of the quality of classroom interactions with observational variables dealing with emotional, behavioural and instructional support. The results of this study indicate that teachers use various strategies, such as redirecting children’s attention or offering constructive solutions, to regulate children’s activities in challenging situations. The findings suggest a need for teachers to scaffold children’s developing skills of regulatory actions in early childhood contexts.
“What makes her succeed?” Children making interpretations of their peers’ success in learning situations

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This study investigated how children explain factors that lead to their peers’ success in authentic classroom learning activities. 17 primary school children were followed over eight weeks. The children participated in the “Detective course” in which they needed to capture moments of success by using iPods as “detective equipment”. The pictures and video clips were used for stimulated recall interviews in order to find out children’s views of reasons for their peers’ competence and success in learning situations. Pictorial data were coded and categorized with data driven categories in order to see what kind of situations children considered to be successful. Interview responses were coded using theory driven categories (Räty, Kasanen & Snellman, 2002) in order to investigate children’s views concerning their peers’ success in learning situations. The results show that children took more pictures in classrooms from their friends’ success than their own. In the interviews children used mostly the mastery reasons, such as “she can read”, and quality of performance, such as, “It was a beautiful drawing”. These findings indicate that in the interview children were more discussing about the specific tasks and performance standards in the specific situation, but not considering success in general level.

PAPER-10: Stability and change in students’ motivation along schooling

Time: Friday, 13 Jun 2014
9:00am - 10:30am

Location: K113
Floor -K1, Siltavuorenpenger 5A

Session Chair: Christian Brandmo, University of Oslo

Experiences of meaningful studying predict satisfaction with educational choices across the transition to upper secondary education – A latent growth curve analysis

Markku Niemivirta
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This study examines changes in school value – the extent to which students perceive school and studying as enjoyable, important, and useful – across the transition from lower secondary education to upper secondary education among students (N = 372) who choose either academic or vocational track after the ninth grade. Using latent growth curve modeling we were able to detect a significant overall increase in school value from ninth grade to the second year
of upper secondary education. Compared to the students in the academic track, the vocational students’ initial level of school value was lower, but the positive change in it, in contrast, was steeper. After controlling for the influence of educational track, prior achievement predicted only the initial level of school value. Finally, both the initial level of school value and the rate of change in it predicted students’ later satisfaction with their educational choice, irrespective of educational track and prior achievement. These findings not only demonstrate the important role educational context plays in students’ school-related choices, but also illustrate how positive changes on a personal level make a difference.

A comparison of the development in motivation for school in upper primary and early secondary school in the Netherlands

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For decades educators have been concerned about the decline in motivated behaviour and motivational beliefs of children after the transition from primary to secondary school. This phenomenon occurs in various countries and has been studied extensively. These studies not often include information on the preceding development in motivation in primary school. Less is known on whether the decline already occurs in primary school and whether the relationship between motivational beliefs and motivated behaviour differs between primary and secondary school.

In this study, developments in goal orientations and school investment were compared between students in the last two years of primary school and students in the first two years of secondary school, as well as the reciprocity of the relationship between goal orientations and school investment.

Data on 1429 Dutch students were included in this study: 722 primary and 707 secondary school students from all types of secondary school. The students filled in a self-report questionnaire for four times during regular class time. At the first measurement the primary school students were on average 10 years old and the secondary school students 12 years old.

Results showed a decrease in school investment in both primary and secondary school, yet the school investment of students at the start of secondary school was clearly lower than that of students at the end of primary school. Both for primary and secondary school students, only mastery goals showed reciprocal relationships with investment.

The development of achievement goal orientations in middle school

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In achievement motivation research the subject of achievement goals was one of the key issues throughout the last three decades. So far, the development of achievement goals has received little attention in research and the knowledge about this subject is still incomplete. The aim of this study is to provide additional information about development patterns of mastery, performance-approach and performance-avoidance goal orientations in German middle school.
Analyses are based on data from the “study on the development of all-day schools” (StEG) in Germany, which is a longitudinal, representative study. More than 6000 middle school students filled out questionnaires at three measurement points (2005, 2007, 2009). Achievement goal orientation was measured by the learning and achievement scales (SELLMO; Spinath et al., 2002). Additionally, sex, SES, school track and migration background were included in the analyses. Latent growth curve modeling was used to investigate development patterns and neighbor change models show if the development differs between the measurement points.

Results show that all three kinds of achievement goal orientations decline. Furthermore, school track and sex have a significant influence on the intercept of the achievement goals investigated. Moreover, mastery goal orientation and performance-avoidance goal orientation decline most between fifth and seventh grade. Results presented here in part support findings of earlier research, indicating that all kinds of achievement goal orientations decline throughout middle school. Thus, learning environments there seem not to be suited to promote increases in achievement goal orientations.

Developmental stability of motivational orientation profiles from preschool to grade 3

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The purpose of the present longitudinal study is to examine motivational orientation profiles children show at age 4, and the stability of belonging to a motivational profile group from age 4 to age 6, that is, from preschool to kindergarten. In addition, we explore how motivational orientation profiles found among pre-readers are related to students' motivation in grade 3, and the extent to which language comprehension skills differ among the motivational profile groups. A longitudinal sample of 130 children was assessed at age 4, age 5 and age 6. Eighty-two children out of 130 were followed until grade 3. The three groups of children with distinctive motivational orientation profiles were identified by using ISOA-procedure for longitudinal data. The groups were labeled as task-oriented, task-avoidance-oriented, and social-dependence-oriented. The task-oriented group showed a greater desire and tendency to focus on the tasks, whereas the avoidance-oriented group exhibited significantly more task-avoidance behaviors than the two other motivation groups. The social-dependence-oriented group showed an increased clingingness to peers and teacher as compared to the task-oriented group. The results also showed that half of the children remained in the same motivational orientation group from age 4 to age 6. Furthermore, students’ motivation in grade 3 differed in 6 ages’ motivational orientation profiles. In addition, motivational orientation profiles differed in development of language comprehension skills. In the paper, we discuss the importance for assessing the developmental changes in motivational tendencies among pre-readers.
PAPER-11: Contextual and social influences on motivation

Time: Friday, 13/Jun/2014:
1:00pm - 2:30pm

Location: Location: K222.1
Floor -K2, Siltavuorenpenker 5A

Session Chair: Eleftheria N. Gonida, Aristotle
University of Thessaloniki

Classroom achievement goal structure, school engagement and substance use among lower secondary school students

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Engaged students are generally more successful at school and are less likely to engage in problem behaviour such as substance use. Previous research has shown that school engagement may be accounted for by environmental factors, in particular the classroom achievement goal structure. Hence, a primary goal of the present study was to investigate the relation between aspects of school engagement and perceived achievement goals structure, including investigation of gender differences in this relation. Furthermore, low level of school engagement is considered as a risk factor for engaging in problem behaviors, such as substance use in terms e.g. smoking and drinking. Hence, the present study aimed at investigating all these relations between different classroom achievement goal structures, school engagement and substance use. The results showed that both motivational and affective engagement was predicted primarily by mastery goal structure. However, motivational engagement was significantly stronger predicted by achievement goal structures among boys than girls, particularly by mastery goal structure. The results also showed that low level of school engagement increased the risk of engaging in problem behavior in term of smoking and drinking. In conclusion, teachers may be aware that school engagement seems to be an important indicator for how students experience their learning environment, and the extent to which they engage in problem behavior. Despite the cross-sectional design of the present study, it is reasonable to advice the promotion of a mastery goal structure in the classroom.

Teachers’ goal orientations as predictors of their classroom behaviours: From the perspectives of achievement goal theory

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Motivation researchers have provided a wealth of details about a wide array of teacher behaviours, which are positively associated with student motivation. Although student motivation has long been a major focus of basic and applied research in educational psychology, until recently there has been surprisingly little research on teacher motivation. Butler proposed that Achievement goal theory could provide a useful framework for studying teacher motivation and identified five goal orientations of teachers: mastery, ability-approach, ability-avoidance, work-avoidance, and relational goal orientations. The current paper reports
research on the impact of teachers’ mastery, work-avoidance, and relational goal orientations on four dimensions of their classroom behaviours: expectation, structure, autonomy support, and relatedness. Data were collected from 257 Victorian primary (n =115), and secondary school teachers (n =132) using self-report questionnaires. The structural equation modeling (LISREL) tested the model relating teachers’ goal orientations and their classroom behaviors. The model demonstrates the significance of teachers’ goal orientations, especially the role of their relational strivings in predicting their classroom behaviours.

Perceived Parent Goals and Student Goal Orientations as Predictors of Seeking or Not Seeking Help: Does Age Matter?

Eleftheria N. Gonida¹, Stuart A. Karabenick², Kara A. Makara², Kelly Hatzikyriakou¹
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The purpose of the present study was to examine the contribution of perceived parent achievement goals to students’ attitudes towards seeking or avoiding seeking academic help. Specifically, the study aimed to examine the potentially multifaceted structure of relations between perceived parental achievement goals, students’ own goals and help-seeking beliefs and intentions, and whether these relations would be moderated by age. A sample of 4th, 6th, 7th, and 9th grade students (n = 712) reported perceptions of their parents’ achievement goals, personal achievement goals, and help-seeking beliefs and intentions. Multi-group path analysis indicated that perceived parent goals predicted student help seeking (perceived benefits and intentions to seek help) and help avoidance attitudes (perceived costs and intentions to avoid seeking help) through student own achievement goals and that the pattern of relations varied by grade level. In all age groups students’ mastery goals positively predicted their help-seeking attitudes and negatively predicted their help-seeking avoidance attitudes, whereas performance-avoidance goals directly predicted their attitudes towards help-seeking avoidance.

As far as performance-approach goals are concerned, despite the absence of a consistent pattern across age groups, they appeared to promote help seeking either by endorsing positive attitudes or by discouraging negative attitudes towards it. The results are discussed in light of current theory and research on the developmental phases of parental influence on student motivation and self-regulated learning.

Differential effects of the learning environment on the motivation of students with different cognitive abilities

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Research has shown that the learning environment is important for students’ motivation for school. However, students differ from each other in their learning needs. Little is known about the relationships between student’s abilities and the differential effects of environmental characteristics on motivation. The proposed study aims to provide more inside into the differential effects of the learning environment on the motivation of students with different cognitive abilities. 376 students in history classes and 327 students in math classes participated in the study. All students were in 11th grade of pre-university education. Raven’s Advanced Progressive Matrices (Raven et al., 1998) was used to divide the students of each
subject into three groups based on their cognitive ability. Self-report questionnaires were administered to assess students’ investment in school, goal-orientations, self efficacy and students’ perceptions of autonomy-support, structure and social support from teachers. Multilevel regression analyses were used to estimate the interaction effects between cognitive ability and characteristics of the learning environment on student motivation. The results showed that teachers’ social support was related to student motivation for all students in history classes and mathematic classes. The study also revealed differential effects of the learning environment for students who differ in cognitive ability. The results indicated that the learning environment is less important for the motivation of history students with higher cognitive abilities than for history student with lower cognitive abilities. Overall, structure and teachers’ social support appeared to be more important for motivation than autonomy-support.

PAPER-12: Motivation and different student backgrounds (ethnic and gender)

Time: 
Friday, 13/Jun/2014:
1:00pm - 2:30pm

Location: K113
Floor -K1, Siltavuorenpenger 5A

Session Chair: Idit Katz, Ben-Gurion University

Ethnic Identity, Academic Motivation, and Stereotype Threat: Breaking the Cycle
Tim Cameron Urdan
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Two studies were conducted to examine the associations among ethnic identity, academic self-concept, and implicit associations. In the first study, college students (77 Hispanic, 57 Caucasian) completed surveys and implicit associations tests (IAT). Although Hispanic students had stronger ethnic identity and valuing of their ethnic group than did Caucasian students, the IAT revealed that both groups held stereotypical, unconscious associations linking success more strongly with Caucasian than with Hispanic culture. These IAT results may explain why ethnic identity was not associated with academic self-concept for the Hispanic sample, even though a strong sense of ethnic identity is generally believed to have beneficial effects for minority students. In the second study, we attempted to reduce stereotypical beliefs that Hispanic students are less able than Caucasian students. Using an experimental design, we randomly assigned college student participants to one of three groups: Control, Letter Writing, and Possible Selves. Participants in the Letter Writing group read a brief article that described high academic achievements among Hispanic students, then wrote letters to Hispanic high school students informing them they could succeed in college. Participants in the Possible Selves group read a brief article about the importance of developing positive academic future selves, then designed a short program to help high school students develop positive academic future selves. All three groups completed surveys and IATs both before and
after the brief intervention. Preliminary analysis suggests that participants in the two treatment groups experienced a reduction in stereotypical beliefs, relative to the control group.

Gender Differences in School Motivation Among Eight Ethnic Groups From Across the World.

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The purpose of this research was to compare boys' and girls' school motivation across eight culturally diverse groups. The selected groups come from Hong Kong (Chinese students), the Philippines (Filipino), Singapore (Chinese and Malay), Australia (Indigenous Aboriginals and Anglo-Australians), the Netherlands (Dutch), and Qatar (Qatari). These societies vary largely in the extent to which they are collectivistic or individualistic, masculine or feminine, Western or non-Western, and vary in religions adhered to. Our aim was to investigate whether gender differences in school motivation suggested from Western literature also existed among diverse non-Western societies. More than 10,000 secondary school students were included, drawn from a number of discrete studies. Results showed that the gender differences were largely in line with prior research. Regardless of culture (except for the Qatari sample), boys had higher scores on performance motivation than girls, whereas girls had higher scores on social motivation than boys. Gender differences in mastery and extrinsic motivation were generally insignificant. Only in the Qatari sample, boys had higher scores on all four motivation dimensions included in the study. Therefore, we found only limited support for the typology that gender differences in school motivation differed across ethnic groups.

Gender differences in behavioral engagement: The explanatory and protective role of teacher support

Sofie Lietaert, Bieke De Fraine, Karine Verschueren, Ferre Laevers
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Boys generally show lower engagement in school than girls. Teacher support appears to be a highly relevant predictor of student engagement. Therefore, the gender gap in student engagement could be addressed by focusing on teacher support variables. Previous research, however, reported few and contradictory results on gender differences in the perception of teacher support and on the mediating and moderating effects of teacher support for the relationship between gender and student engagement. This study aims to further clarify these issues, specifically for behavioral engagement during language classes, since the gender differences in favor of girls appear to be the most pronounced in this area. Participants were 385 (58 % boys, 42 % girls) Grade 7 students and their teachers. Student-reported, teacher-reported and observer-reported behavioral engagement and students' perceptions of teacher support (autonomy support, structure, involvement) were analyzed using linear regressions with interaction effects for testing moderation and structural equation modeling for testing the hypothesized mediation model with the three teacher support variables as mediators and behavioral engagement as a latent variable for which student-report, teacher-report and observer-report of behavioral engagement were indicators. From a student, teacher and observer perspective, boys' behavioral engagement and their perception of teacher support is
lower than girls’. The results of the interaction effects indicate that teacher support can be a protective factor for boys’ behavioral engagement (as measured from a student perspective). The mediation model indicated that teacher support can explain and have the potential to bridge the gender gap in students’ behavioral engagement.

**In the Eye of the Beholder: Gender related differences in students' perception of teachers' behavior and their effect on students' motivation and emotion**

**Idit Katz**
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This study assessed whether gender-related differences in the way students perceive their teachers as being supportive can explain gender differences in motivation and emotion in school. One hundred and twenty-nine ninth-grade students (67 males and 62 females) participated in the study.

The results indicate that girls tend to perceive their teacher as more supportive than boys do and that this mediates gender-related differences in motivation and emotional experience. This finding highlights the importance of investigating individual differences that could influence the perception of the environment as supportive. Knowledge about students’ characteristics that are related to their perception of teachers adds information about the role of teachers in students' motivation, beyond the known contribution of the need for a supportive environment, and can help promote students’ adaptive motivation.

**PAPER-13: Motivation & Emotion I**

**Time:**
Friday, 13/Jun/2014:
1:00pm - 2:30pm

**Location:** K222.2
Floor -K2, Siltavuorenpenkeri 5A

**Session Chair:** Marold Wosnitza, RWTH Aachen University

**Socio-emotional conflict in collaborative learning – a process oriented case study**

**Piia Näykki**¹, Hanna Järvenoja¹, Sanna Järvelä¹, Paul Kirschner²

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Unsolved challenges and conflicts can be detrimental for effective collaborative learning as they can arouse negative emotions, frustration and even anger, and move the focus away from on-task working. This study introduces a case group who experienced several challenges and relational conflict in their collaborative learning. Particular aim is to conduct a process-oriented study in order to understand how group’s challenges are turned to a destructive relational conflict and how students themselves interpret and respond to socio-emotionally challenging
situations. Higher education students \( (n = 22) \) face-to-face collaborative learning situations were videotaped (33 hours) during a three-month educational science course. Also stimulated recall interviews (with video stimulus of group’s working) were conducted. Two coding schemas were developed; 1) interactional challenges (Barron, 2003) and 2) emotion regulation within socio-emotional conflict situation (Op’t Eynde, et al., 2007; Gross & Thompson, 2007).

Interaction analysis indicate how group’s overruling, status-centric, undermining and normative interaction preceded a relational conflict. Within conflict situation, the case group was unable to balance their socio-emotional atmosphere, which drifted group members to an avoidance-focused emotion regulation behavior and to lowering their on-task engagement. The results of this study indicate that knowing more about “failures” of poorly functioning group can give important information to designing and implementing instructional support to overcome challenges and conflicts within collaborative learning.

Negative emotions in group work at university: The role of control, value and overall group work appraisals

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Small group work is common practice in higher education. Yet, much of the anecdotal and empirical literature on group work evidently documents students’ predominantly negative attitudes towards and discontent with this social form of learning (e.g., Burdett, 2003). However, research on students’ emotions related to group work still seems relatively scarce. This study is grounded in central tenets of control-value theory and seeks insights into how individual emotions related to a group assignment relate to subjective appraisals of control, value and group work in general. For this purpose, in-depth, semi-structured interviews with 15 teacher education students were conducted and content analysed. The findings highlight the value of examining emotions related to group work in light of control-value theory and provide some tentative insights regarding theoretical adaptation to the specificities and complexities of group work. Moreover, results point to the significance of negative habitualised emotions related to group work, which are elicited by the simple announcement of a forthcoming group assignment. Pragmatic implications for educators regarding group work design and implementation will also be addressed.

Effects of achievement on self-representations, motivation and emotions of pre-adolescents

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It is well and generally accepted that in order to understand learning processes is necessary to consider both affective and interpersonal factors. In academic context, self-representations are positively associated with academic achievement, motivation, and attitudes towards school. Stronger relationships have been found between more specific self-representations than with more global ones such as Self-Esteem. Moreover, research on the self-esteem/academic achievement relationship, with adolescents, revealed that school achievement doesn’t differentiate students on global self-representations despite the differences on academic self-evaluations. Research also shows that the self-esteem protection can be achieved through the reorganisation of the self-system and/or the devaluation of school (associated to lack of
motivation, less intrinsic motivation or high avoidance).

This study aims to analyze the effects of underachievement on self-representations, motivational orientations and emotions, extending previous knowledge with older students to pre-adolescents.

Participants were 1660 students from 5th and 7th grade, attending 13 different schools in Lisbon. To collect data we used a self-concept scale, a scale of motivational orientations, and a scale to assess emotions.

Results showed main effects of achievement in self-esteem, self-concept dimensions, motivational orientations and emotions. Interaction effects between grade and achievement appeared in self-representations and motivational orientations.

The relation between academic emotions and learning strategies - Results of an intervention study in regular classrooms
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Studies indicate that positive emotions correlate with organization strategies, elaboration strategies, and metacognitive strategies, while negative emotions correlate negatively with these types of strategies (Pekrun et al. 2002). Furthermore, results from a longitudinal study (Ahmed, van der Werf, Kuyper and Minnaert, 2013) indicate that changes in positive emotions over time are linked to changes in learning strategies: the steeper the rate of decline in students’ enjoyment and pride in this study, the steeper was the rate of decline in the use of learning strategies. Given that students’ use of learning strategies can be enhanced by intervention programs (eg. Guthrie et al. 2003; Stoeger, Sontag & Ziegler, 2014), this study examines in a first step whether an intervention program on self-regulated learning and learning strategies has a positive influence on the development of students’ academic emotions of enjoyment, pride, anger, anxiety and boredom when working with texts. In a second step, it will be analyzed, whether students’ performance growth in the course of the intervention is associated with their trait academic emotions prior to the intervention. Results from N = 851 fourth-graders whose classes were assigned to an intervention group or a group with regular classroom instruction suggest the intervention not only fosters students’ implementation of cognitive and metacognitive strategies, but enhances positive and reduces negative emotions compared to regular classroom instruction.
Motivation and academic skill development among first-graders: A person-oriented approach
Jaana Viljaranta, Riikka Hirvonen, Kaisa Aunola
University of Jyväskylä, Finland; riikka.e.hirvonen@jyu.fi
The present study applied a person-oriented approach to examine motivational patterns of children’s reading- and math-related interests and self-concept of ability. The study also investigated how these patterns are related to children’s reading and math skill development during the first grade of elementary school. The participants were 156 Finnish children (ages 6-8) who were examined in the beginning and the end of Grade 1. The children were interviewed about their interests and self-concept of ability concerning reading and math. They were also tested for reading and math skills. Using the ISOA procedure, five groups of children showing differing motivational patterns were identified: Positive, Negative, Math-motivated, Reading-motivated, and Low interest but high belief. The findings showed that children’s motivational patterns in the beginning of Grade 1 contributed to their skill development. In mathematics, children belonging to the Negative group in the beginning of Grade 1 performed poorer in math at the end of Grade 1 than children in the Positive or Low interest but high belief groups. In reading, in turn, girls originally belonging to the Low interest but high belief group performed poorer in reading than girls in the Positive or Reading-motivated groups, whereas boys belonging to the Reading-motivated group in the beginning of Grade 1 performed poorer at the end of Grade 1 compared to all the other groups, except the Negative group. Finally, the results showed that children’s level of performance in the beginning of Grade 1 did not predict the changes in their motivational pattern over time.

The impact of low academic achievement on intrinsic and extrinsic motivation: a longitudinal study
Marina S. Lemos¹, Lurdes Veríssimo², João A. Lopes³
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The present study is a longitudinal study with four moments of data collection (along two school years). Participants were 216 students from 18 elementary schools (3rd grade at Time1). The main goal was to analyze the impact of low academic achievement on motivation along time. The authors were particularly interested in tracing students’ independent intrinsic and extrinsic motivation trajectories. Moreover, the study examined students’ intrinsic and extrinsic motivation trajectories in relation to their previous academic achievement level: low, average,
and high. Furthermore the study inquired whether possible gains in poor students’ academic achievement along time might change their otherwise declining motivation trajectories. Within a larger study using a multidimensional approach to educational underachievement, a multilevel hierarchical structure was used in data analysis (HLM 6.0) to capture achievement and motivational changes between and within the three academic achievement groups along time, as well as the relations between the trajectories of those two variables. The study revealed that students with different levels of academic achievement showed different trajectories of motivation. There was a significant and progressive decrease of both intrinsic motivation and extrinsic motivation throughout 3rd and 4th grades in low achievers, whereas high achievers maintained their intrinsic motivation and decreased extrinsic along time, and average achievers showed stable motivation trajectories. Interestingly, increases in the academic achievement of poor students had a significant impact on their motivation trajectories, counteracting the predicted decreasing of intrinsic and extrinsic motivation.

Developmental Trajectories of Motivation: differences and consequences on mathematic achievement

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This study investigates changes in student’s motivation in mathematics and their consequences in terms of achievement over a period of 4 years. Measures were taken nine times from age 11 until age 14 from a sample of French students (N=1080). Multilevel growth modeling showed different developmental trajectories characterized by substantial intra individual, between student and between class variability.

Having proposed a general model for developmental changes we used a group-based method to identify distinct clusters of individuals following similar patterns of two opposite kind of motivations (i.e. autonomous versus controlled). We then analyzed the associations between each cluster of trajectory and mathematics achievement. We expect to observe less adjustment for students experiencing a decline in autonomous motivation and an increase in controlled motivation than for student demonstrating stable pattern or increase in autonomous motivation. Theoretical implications of the findings with regard to academic motivation will be discussed.

Developmental dynamics between children’s externalizing problems, task-avoidant behavior, and academic performance in early school years: A four-year follow-up

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This longitudinal study investigated the associations between children’s externalizing problems, task-avoidant behavior, and academic performance in early school years. The participants were 586 children (43% girls, 57% boys). Data pertaining to externalizing problems (teacher ratings) and task-avoidant behaviors (mother and teacher ratings) were gathered, and the children were tested yearly on their academic performance in Grades 1–4. The results were similar for both
genders. The analyses supported a mediation model: high externalizing problems in Grades 1 and 2 were linked with low academic performance in Grades 3 and 4 through increases in task-avoidant behavior in Grades 2 and 3. The results also provided evidence for a reversed mediator model: low academic performance in Grades 1 and 2 was associated with high externalizing problems in Grades 3 and 4 via high task avoidance in Grades 2 and 3. These findings emphasize the need to examine externalizing problems, task-avoidant behavior, and academic performance conjointly to understand their developmental dynamics in early school years.

**PAPER-15: Motivation for reading and writing**

*Time:*  
Friday, 13/Jun/2014:  
4:00pm - 5:30pm

*Location:* K222.1  
Floor -K2, Siltavuorenpenqer 5A

*Session Chair:* Cornelia Schoor, University of Bamberg

The relationship between reading motivation, reading amount, and reading comprehension in beginning readers – A longitudinal perspective

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Based on extensive previous research, it is now widely recognized that reading motivation (RM) plays a substantial role in explaining individual differences in reading behavior and reading competence. RM is not simply a one-dimensional construct; on the contrary, there are different intrinsic and extrinsic aspects involved. There is evidence for a significant positive association between intrinsic reading motivation and reading comprehension; and a negative or no association between extrinsic reading motivation and reading comprehension. However, the specific direction and magnitude of these relationships between the aspects of reading motivation and reading comprehension is not entirely clear. An open question is whether the relationship between RM and reading competence is mediated through the amount and breadth of reading. With longitudinal data from an ongoing study we examined the relationship between RM reading amount and reading comprehension in beginning readers (grades 1-3). We specified RM as intrinsic RM= (1) object-related RM and (2) experience-related RM; and extrinsic RM= (3) competition-related RM and (4) performance-related RM). The results showed that experience-related RM (intrinsic RM) at t1 contributes significantly to children’s reading comprehension one year later. This relationship is mediated through the time children spend reading outside of school. In first and third graders, competition-related RM (extrinsic RM) has a negative direct effect on reading comprehension. These findings have implications for teaching beginning readers.
Self-efficacy and performance in grammatical spelling: interventions on self-assessment and teacher feedback

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In Secondary school, children show difficulties in managing the agreement of the past participle in French in text production, even if they know the theoretical rule. The acquisition of such a procedure requires automatization of the process and application of the rule deliberately and repeatedly. So, the present study was designed to combine a cognitive perspective through the question of cognitive cost, with a motivational perspective on self-efficacy. Indeed, given that the process needs to be done by each child willingly, the question addressed was the impact of procedures of self-assessment and teacher feedback, supposed to improve the children’s self-efficacy and performance.

The present study aimed to compare the efficacy of four interventions manipulated by two variables, self-assessment and feedback, in a cross-design: self-assessment and feedback, self-assessment and no feedback, no self-assessment and feedback, no self-assessment and no feedback. One hundred and twenty-nine pupils participated in the study. Teachers in their classrooms delivered interventions over a period of two months. The results showed that children made significant spelling gains in the intervention no self-assessment no feedback compared to the control group for two spelling tasks. So, exercise in which cognitive cost was gradually increased seems to allow children to automatize the rule, at least partially. Moreover, children from both self-assessment interventions learned better than children who didn’t receive self-assessment, in three spelling tasks. They also improved their level of self-efficacy. These findings suggest how these abilities can be better developed at school in both motivational and cognitive perspectives.

Perceived utility of reading – predictor of reading competence?

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Perceived utility is a motivational construct that is part of current expectancy-value models of motivation. In the model of Eccles and Wigfield (e.g., Wigfield & Eccles, 2002), it is counted among the value component of motivation. However, perceived utility has not received much attention in research yet, and if so, it was mainly in the domain of mathematics (e.g., Husman & Hilpert, 2007). In this domain, perceived utility proved being a construct distinct from other motivational constructs like self-efficacy or intrinsic motivation, and its influence on choice and performance could be shown (Eccles, Barber, & Jozefowicz, 1999; Husman & Hilpert, 2007). To our knowledge, no such research has been done yet for the domain of reading. Therefore, the present study addressed this gap. In order to do so, the German national data of PISA 2009 were used. The German national questionnaire contained several motivational scales (among them perceived utility of reading) that were not included in the international study. The German dataset contains data of 9461 students. Results show that perceived utility of reading correlates modestly with other motivational constructs like self-concept of reading, competence beliefs of reading, joy of reading and interest in reading. Although perceived utility predicts reading competence positively when entered as a single predictor, structural equation modelling shows a (minor) negative influence of utility on reading competence when entered in addition to other
motivational constructs, suggesting a confounding effect. The results are discussed with regard to the possible extrinsic nature of perceived utility.

Motivation to write: Developmental aspects
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The present study was based on the assumption that students’ motivation to write changes across school levels in relation to particular tasks and practices. The study comprised two phases. In the preliminary phase, 5th, 8th, 10th, and 12th graders (N= 165) were asked to indicate, in written form, the type(s) or aspects of writing in and out of school they liked most, and the one(s) they disliked most, and why. The students’ responses were analyzed in terms of genres/types of texts (e.g., composition, description, sms, e-mail) and processes (e.g., finding ideas, revising, recounting one’s experience, collaborative writing). In the second phase, two questionnaires were created: the first included 20 items, corresponding to the writing genres identified in the interviews, while the second (18 items) included the writing processes and practices highlighted by students in the preliminary phase. The questionnaires were administered to students of the same school grades as those interviewed in the first phase (N = 200, 50 for each grade), who rated each item on a 5-point scale (“Not at all” – “Very much”) on three dimensions: liking (“How much do you like to write/carry out a writing task?”), valuing (“How important do you view it is to learn to write better?”), and self-perception of competence (“How able do you feel?”). Exploratory factor analyses showed different factor structures for each dimension. From MANOVAs and post-hoc analyses carried out on the factor scores, interesting developmental differences emerged for each dimension.
Enhancing student participation in secondary vocational education: Testing the effectiveness of an intervention designed to improve motivation for school

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Drop out is a well know problem in secondary vocational education in the Netherlands. The students, older adolescents, usually finished a pre-vocational education but this education is not regarded as a sufficient professional qualification. Enhancing these students’ motivation for learning and finishing studies was the objective of this study.

For young adolescence a decline in school motivation has been found often and in different countries. The developments in students’ motivation for learning in pre-vocational education caused concerns. The future time perspective theory was the starting point for developing an intervention to increase these young students’ motivation for school from the start of secondary school. The intervention has been tested twice with young adolescents in pre-vocational education and once in all academic levels. These studies showed promising results, mainly on students’ learning behaviour. In a new study with older adolescents, at the start of secondary vocational education, the effects of the earlier developed intervention have been tested, as drop-out was high in this type of education.

835 first-year students, mean age 18 at the start, from 43 classes of two schools for secondary vocational education participated in the study. Using LGCA the effects of the intervention were investigated, comparing the developments in learning behaviour and motivational beliefs of intervention and control groups.

The results showed positive effects of the interventions on drop-out from this study and on academic delay of gratification. However, the intervention seemed to have less effect on motivation than in earlier intervention studies with younger students.
How Structured Feedback Improves Student Performance and the Shadow Effects of Learning Emotions

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With the aim of improving student learning outcomes, we developed a course intervention in the Mathematics and Statistics domain which strengthens collaboration and facilitates the transfer of knowledge by providing structured feedback on tasks jointly prepared by students. Using an experimental design, we found that students who received feedback in a structured manner scored significantly .4 grade point higher (on a scale from 1 to 10) than students in the control condition. However, the intervention was effective after taking into account how students appraised the tasks to be solved and their learning emotions towards the course. In particular, only Learning Enjoyment and Hopelessness appeared as significant covariates. This is in line with previous findings which demonstrate the effects of learning emotions and structured feedback in student learning. In addition, future interventions could be improved by including more individual factors, such as students’ learning emotions, which could blind the intervention impact if not accounted for.

The Effect of Forbiddance on Intrinsic Motivation

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Previous studies have shown that when an individual is forbidden to perform a task, he or she will be more intrinsically motivated to perform that task. The purpose of this study was to investigate the meditational effect of perceived autonomy on the relationship between forbiddance and intrinsic motivation. Two hypotheses were tested: (1) forbiddance enhances the intrinsic motivation for performing a task, and (2) change in perceived autonomy mediates the relationship between forbiddance and increased intrinsic motivation. Forty-two undergraduate students were assigned to either an experimental group or a control group. The participants in the experimental group were told not to perform one out of three puzzle tasks. The first hypothesis was supported by a behavioral index of intrinsic motivation, which was measured by using the time period for which participants engaged in the target task during a free-choice phase. However, the second hypothesis was not supported, and there was no difference in perceived autonomy between the experimental and control groups. Refinement in the measurement of perceived autonomy is suggested for future research.
Situational interest in higher education

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During recent years many researchers have acknowledged the importance of situational interest for learning. The present study aimed at examining the role of instructional pauses in higher education. The purpose of the study was to test the effects of two instructional conditions (long vs. short pauses) on students' ratings of situational interest and their relations with student achievement in higher education. Subjects were 41 master level students who participated in an educational psychology course. For the study, two different course settings were created: a regular setting and an intensive setting. In the regular setting, 24 students participated in a four-week seminar with three hours on one day per week. In the intensive setting, 17 students had all 12 seminar hours on three consecutive days (four hours per day) during one single week. The first SI rating differed between groups with more positive estimates in the regular setting compared with the intensive setting. A similar tendency was found with the fourth rating. Student achievement, measured as the final course grade, differed between settings, with more positive grades in the intensive setting. In both settings, situational interest did not predict the final course grade. The findings suggest that intensive teaching periods with small pauses seem to have a positive effect on student achievement, but no clear effect on situational interest.
POSTERS

POS-01

Academic Achievement Trends in a Context of Differentiated Talent Development

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A phenomenon found in many studies is declining motivation in lower secondary education. Explanations for this decline are found in the school context, which is claimed to misfit adolescents’ priorities or needs. Declining motivation is undesirable because motivation is generally seen as an important link to achievement. The central question of this study is to what extent we can also discover achievement trends during the first three years of secondary school. This question is important in light of the intervention proposed in this project to counter declining motivation and achievement. The basic idea of this project, which focuses on differentiated talent development, is that children in origin are ambitious and want to achieve well, but that they are not equally talented for every school subject. It is based on the three basic psychological needs for autonomy, competence, and relatedness, as distinguished in self-determination theory. In the intervention all students themselves choose certain subjects which they enjoy and want to improve at, and they will receive extra lessons in these subjects during the school year. Also, in order to provide an external stimulus, the norm to pass to the next form is set at a higher level. The present study analyses achievement trends based on report card grades of year 1, 2, and 3 students of several schools in the Netherlands (Nstudents ≈ 3000, Nschool ≈ 15). We expect to find the same declining pattern for achievement as has previously been found for motivation.

Keywords: Academic achievement, Motivation decline, Talent development

POS-02

ACHIEVEMENT EMOTIONS IN JOB SELECTION INTERVIEWS: INTERVIEWEES’ AND INTERVIEWERS’ EXPECTATIONS

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This study focused on students’ expectations regarding a wide range of achievement emotions that they imagined could characterize themselves as interviewees and their interviewers in job interviews in which they may participate in the future, with the control-value model as the theoretical framework (Pekrun, 2006). The main aim was to investigate whether intensity of achievement emotions changed according to type of emotion, agent involved (interviewee, interviewer), and students’ age (twelfth graders, university students). The participants were 282 Italian students, including 142 twelfth graders and 140 university students. They completed a written questionnaire focused on expectations about achievement emotions in evaluative settings, career and academic self-efficacy, and job market experience. Younger students evaluated their emotions as more intense compared to older students. The intensity was higher for interviewees’ activating emotions such as enjoyment, pride, hope, anxiety, and shame, and
for interviewers’ deactivating emotions such as relief, relaxation, and boredom. In addition, career self-efficacy correlated positively with interviewees’ positive emotions and negatively with interviewees’ anxiety; the number of months of job experience correlated negatively with interviewees’ anxiety and shame, while the number of job interviews correlated negatively with interviewees’ anxiety. Finally, emotion scores about future job interviews correlated positively with emotion scores about current oral tests. Overall, the present data suggest that students possess an optimistic, but also realistic representation of the achievement emotions implied in mechanisms for employee selection, offering some clues from an applied perspective.

**Keywords:** achievement emotions, self-efficacy, job selection interviews, employment counseling

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**POS-03**

**The Achievement Emotions Questionnaire – Adaptation to middle school students**

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In educational settings, the study of emotions has been much neglected. Despite the relatively few research about this topic, emotions play an important role in education. Research on emotions was mainly conducted with university students and little attention has been paid to the role of emotions in younger students’ learning. In this research we intend to extend the research on achievement-related emotions to younger students through the adaptation of the Achievement Emotions Questionnaire to middle school students. Participants were 1424 students from 5th and 7th grade. Data was collected during the 2nd and 3rd term using a version of the Achievement Emotions Questionnaire adapted to pre-adolescents. The version used included classroom-related and test-related emotions. A six-factor model, for both classroom-related and test-related emotions, showed good fit to the data. Reliability of each factor was good. The results support the use of this version of AEQ with middle school students, which enables to discriminate six different achievement-related emotions

**Keywords:** Emotions; Achievement Emotions Questionnaire

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**POS-04**

**Achievement goals, emotions and academic performance: A closer look at their associations**

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In the present research, the construct validity of the 3x2 model of achievement goals (Elliot, Murayama, & Pekrun, 2011) is tested as well as associations with achievement emotions and their joint influence on academic performance are investigated.
The 3x2 achievement goal model encompasses six goals constructs (task-approach, task-avoidance, self-approach, self-avoidance, other-approach, other-avoidance) which are related to several achievement emotions. Achievement emotions reflect the temporary affective state of a learner when performing a learning-related task. Empirical evidence showed a general pattern of positive academic emotions corresponding to approach goals and negative emotions corresponding to avoidance goals.

No study so far has tested the relationship of the 3x2 model goal constructs with achievement emotions. Additionally, the mediational role of emotions in the relation between achievement goals and academic performance is investigated since clear empirical evidence is also missing.

The study was conducted with 388 students in the course “Research Methods and Evaluation” using the Achievement Goal Questionnaire (AGQ) and the scales enjoyment and boredom of the Achievement Emotion Questionnaire (AEQ). The final lecture exam scores were used as an indicator of academic performance.

The findings from CFAs provided strong support for the proposed structure of the 3x2 achievement goal model. Additionally, model comparison with relative fit indices showed a better fit for the 3x2 than for any of the alternative models. Only self-approach goals and self-avoidance goals predicted enjoyment and no goal construct predicted boredom. Only enjoyment was found to predict academic performance.

*Keywords:* motivation, achievement goals, emotions, academic performance

**POS-05**

**Applying Motivation Theories to Teacher Selection**

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The valid assessment of non-cognitive competencies of prospective teachers has been highlighted as an area of critical importance for teacher selection. In this paper we report the development of a teacher selection tool informed by three motivation theories and an analysis of teaching practice. We present the results of an 8-step process for the development of the Teaching Situations Test (TST), a situational judgment test (SJT) designed for use in the selection of prospective teachers. In constructing the Teaching Situations Test, we used an integrated 8-step approach to identify competency domains that drew on three motivation theories: Bandura’s self-efficacy theory, Dweck’s incremental theory of intelligence (i.e., mindset), and Ryan and Deci’s self-determination theory. After (1) theory review and (2) job analysis consisting of stakeholder consultation with multiple groups of experts, a validation questionnaire with 151 respondents, and an expert panel review, (3) we identified three non-cognitive competency domains: empathy & communication, organization and planning, and resilience and adaptability. Next (4) we generated critical incidents with subject matter experts, and (5) developed items for initial review. The development of scoring protocols (6) and construction of test specifications (7) was followed by piloting of the SJT (8) with prospective teachers in Canada and the UK (N > 350).
POS-06

**Are All Performance Goals Created Equal? A Meta-Analysis of Effects Produced by Different Measures**

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For three decades, achievement goal research has compared the effects of mastery and performance goals on students’ educational experience. In the process, the field has developed numerous measures to assess these goals. Although using the same goal labels, those measures may differ in important ways. Indeed, a recent meta-analysis (Hulleman et al., 2010) of goals and academic achievement revealed that some performance goal measures focus on outperforming others (e.g., Elliot’s AGQ), while others focus on appearing competent or pleasing others (e.g., Midgley et al.’s PALS); furthermore, the ‘competitive’ type of performance goal predicted high academic achievement, but the ‘appearance’ type predicted low achievement. The present meta-analysis of 202 correlational studies (79,178 participants) extends their work in two ways. First, it examined many other outcomes often linked to goals: students’ emotions, self-efficacy, learning strategies, self-handicapping, help-seeking, and social relationships within the class. Second, because some measures are more commonly used in studies of young students, we tested if any goal measure effects could be explained by an underlying age confound. Results show that competitive goals predicted greater self-efficacy, positive affects, self-regulation, and social relationships than appearance goals. Similarly, mastery goal effects also depended on the measures used: they predicted positive outcomes when defined simply in terms of feeling one has learned, but more maladaptive outcomes when defined in terms of maximizing one’s potential task knowledge. Importantly, all effects remained intact when controlling for sample age. Explanations for these effects, plus their theoretical implications, will be considered.

**Keywords:** Achievement goals, meta-analysis

POS-07

**Assessing Autonomous Motivation in Students with cognitive impairment**

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Background: Applying Benson’s program of validation (Benson, 1998), we provide evidence supporting the validity of a projective instrument that assesses the autonomous motivation of students with impaired cognitive abilities.

Method: Eighty-eight grade 7–9 students diagnosed with cognitive impairment participated in this study. Participants’ motivation was assessed using a projective instrument. Participants’
affect, task value, and perception of the teachers as supportive were also assessed. The questionnaires were applied individually. Zero Order Correlation and Regression Analysis were conducted.

Results: The study demonstrated internal relations among the observed elements of the projective instrument, as well as relations between the projective instrument with other constructs and the predictive validity of the instrument.

Conclusions: The evidence provided herein suggests that the projective instrument can be used to validly measure the autonomous motivation of students with cognitive impairment. The results also highlight the importance of autonomous motivation to the wellbeing of these students.

Keywords: Autonomous Motivation, Cognitive Impairment, Projective Method

POS-08
The associations between post-secondary engineering students’ future-oriented motivation and their creativity in academic settings
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According to the generativity theory (Epstein, 1993), creativity relates to students’ problem solving ability. This characteristic is specifically important in engineering students (Deane, 2002), as they are heavily involved in problem solving and innovation. Creativity has also been shown to be related with students’ future time perspective (e.g., Ononye, 1991). The current study explored the associations among students’ future-orientation -- including Future Time Perspective (FTP) about their careers and Perceptions of Instrumentality (PI) of their class to future goals--, status of their major, and their general Creativity in 85 students in engineering programs at a southwest public university in the US. Results showed that both FTP and PI significantly predicted Creativity, notably, negatively so for FTP career and positively so for endogenous PI. In addition, whether or not students considered majoring in (or if they are majoring in) photo voltaics (solar energy engineering) moderated the predictions, with stronger associations found in students who are considering or are majoring in Photo Voltaics. Results suggest that while creativity and perceptions of class instrumentality are evidently positively associated, it may be important to find further interventions for engineering students concerned with their future career to release and utilize their creativity, especially when they are interested in majoring in PV. Also, as the Creativity we measured was a general scale, we have further yet to investigate in area-specific creativity in order to make further generalizations and applications.

Keywords: Creativity, future time perspective, perceptions of instrumentality, engineering education
Basic Psychological Need Satisfaction, Motivation and Flow in Peruvian Visual Arts Students

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There is an increasing awareness regarding the importance of psychological well-being in educational contexts. One of the core constructs of positive psychology is flow, which denotes an experience that is so enjoyable that the person does it for its own sake (Csikszentmihalyi, 2000). In trying to understand flow experiences in a university setting, this study is framed within the scope of Self-Determination Theory (Deci & Ryan, 2000). Specifically, basic psychological need satisfaction of autonomy, competence and relatedness and types of motivation (autonomous, controlled and amotivation) are considered. This cross-sectional study investigated the relation among basic psychological need satisfaction, basic psychological need frustration, types of motivation and flow experiences in a Peruvian sample of visual arts university students. More specifically, this study analysed the mediating role of competence satisfaction in the association between autonomous motivation and flow. The sample consisted of 194 students from the School of Arts from a private university in Lima. Correlation and regression analyses were performed. It was found that the overall satisfaction of basic psychological needs relates positively and predicts both autonomous motivation and flow. In addition, satisfaction of the need for competence mediates the relation between autonomous motivation and flow. Meanwhile, frustration of needs correlates positively and predicts both controlled motivation and amotivation. Also, there is no relation between flow and controlled motivation. Finally, amotivation is negatively related with flow. These results are discussed in the context of Self-Determination Theory, Flow Theory and the integration of both.

Keywords: Basic psychological needs, motivation, flow.

Career values and work engagement: What is the role of job characteristics?

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The present longitudinal study examines the role of job characteristics on the association between career values and work engagement during the transition to working life. Finnish young adults reported on their career values (intrinsic, rewards, and security values; the degree of person-organization fit in terms of the six areas of work life to assess job characteristics (Maslach & Leiter, 2008), the congruence between one's education and the job, along with gender and income. Work engagement was measured at the three time points used for this study. Participants were 23, 25 and 27 years old respectively. Structural equation modeling will be used to test, first, the associations between the areas of work life and engagement. Second, whether job characteristics moderate the association between career values and engagement. The finding will provide information on the possible moderators and mediators of the
relationships between career values and work engagement reported earlier on the same sample (Sortheix et al., 2013), which is part of the ongoing Finnish Educational Transitions (FinEdu) project.

Keywords: career values, engagement, person-organization fit

POS-11

Children's Serendipitous Engagement in Science: An Ethnographic Study
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This study aims to advance understanding of children’s motivation for informal science learning in everyday unstructured settings. Framed by a contextualist-ecological paradigm, I conducted an ethnography documenting the ways my own children serendipitously engaged in science content and practice in a wide range of every-day settings. During one year, in which my sons were homeschooled, I collected data by intensive observations, participant-observations, audio-records and a diary that focused on the serendipitous science engagement (SSE) of my children (aged 8.5, 11 and 15). A total of 305 engagement episodes were audio recorded (ranging from 30 seconds to 66 minutes), 90 of which were analyzed for this study. The analysis followed a grounded theory approach, and yielded rich ecologically valid accounts of children's SSE, across a variety of settings, contents and practices. These accounts illustrate the enormous potential of learning in informal unstructured environments, and highlight the importance of further conceptualization and investigation of motivation for such learning. The emerging model characterizing serendipitous science engagement consists of 9 facets: content, setting, information sources, cognition, affect, practices, reflection, artifacts and social interaction. This model constitutes a significant, albeit initial, step towards a better understanding of the manners and circumstances by which SSE is instigated and sustained. Studying my own family allowed me access to data that otherwise would not have been accessible. Clearly, this method, data, and participants introduce inevitable biases and limit generalizability. The presentation will involve reflection on the strategies of addressing these methodological tensions.

Keywords: Engagement; Informal; Science; Ethnography

POS-12

Comparing the Achievement Goal Questionnaire-Revised and the Modified Achievement Goal Questionnaire
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Regarding interpretations of avoidance, Achievement Goal Questionnaire-Revised (AGQ-R: Elliot & Murayama, 2008) still shows some limitations, including discrepancies between conceptual and operational definitions (Hulleman, Schrager, Bodmann, & Harackiewicz, 2010).
Our solution to this problem is to create a new achievement goal measure, the Modified Achievement Goal Questionnaire (MAGQ), which focus on only avoidance from failure, without focusing on approach. This pilot study examined a factor structure with the MAGQ’s hypothesized 2 × 2 framework. One hundred and fifty two Japanese university students took part in this pilot study (a mean age of 19.72, SD = 0.74; 50.0 % female). Participants completed a self-report survey assessing their achievement goal. Confirmatory factor analysis supported that MAGQ fitted the 2×2 framework model and adequate internal consistency. The main study examined the possibility that the mastery avoidance goal of the AGQ-R contained not only the meaning of avoidance from failure but also the meaning of working toward approach, whereas the mastery avoidance goals of the MAGQ only contained an examination of avoidance from failure. Sixty eight Japanese university students took part in the study (a mean age of 20.60, SD = 1.08; 66.2 % female). Participants completed the questionnaire during one of psychological classes. The questionnaire was composed of 2 items of the definition of competence valence for each item of AGQ-R and MAGQ. The result showed that mastery avoidance of AGQ-R goal did not discriminate between approach and avoidance from failure whereas mastery avoidance of MAGQ did.

**Keywords:** 2 × 2 achievement goal model, mastery avoidance goal, competence valence, AGQ-R, MAGQ

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**POS-13**

**The consequences of low academic achievement on subsequent engagement and perceived academic competence**

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A large body of literature supports consistent relations between engagement and perceived academic competence and academic achievement. Most studies analyze the causal link from prior perceived academic competence and engagement to subsequent achievement (e.g. Guay, Boivin & Marsh, 2003). The present study tries to explore those relations in the inverse direction. Therefore, the present study longitudinally analyzed the consequences of low academic achievement on subsequent engagement and perceived academic competence. Specifically, this study analyzed the trajectories of perceived academic competence and engagement of 216 students from 3rd and 4th grades (assessed along four moments). Moreover, the study analyzed the predictive power of student’s previous academic achievement (a fixed predictor) on engagement and perceived academic competence, as well as the impact of improvements in academic competence (a predictor that changes along time) in the trajectories of engagement and perceived academic competence. Data were analyzed using Hierarchical Linear Modeling - HLM 6.0.

In general, the results confirmed the expected relations, revealing that students with low academic achievement, compared with their peers with average and high achievement, showed lower levels of engagement and perceived academic competence along time. However, interestingly, the results also show that low achievers increase their engagement
trajectory along time but maintain their (low) perceived academic competence along time. Finally, the results suggested that improvements in academic competence over time predicted significant positive effects on the trajectory of engagement, and of perceived academic competence of low achievers.

**Keywords:** low academic achievement, engagement, perceived academic competence, trajectories

**POS-14**

**Dealing with conflicting scientific information: The role of induced motivational goals**

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This study investigates how induced motivational goals impact on dealing with conflicting scientific information. In detail, the impact of a short instruction emphasizing that the great availability of information on the Internet creates many possibilities, e.g. allows for independent opinion making and participation in knowledge society (benefit group) was compared with the impact of an instruction emphasizing that laypeople cannot profit from information on the Internet as such information leads to confusion and disorientation (intricacy group). After such instruction, all participants dealt with eight partly conflicting short texts on cholesterol in order to decide about a certain suggested treatment. Dependent variables included in how far people feel confident to decide on the scientific controversy, in how far they believe experts could do so, in how far they feel the urge to additionally ask an expert and also what participants would like to do to deal with the scientific controversy (open question). Results obtained so far indicate that the intricacy group felt more confident and reached higher self-efficacy scores than the benefit group. It also believed less that knowledge is reserved for experts and more often made a decision. Qualitative analyses are still ongoing. In short, surprisingly the intricacy group seems to be somehow better prepared to deal with conflicting information. We will discuss that this might be due to the fact that the fit between what the intricacy group experienced during information search and what they were told before was higher than for the benefit group.

**Keywords:** motivational goals; conflicting information; Internet

**POS-15**

**Developmental Trajectories of Emotional Engagement and Disengagement in School Among Finnish Adolescents**

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This study investigated emotional engagement and disengagement in a sample of 362 Finnish Grade 9 students surveyed annually over a span of 3 years (from grade nine to second year in high school). Emotional engagement refers to positive affective reaction to school such as
enjoyment and interest, and personal identification with school. Emotional disengagement denotes negative affective reaction to school, including feeling exhausted, cynicism toward its values, and a sense of inadequacy at school. Confirmatory factor analyses suggested that, it is more appropriate to measure emotional engagement and disengagement as two distinct constructs instead of assessing them as opposite ends of a single continuum. Latent growth curve models indicated that, on average, Finnish students started with a rather high level of engagement (mean = 5.80 along a 7-point scale) and a moderately low level of disengagement (mean = 2.75 along a 6-point scale) at grade nine. Their emotional engagement significantly declined over time. However, their emotional disengagement remained consistently at a moderately low level across the three years. This result contrasted to similar studies conducted in the United States, where students reported a significant increase in emotional disengagement over time. These contradictory results found in different countries seem to suggest that a longitudinal increase in emotional disengagement is not a developmental normative phenomenon in adolescence. Instead, it is more sensible to interpret the direction of change for emotional disengagement varies as a function of the level of match/mismatch between individual development needs and school settings.

Keywords: emotional engagement, emotional disengagement, trajectories, adolescence

POS-16
The development of emphasized and general class pupils’ attitudes towards school from grade 4 to 6 in Finland
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This study focuses on analyzing the effects of emphasized teaching on pupils learning-related attitudes in Finland. The new educational legislation passed in the 1990s gave families the right to apply for other than the allocated school. In addition it allowed the schools to specialize and form so-called “emphasized” classes, which have an increased amount of lessons in a certain domain area and the right to select pupils with entrance exams.

Studies concentrated on the school choice process of the families have found out that choosing the emphasized teaching is often justified with arguments referring to the peer group. Parents seem to believe that selective emphasized classes would provide a supportive environment for learning, which would benefit their child. This study aims to clarify whether there is any empirical evidence to support these assumptions. The aim is to find out how children’s attitudes to school and their perceptions of their peers’ attitudes to school change from grade 4 to 6 in emphasized versus general class pupils.

The data (N=1065) consist of an on-going 9-year longitudinal study in which pupils have been followed up from the beginning of the comprehensive school. The data will be analysed with repeated measures ANOVAs and structural equation modelling (SEM).

The preliminary analyses show that pupils’ attitudes to school decline from grade 4 to 6 similarly in both groups. However, the perceptions of peers’ attitudes change differently. In
general classes pupils’ view of their peers’ school attitudes decreases whereas in emphasized classes it increases slightly.

*Keywords*: school choice, emphasized teaching, peer group, learning-related attitudes, attitudes towards school

**POS-17**

The development of talent perceptions across grades 7-9 and the role of perceived parental beliefs

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The present study was aimed to examine the development of English and mathematics related talent perceptions across grades 7-9, and the role of perceived mothers’ and fathers’ beliefs in this development. The participants were 889 Australian adolescents from the STEPS Study. The results showed that children’s talent perceptions were quite stable throughout grades 7-9, predicted by previous performance, and by perceived mothers’ and fathers’ beliefs concerning their children’s talents. The influence of perceived parental beliefs was especially strong among 7th graders and slightly decreased after that. The results suggest that parents play an important role in adolescents’ ability perceptions especially following the transition to secondary school. This should be taken into account when thinking how to best support young adolescents during the school transition and afterwards, when adolescents start to gain more independence and make important decisions, for example, concerning their future education.

*Keywords*: Mathematics self-concept, English self-concept, mothers’ beliefs, fathers’ beliefs, adolescence

**POS-18**

Development of Undergraduates’ Motivation in Science: A Person-Centered Approach

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The current study sought to integrate across motivational perspectives to (1) identify common motivational profiles among university students (N = 583) studying science and (2) examine shifts in profiles across the first three years in the university. Five motivational variables (mastery goals, performance-approach goals, performance-avoidance goals, task-value, perceived competence) were used to create the profiles. In line with prior research, four motivational profiles were identified: (1) highly motivated by any means (high on all five indicators), intrinsically motivated and competent (high mastery, task-value, perceived competence, low performance), performance-oriented (moderate-high performance, moderate-low mastery, task-value, perceived competence), and amotivated (low on all five indicators).
Based on the first two years of data (the third year will be available for the poster presentation), profile membership was somewhat stable; 45.9% of students remained in the same profile across years one and two in the university. The two most common profiles were the intrinsically motivated and competent (35%, 24% for year 1, 2, respectively) and performance-oriented (34%, 40% for year 1, 2, respectively) profiles. These two profiles were also relatively stable (41% and 54% stability, respectively), and students were unlikely to move between these two profiles. The highly motivated profile was the least stable, with only a third of the students remaining in the profile between years one and two. In contrast, the amotivated profile was relatively stable (51% stability). These latter two profiles were smaller, and students were unlikely to move between them. Implications for shifts in motivation during post-secondary education will be discussed.

Keywords: motivational profile, science, undergraduate

POS-19

Developments in motivation and achievement of high ability students: A person-centred approach

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Many students, especially high ability students, do not achieve to their full potential and often go unrecognized. The Dutch Council of Education (2007) estimated that around 30 to 40% of high ability students in the Netherlands are underachieving. This study focused on high ability students (N=2,355) with above average cognitive ability (highest 20% of the general school population) during the last three years of primary school. To understand how motivation may contribute to underachievement, it was examined through a person-centred approach to what extent differences in background characteristics and developments in motivation (i.e., task-orientation, self-efficacy, and teacher ratings of school investment) of high ability students were associated with developments in achievement outcomes.

Based on developments in achievement outcomes, four distinct clusters of high ability students could be distinguished for both reading comprehension and mathematics. Clusters included (1) Moderately high achieving students; (2) Successful but declining students; (3) Successful and improving students; and (4) Underachieving or becoming underachieving students. About 40% of students were classified in a similar cluster for both subject domains, indicating moderate domain-specificity. Students background characteristics as well as developments in motivation from third to sixth grade were important factors in explaining pathways leading to underachievement or to excellent achievement. As teacher ratings of school investment in grade three already differed between clusters, results suggest that students’ school investment is an important indicator to identify students at risk for underachievement.

Keywords: High ability students, person-centred approach, motivational developments
Do contextual features really help? The effects of contextual features on students’ interest, anxiety, and probability of success.

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Research has shown that context-based problems motivate students and foster their interest in science learning, which could lead to an improvement of students’ performance (Bennett, Lubben, & Hogarth, 2006). Despite research on how students categorize physics problems based on surface or structural features (Chi & VanLehn, 2012), it is still unclear how the design of surface and structural features influence students’ motivation. Therefore, the purpose of our study was to examine whether motivational variables such as interest, anxiety, and probability of success are influenced by the specifically designed surface and structural features in physics problems, and whether this influence is moderated by students’ prior knowledge and cognitive abilities. A sample of 219 tenth grade students from German High track schools received one out of eight problems which differ in high or low levels of contextualization. Contextualization refers to the embedded and interacting surface features (Finkelstein, 2005). The motivational variables were measured two times (i.e. before and after the problem) using the Questionnaire on Current Motivation (Rheinberg, Vollemeyer & Burns 2001). Contrary to our hypotheses, the results of mixed ANOVA analysis indicated that there is no significant interaction effect between the two measurement points of students’ anxiety, and probability of success. Furthermore, results of ANCOVA showed no significant effect of covariates (i.e. students’ prior knowledge and cognitive abilities) on the motivational variables. However, a marginal interaction effect was found between interest and contextualization levels during the two measurement time points. Implications for further research will be discussed in the session.

Keywords: Surface features, structural features, interest, anxiety, and probability of success

Effect of classroom activities on 3rd and 5th graders’ affective states

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In this study, the influence of classroom activities on children’s affective states was analysed. Children perform many different activities in the course of an ordinary school day, some of them may trigger changes in their affective state consequently affecting their cognitive resources and their degree of motivation. To observe the effects that two of these activities, in particular: listening to a text and performing a dictation, play on affective states, according to grade, we asked 39 third graders and 40 fifth graders to specify their affective state at several times. Results showed that children’s states varied from one activity to another, and it also depended on grade level. Third graders differed from fifth graders in the feelings elicited by the activities. Moreover, certain affective states were predictive of performance (e.g., number of spelling errors), irrespective of their valence. The possible implications of these findings for children’s academic performance are discussed.

Keywords: emotion, affective state, children, classroom activities, cognitive resources
Effects of autonomous motivation about correlation among approach and avoidance achievement goals

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Recent researches suggested that relationship between approach and avoidance achievement goals was moderated by another variables (e.g., Law, et al., 2012, J Educ Psychol), although achievement goals were focused on studies of educational psychology (e.g., Elliot & Murayama, 2008, J Educ Psychol). Present research focused on autonomous (Ryan & Deci, 2000, Am Psychol) as a moderated variable, and examined whether the correlations, which were between mastery-approach and mastery-avoidance goals, and performance-approach and performance-avoidance goals, would be changed by the degree of autonomous motivation. A total of 1037 Japanese undergraduate students were participated (533 male, 504 female). Participants answered about 12 items of revised 2 × 2 achievement goals questionnaire (Elliot & Murayama, 2008) Japanese version made in reference to Murayama et al (2011, J Educ Psychol), and 12 items of autonomous learning motivation made in reference to Nishimura et al (2011, Jpn J Educ Psychol). As a result, the correlation between approach and avoidance goals was low as participants who high level of high autonomous motivation, whereas the correlation was high as participants who high level of low autonomous motivation. The autonomous influenced on the correlation between approach and avoidance goals, and it is thought these two goals can be divided by height of the autonomous level.

Keywords: motivation, goals, achievement goals, autonomous, self-determination theory

The Effects of Motivation and Strategy on Learning Outcomes and Teaching Effectiveness in Higher Education in Taiwan

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The purpose of this study is to explore the effects of students’ quality learning, including motivation and strategy on their learning outcomes and faculty’s teaching effectiveness. The effect size of high motivation on learning outcomes is the largest. It not only has a positive effect upon the cognitive learning outcomes, but also upon the ability of learning outcomes. By contrast, students’ low motivation has a negative influence on the ability and cognitive learning outcomes, and it directly influences on their perception of faculty’s teaching effectiveness. In addition, undergraduates perceived more cognition and ability in class, and they thought the faculty has more teaching effectiveness. It is worth noted that students’ academic performance does not effect on their perception of faculty’s teaching effectiveness.

Keywords: Motivation, quality learning, higher education
The Effects of Social Comparison on Emotions and Illness Symptoms in Teachers

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Various studies on teachers have examined motivational constructs such as self-efficacy (Klassen & Chiu, 2011; Woolfolk Hoy et al., 2009) and teacher goals (e.g., mastery vs. ability; Butler & Shibaz, 2008), intrinsic motivation (Taylor & Ntoumanis, 2007), in order to predict teaching-related outcomes. This study aimed to look at higher-order, self-regulatory strategies over and above more fundamental motivational constructs in order to foresee critical outcomes in teachers. More specifically, this study used structural equation modelling to evaluate hypothesized directional relationships between social comparisons, emotions, and illness symptoms in teachers. The sample consisted of 536 teachers from Ontario and Quebec that completed an online questionnaire measuring social comparisons (upward, downward and horizontal), teacher emotions (anger, anxiety and enjoyment) and illness symptoms. The results indicate that upward social comparisons directly predicted better emotional states (lower anxiety, lower anger and higher enjoyment). Moreover, upward social comparisons negatively predicted anxiety, which in turn predicted fewer illness symptoms. Next, horizontal social comparisons only directly predicted negative emotional states (higher levels of anger and anxiety and lower levels of enjoyment). Finally, downward social comparisons did not significantly predict any direct or indirect paths between social comparisons, teacher emotions and illness symptoms. Overall, the present findings illustrate the importance of evaluating social comparisons made by teachers as motivational strategies in highlighting the benefits of generally underexplored upward comparisons, and the negative effects of horizontal comparisons.

Keywords: Motivation, Social Comparisons, Emotions, Teachers

Efficiency and effectiveness of an EI program: an evaluation proposal based on motivational theories of the patient.

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Due to the current economical situation, Hospitals are facing new challenges that request actual responses concerning the long waiting time. The Parc Sanitari Sant Joan de Déu, a Hospital placed in Barcelona (Spain), is working with the mental illness relatives, offering them treatments, educational programs and a range of different services. Among its initiatives is an Emotional Intelligence (EI) program, which is important due to EI construct is related with many characteristically issues of the mental illness relatives such as burnout, coping strategies, among others. Despite it is true that more evaluation studies needs to be developed in order to assure the effectiveness of those programs, we count with literature that proves the success of some evaluated programs.

To conduct and EI program by responding to the economical situation demand it is not only
needed to assure effectiveness but also efficiency. So the selection criteria of the waiting list should be done not just by the urgency or the motivation to participate, but by patients' intention to change and commitment to change. The last two are based on different motivational theories of the individual: the Theory of Planned Behaviour and the Goal-Setting Theory; both theories have been used to establish factors that guarantee people's change before, during and after they participate in programs related to health and / or prevention psychology.

Therefore, this poster offers a new evaluation perspective in the EI programs of patients who are following mental illness treatments, ensuring greater efficiency and effectiveness of these programs.

**Keywords:** Educational Intelligence; evaluation programs; efficiency; effectiveness; theory of planned behavior; goal-setting theory

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**POS-26**

**Enthusiasm and Enjoyment as Two Distinct Phenomena**

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Within research on positive emotions, it is still unclear if enthusiasm and enjoyment are the same phenomena or two empirically separate constructs. So far research on teacher emotions has assumed that enthusiasm is always accompanied by enjoyment; however, we posit that enthusiasm can also be a teaching strategy that teachers use in an attempt to increase their teaching effectiveness. Thus, we developed self-report scales to separately measure enjoyment as an internal, affective experience and enthusiasm as a behavior among teachers. Two samples of teachers (266 high school teachers and 193 elementary teachers) participated in our study. Confirmatory factor analyses revealed that for both Sample 1 and 2 a two-factor model, with enjoyment and enthusiasm as two separate factors, fit the data significantly better than a one-factor model, with the enthusiasm and enjoyment items all loading onto a single factor. This indicates that enjoyment and enthusiasm are indeed two separate phenomena. This study highlights the importance of not confounding enthusiasm with enjoyment when researching teacher emotions.

**Keywords:** teachers emotions, enjoyment, enthusiasm

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**POS-27**

**Exploring how Finnish adolescents use social media: A study of social network analysis**

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The purpose of the present exploratory study was to investigate the intensity of Finnish grade 7-9 adolescents’ use of the new information and communication technologies (ICTs) and Facebook (FB), the competence of their ICT skills as well as their social networking practices.
online and offline. The study was carried out in a teacher training school with a large proportion of immigrant students by relying on mixed methods. The participants’ (N=111) patterns of ICT and FB were examined by self-report questionnaire, social networking questionnaire (online and offline relation within classrooms), and egocentric network interviews of six heterogeneous participants. The results of the study indicated that practically 95% participants used FB. Female students preferred discussion and collaborative activities more on FB than males ones. Self-assessed ICT skills were higher in the context of male than female students. Although the present adolescents preferred interacting with peers who represented the same gender group, there was not corresponding homophily (i.e., network similarity) regarding Finnish and international students; immigrant students were fully integrated with the others. The participants reported utilizing FB to maintain and expand their existing social network. The results revealed that students used FB to seek assistance for their school work.

**Keywords:** ICT skills, ICT intensity, FB intensity, social network analysis

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**POS-28**

**Family Involvement in Literacy – Parents’ beliefs and background**

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Research points to the importance of considering parents’ implicit theories about early literacy instruction when seeking to understand family literacy. When studying family involvement in children’s education, authors highlight the importance of role beliefs because parents are more likely to become involved in their children’s education if they view such participation as one of their responsibilities as a parent. In addition, models explaining family literacy and parents’ involvement in education consider family socio-economic status (SES) as a variable to study. Following on from this, our research seeks to analyze how SES, parental beliefs about literacy development and about their role, can explain the frequency of family literacy practices.

Participants were 198 parents of pre-school children with diverse levels of education. They answered a questionnaire covering: Family Literacy Practices, Parents’ Role beliefs and Literacy Development Beliefs.

Results demonstrate that fathers’ and mothers’ education levels were not significant contributors to explain Family Literacy Practices. However, parents’ Role Beliefs and Literacy Development Beliefs were significant predictors of literacy interactions at home. Parents’ ideas about how children learn literacy show significant associations with the frequency with which they develop literacy activities with their child. When parents believe that only the strategies developed at school by teachers are important, they tend to engage less with their children using literacy at home. Furthermore, when parents conceptualize literacy learning in a holistic way and they think parents are responsible for involving their children in writing and reading situations, family literacy practices seem to increase.

**Keywords:** Family Literacy; Parents’ involvement; parents’ beliefs
Focus on flow: The effect of recall ability on flow experience

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Many studies have revealed that experts in domains such as chess or poker play - when comparing with novices - show a higher ability to focus on relevant information and to memorize them (Chase & Simon, 1973). Furthermore, experts report higher levels of engagement in a task; they describe being in a state of complete absorption and also experiencing a deep sense of control over the activity. This phenomenon is known as flow experience (Csikszentmihalyi, 1975). It is assumed that the flow state is accompanied by an increased attention to relevant details. To date there is no empirical evidence to support this assumption. The aim of this study is to examine the question, whether the ability to focus on relevant information fosters the experience of flow absorption (the state of complete engagement in the activity).

Fifty-nine (16 female, Age: M=19.28) participants played poker for 12 minutes against another participant of the experiment. After the poker play, participants completed the flow questionnaire and performed a recall test with poker-card stimuli. They were presented with a series of poker cards and then asked to reconstruct the depicted cards in the correct order.

The results indicate that the ability to focus on relevant information is associated with flow experience. Further, expertise was only associated with experiencing a deep sense of control over the activity. According to these results, it might be beneficial for students to provide them with meaningful information blocks and avoid irrelevant stimuli to foster flow during learning.

Keywords: flow experience, recall ability, expertise
students in grades 6, 7, and 8 and their 71 science teachers we found that teachers’ implicit stereotypes predicted class-level gender differences over and above teachers’ self-reported explicit beliefs. Gender differences in intrinsic motivation, but not in identified motivation and self-concept, were slightly bigger for students with more years of science education.

*Keywords:* gender differences, self-concept, intrinsic motivation

**POS-31**

**Group-problem solving with friends and acquaintances: Multilevel study of self-beliefs and observable behaviours.**

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One of the key goals of this study was to investigate relationships between self-efficacy for group work and students' behaviours when friends and acquaintances are collaborating on a problem-solving task. The sample comprised 126 students in Grades 8 to 11, organized into 42 groups, from five randomly selected government high schools in Sydney, Australia. Data came from self-reports and observations. The self-report data measured self-efficacy for group work with friends and self-efficacy for group work with acquaintances; the observational data captured relevant student behaviours working in these discrete contexts. Data were analyzed using exploratory factor analysis (EFA) and multilevel modelling. The results indicated that individual level self-efficacy beliefs for working with acquaintances predicted individual level idea development. Another key result was that the 'group environment', in terms of the mean behaviours displayed by group members, predicted some individual level behaviours, and in some models displaced the effects of psychological variables. The findings contribute to current understanding of how self-beliefs operate in group contexts and extend current motivational explanations of school-based group work. For educators, the study should provide teachers with directions for improving students’ group process skills and making better decisions when assigning students to groups.

*Keywords:* Friends, self-efficacy, group work, multilevel

**POS-32**

**A Heuristic Framework of Responsibility in the School Context – A Validation Study**

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Existing research has identified feelings of responsibility as having major motivational implications for a person’s actions. A person identifying as being responsible for a certain task will perceive themselves as self-determined and thus invest considerable effort in the task (Berkowitz & Daniels, 1963).

Despite being conceptualised as an individual's sense of internal obligation, responsibility in
everyday contexts is often attributed by and to other people. Different perspectives on responsibility may, however, not always overlap, especially in the school context where tasks and liabilities often remain ill-defined.

This paper thus presents a framework of responsibility in the school context which assumes teachers, students and parents to share a certain number of microsystems which may (indirectly) influence one another. In order to test the usefulness of the proposed framework, a series of studies were conducted collecting data on teachers’, students’ and parents’ views of their own and one another’s responsibility in the school context.

4109 statements were assigned to categories representing different parts of the framework and reveal its usefulness for describing the complexity of responsibility attributions and its influences in the school context.

Findings show the framework will be helpful to embrace existing research and develop questions for further research that address central educational issues such as student and teacher motivation, teacher burnout as well as prerequisites for students' high or low achievement.

**Keywords:** responsibility, school context, theoretical framework

**POS-33**  
**How do interest, effort management and academic self-concept of ability affect school achievement across exclusive and inclusive school-settings? Results from students with learning disabilities**  
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Numerous studies have provided evidence that domain-specific interest, effort management and academic self-concept of ability predicts school performance. All of these findings refer to pupils and students without learning disabilities (LD). The present research explores the role of these motivational constructs as a predictor of school achievement within a sample of pupils with LD for the first time. In addition, given the international debate on the advantages and disadvantages of exclusive and inclusive education, the moderating role of school setting was examined. Children completed self-report measures on their interest, effort management and academic self-concept of ability for reading and writing followed by standardized tests for these two domains. Analyses were based on data from the second wave of the longitudinal “BiLieF”-Study (N=248 fourth-graders with LD from exclusive and inclusive schools). Analyses revealed moderate correlations between domain-specific interest, effort management, academic self-concept of ability and performance. Furthermore domain specific interest and academic self-concept of ability could be identified as predictors of school performance. Effort management did not show any significant effect on school performance. None of these effects were moderated by school-setting. Comparing the groups of exclusive and inclusive school setting revealed that LD-pupils from the inclusive schools showed significant higher scores in their
performance than pupils that attend an exclusive school-setting. These two groups did not differ in their self reports for all motivational constructs. Results are discussed with reference to future research on motivational constructs in different school settings.

**Keywords:** domain specific interest, academic self-concept of ability, effort management, school achievement, learning disabilities

**POS-34**

**How should researchers in education operationalise on-task behaviour?**

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The proposed presentation is based upon the paper entitled, “How should researchers in education operationalise on-task behaviours?” (Gill & Remedios, 2013), which was recently published in the Cambridge Journal of Education.

On-task and off-task behaviours have been used in educational research either as independent topics of interest or as dependent variables. In clinical research, there is general agreement about what constitutes off-task behaviours but no such agreement exists for on-task behaviours. This paper reviews fifty four studies spanning the last twenty two years in order to examine how on-task behaviour has been defined in the educational literature. From the fifty four studies, twenty five different on-task behaviours were identified. The twenty five on-task behaviours were assessed to see if they could be allocated to a category. Four categories of behaviours were identified: task-related, teacher-related, social and miscellaneous. Building on the analysis from the identification and categorisation of the behaviours, the paper suggests a checklist of behaviours that differ in degree of how necessary they are to include in research when using on-task behaviours as a dependent measure. The paper concludes by suggesting that although on-task behaviours can be highly and appropriately idiosyncratic, educational researchers can achieve some systematicity of measurement by using the guidelines presented.


**Keywords:** on-task behaviour, engagement, research methods

**POS-35**

**Influence of motivational and emotional factors in mathematical learning in Belgium secondary education**

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Mathematics achievement at both national and international tests raises the question of joint role played by motivational, affective and cognitive factors in mathematics learning and
Our research attempted to clarify this issue by examining the subjective value (Eccles & Wigfield, 2000), the mathematics self-concept (Marcoux, 2012), the cognitive and behavioral engagement (Linnenbrink, 2007), the pride, enjoyment and boredom (Goetz, quoted by Frenzel, Goetz & Pekrun, 2005) and the performance in algebra.

This study was realized on 119 pupils (13-14 years old) from three Belgian schools. Data were collected through questionnaires validated by factor analysis and Cronbach's alphas. More specifically, the questionnaire on motivational variables is based on the model of student’s motivational dynamics (Eccles & Wigfield, 2000), the contributions of Lafontune and Mongeau (2002) and the questionnaire constructed by De Vriendt and Van Nieuwenhoven (2010). An adapted version of the Achievement Emotions Questionnaire-Mathematics built by Frenzel et al. (2005) identifies the emotions felt in mathematics. A measure of performance in algebra was also collected.

Three findings arise. Firstly, the engagement of students (13-14 years old) in mathematics is more related with instrumental reasons than with intrinsic interest in mathematics knowledge. Then the teaching practices seem to raise boredom rather than task engagement. Finally, emotional regulation would be associated with better performance in mathematics and with more appropriate emotional relationship to learning. Educational consequences will also be discussed.

**Keywords**: Subjective value, mathematics self-concept, engagement, academic emotions

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**POS-36**

**Inspiration as Academic Emotion: An Appraisal Theory Approach**

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Inspiration is conceptualized as a high-activation, positive emotion, triggered by examples of extraordinary ideals in action and characterized by determination to improve oneself and others when individuals appraise contexts as relevant to and congruent with their goals and values (Lazarus, 1991). In study 1, we examined qualitative accounts of 98 university students’ appraisals related to inspirational experiences in the classroom and found that students reported feeling inspired by topics which were relevant to three domains: career goals, personal interests, and personal values. In study 2, we surveyed 993 university students and developed a measure of students’ curricular relevance appraisals. The Appraisals of Curricular Relevance Scale (ACRS) demonstrated sound psychometric properties and explained 63% of the variance in students’ experiences of education in their classes. Students’ appraisals of relevance to personal interests and personal values predicted inspiration above and beyond relevance to career goals. In previous studies (Thrash & Elliot, 2003), inspiration was positively correlated with approach, mastery, and intrinsic motivation, suggesting inspiration may help explain performance. We found that inspiration in the academic context increased positively with levels of course performance. Our studies demonstrate the importance of further studies into...
inspiration in education and offer the ACRS as a useful measure in subsequent studies of this positive academic emotion.

Keywords: inspiration, appraisals, emotion, academic achievement, motivation

POS-37

Is it possible to use intention to transfer as a proxy for transfer of training?

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Models proposed to predict transfer of training -the productive use of trained skill- obtained mixed results where most predictors had a modest effect on transfer. Motivational theories have been a recurring resource for understanding trainee’s behavior during transfer, focusing on the Theory of Planned Behavior. As a result, some researchers used the intention to transfer as a proxy variable for transfer without assuring that intention to transfer and transfer of training are highly related. This paper offers a review of the studies that tested this association through empirical evidence. Five of the six studies found a significant relationship between both variables in two major contexts; nevertheless, this relationship is not strong enough to confirm that intention to transfer is the best variable to replace the actual measurement of training transfer. Results presented in this paper encourage researchers to continue looking for other variables with a greater variance explained on transfer.

Keywords: transfer of training; intent to transfer; theory of planned behavior

POS-38

A Longitudinal Study of learning Conceptions consisting: motivation, regulation and mental processing activities, on the Threshold between primary and Secondary Education

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Research showed that learning conceptions consisting: motivation, regulation and mental processing activities, were susceptible to change during possible critical transitions in pupils' school careers such as the transition from primary to secondary education (Klatter, Lodewijks & Aarnoutse 2001); the transition from secondary to higher education; and through higher education.(Donche, Coertjens & van Petegem, 2010; Vermunt &Vermetten, 2000).

This study aimed to determine whether, via four measure moments in a longitudinal multilevel design, pupils' learning conceptions developed from the penultimate year of primary education until second year of secondary education and if differences occurred when the control variable gender was added to the model. Results show that changes are present in pupils' learning conceptions during the last years of primary education and the first years of secondary education. Where change takes place, it is primarily a negative trend: Avoidance orientation
increases significantly and development orientated motivation decreases. Boys develop a more negative conception towards school and learning compared to girls. This research also indicates that profound processing activities, which focus on metacognitive skills, decrease from as early as one year before pupils leave primary education and continue to decrease until the end of the second school year of secondary education.

*Keywords*: Learning conceptions, motivation, regulation, mental processing activities, longitudinal

**POS-39**

**Motivational balance, co-development and levels of social complexity**

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Motivational balance (MB) is a dynamic outcome of the interactions among qualitative (intrinsic versus extrinsic motives) and quantitative (valence, expectancy and agency) of motivational forces at intra-individual level, across the activities in which is engaged a person, at inter-individual and inter-groups levels. The qualitative side of motivational forces composes the structure of the motivational vector while the quantitative side composes the infrastructural side of the same vector.

The model is indebted to the propositions of the following theories: a) expectancy theories (Vroom, 1964, 2005; Atkinson, 1964; Ecless et al., 1983, 2005; Higgins, 1998, 2012; Heckhausen, 1991) expectancy-value model; b) self-determination theory of motivation (Deci & Ryan, 1985, 2000; c) Lewin’s field theory (1935, 1951); d) Heider’s (1946) psychological balance; e) Homans’ exchange theory (1961); interdependence theory (Kelley & Thibaut, 1978); f) hierarchical perspectives on human needs (Thoreau, 1854; Maslow, 1954); levels of social complexity (Hinde, 1979).

At intrapersonal level MB is defined vectorially as a relationship between the intensity and quality of the motivational factors within one activity and across activities.

At dyadic level MB includes the intensity and quality of motives plus the hierarchical differential between the motives satisfied by each actor and varies between: co-regressive (both actors move down in their motivational hierarchies) and co-developmental motivational relationships (both sides move together levels to higher motivational levels). The MB model predicts that the probability to reach a co-developmental motivational balance among all the actors decreases tremendously with each additional individual or collective actor.

*Keywords*: Key words: motivational balance, motivational co-development.
Motivational climate in physical education: Validation of the Motivational climate scales in school sport.

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The Motivational Climate Scales (Soini, Liukkonen & Jakkola, 2004) measure motivational climate in physical education. The perceived learning environment is assessed from the student perspective. The scales are based on the self determination theory (Deci & Ryan, 2000) with scales for an autonomous supporting, relatedness supporting and a competence supporting climate. Following the achievement goal theory (Duda, 2001) the competence supporting climate is differentiated in a mastery climate and an ego climate depending on the source of competence. The present study aim to describe the evaluation and psychometric properties of a German translation of the MCS developed by Soini et al. (2004) using a large sample of students in a PE setting. The German translation was completed by a sample of 709 pupils of secondary and high school (age M = 16.67, SD = 1.43). The factorial structure was confirmed using CFA supporting 4 independent factors. All 4 scales showed internal consistency of $\alpha = .80$ or higher and mean retest-reliability of $r = .62$. Item selectivity of all items was above .30. Construct validity was demonstrated by expected correlations between mastery climate and perceived joy, effort, hope for success and individual goal orientation respectively competitiveness, as well as between ego-oriented climate and hope for success and individual win-orientation.

Correlations between autonomy supporting as well as relatedness supporting climate and PE outcome measures (effort and perceived joy) were in the expected amount and direction.

Keywords: SDT, basic psychological needs, PE, sport enjoyment, CFA

Motivational Profiles by Level of Behavioral and Emotional Risk

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Research indicates that behavioral and emotional difficulties among students are related to lower levels academic achievement (Algozzine, Putnam, & Horner, 2010) and school dropout (Bradley, Doolittle, & Bartolotta, 2008). However, few researchers have considered motivation within special populations of students, such as those with behavioral and emotional difficulties (Patrick, Ryan, Anderman, & Kovach, 2004).

The present study sought to determine whether students' motivational profiles differ according to their levels of behavioral and emotional risk (BER), an early indicator of the risk of developing more severe behavioral and emotional difficulties. It was hypothesized that motivation would differ by level of BER in meaningful ways, which would suggest: 1) that motivational differences by behavioral and emotional difficulties could be identified early; and 2) that motivational processes could help to predict or explain differences in academic
achievement that emerge later for those with behavioral and emotional difficulties.

Participants were 4,065 students from 7 high schools in the southeastern United States. Analyses suggested that higher levels of risk were associated with lower levels of Mastery Goals, Efficacy, Attainment Value, and Utility Value, and higher levels of Performance Avoidance Goals and perceived Cost. No differences in Performance Approach Goals were found. These findings provide preliminary evidence that motivation may serve as a mechanism through which BER translates into lower levels of academic achievement. Furthermore, these data suggest that the relationship between BER and motivation can be identified early, which is encouraging for prevention and intervention efforts.

**Keywords:** behavioral and emotional difficulties, motivation, at-risk students

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**POS-42**

**Motivational profiles of adult learners**

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The present study used a person-centered approach to explore combinations of autonomous and controlled motivation (motivational profiles) in a sample of 336 adult learners attending three different types of courses (short courses, long-vocational courses and long-academic courses). Cluster analysis revealed 4 motivational groups: a good quality motivation group (high autonomous motivation, low controlled motivation), a high quantity motivation group (high autonomous motivation, high controlled motivation), a low quantity motivation group (low autonomous motivation, low controlled motivation) and a poor quality motivation group (low autonomous motivation, high controlled motivation). Adult learners in the good quality and in the high quantity motivation groups had the highest scores in self-efficacy, learning skills, academic self-concept and behavioral engagement, showing that autonomous motivation is a decisive factor accounting for these variables, while controlled regulation has a more neutral effect, rather than a negative effect, which will be discussed in the light of Self-determination Theory. Females and the more qualified students had the lowest levels of controlled regulation.

**Keywords:** Motivational profiles; autonomous/controlled regulation; adult education; learning/engagement variables; self-efficacy.

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**POS-43**

**Motivation for doing homework in mathematics – relationship with conscientiousness, motivational beliefs and achievement in mathematics**

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Drawing on homework model (Trautwein et al., 2006), the aim of the study was to explore relationship between effort and time spent on doing homework and homework motivational beliefs (expectancy and value) in mathematics, conscientiousness, self-efficacy and value in mathematics, and subsequent mathematics achievement.

The participants were 329 third-grade high school students (73% female, Mage = 16.8) from gymnasiums focused on modern languages in Croatia. Participants completed questionnaires on self-efficacy and value in mathematics, conscientiousness, homework expectancy and value and homework effort in mathematics. Students also provided information on time they spend weekly doing mathematic homework. Data on subsequent achievement in mathematics were also collected.

Correlation analysis showed that homework effort and homework time were both significantly correlated with motivational beliefs, conscientiousness and achievement. However, homework effort was moderately correlated with general and homework motivational beliefs, while homework time was only weakly correlated with those beliefs. Also, homework effort was more strongly correlated with mathematics achievement than homework time. Data were also analyzed using structural equation modelling. The model demonstrated marginally acceptable fit. In the final model, significant predictors of homework effort were homework expectancy and value, mathematics value and conscientiousness. Mathematics value and conscientiousness were also significant predictors of homework time. Homework expectancy was predicted by self-efficacy and mathematics value, and homework value by mathematics value and conscientiousness. Achievement in mathematics was predicted only by mathematics value, and not by homework variables.

Keywords: expectancy, task value, homework, mathematics

POS-44

Playworlds: Creating meaningful learning communities through harnessing ambivalence
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In modern classrooms it is challenging how to support unmotivated students’ agency and simultaneously create meaningful learning communities. In this paper we show how being recognized and supported as ambivalent, that is, as fragmented and contradictory to oneself may create conditions for the emergence of one's agency (cf. Rainio & Marjanovic-Shane, 2013). Our empirical starting point is an ethnographic case study of a 6 year old student, Milo, and his participation in a classroom activity called playworlds in an elementary school in the U.S. Playworlds embody a new form of play pedagogy, recently developed in several countries, in which adults actively enter into the fantasy play of young children as a means of promoting the development and quality of life of both adults and children (Lindqvist, 1995.) In our analysis we show how Milo exercises his agency in response to the adult acceptance of his ambivalent behavior, and how this acceptance is related to adult and child “perezhivanie”. Perezhivanie can be defined as “intensely emotional lived through experience” (Ferholt, 2009). We claim that when adults engage in perezhivanie in playworlds their perception of their students changes. In
In this paper we show that it is possible to create meaningful, agentive learning communities using an activity, such as playworlds, which helps educators to embrace student ambivalence. By introducing two novel concepts of ambivalence and perezhivanie our paper contributes to a timely debate of how to create motivation and engagement for a variety of students in classrooms.

**Keywords:** Ambivalence, Perezhivanie, Playworlds, ethnography, learning community

**POS-45**

**Policy and Motivation: Unintended Consequences of Accountability on Teachers’ Classroom Goal Orientation**

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Policy effectiveness is usually evaluated in terms of student achievement. However, policy effects more than test scores. Teachers are constantly asked to implement educational policies they did not create nor endorse causing cognitive dissonance and affecting their motivation (Ball, 2003; Kelchtermans, 2005). Utilizing Social Cognitive Theory as a theoretical lens, this study seeks to uncover the effects of education policy (environment) on teacher stress (affective characteristic) and teacher instructional practices (behavior). This study seeks to answer the following questions:

1. What are teachers’ perceptions of their knowledge of federal education policy, specifically key elements of IDEA, ESEA, Common Core, and RT3? From what sources is that knowledge derived?

2. Is teacher perceived knowledge/consciousness of education policies related to teacher stress?

3. Is teacher perceived knowledge/consciousness of policies related to classroom instruction (goal orientation)? Does stress have any mediating effects on the relationship between teacher perceived policy knowledge and classroom instruction?

Utilizing mixed methods, in a sequential explanatory design, this study surveys approximately 300 teachers in two districts in a southeastern United States. Following the survey, interviews were conducted yielding qualitative responses from 7 teachers. Our poster will closely detail the findings of our third research question.

**Keywords:** Policy, Goal Orientation, Teacher Stress, Teacher Emotions, Accountability
Predicting interest and achievement in learning exponential and logarithmic functions

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The aim of this study was to analyze the role of prior knowledge, mathematics self-efficacy and value, triggered and maintained situational interest and perceived competence in the prediction of emerging individual interest and achievement in learning exponential and logarithmic functions.

The participants were 186 second-grade high school students from five general-program gymnasiums in Croatia. The study was conducted in four waves during two months while students learned exponential and logarithmic functions in school. During that period, we tested students’ initial and final knowledge in that area and they filled out questionnaires on their self-efficacy and task value in mathematics, triggered situational interest, perceived competence in performing exponential and logarithmic functions, maintained situational interest and emerging individual interest. Interest measures had two components – emotional experience and task value.

The results showed that the achievement in the final exam at Time 4 was positively predicted by initial test, Time 3 maintained interest and Time 3 perceived competence. Both components of emerging individual interest in Time 4, as well as perceived competence, were positively predicted by Time 1 task value. Emotional experience component of individual interest was also predicted by Time 2 and Time 3 interest-emotional experience, while task value component of individual interest was predicted by Time 3 interest-task value and perceived competence was predicted by Time 3 self-efficacy. This study provides support for the model of interest development (Hidi & Renninger, 2006) and shows that maintained interest has a very important role in learning and motivation development.

Keywords: interest, task value, mathematics

Relations Between Teacher and Student Motivation in Math Class

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Motivation researchers argue that students’ motivation can be affected by teacher’s motivation via teacher’s instructional styles. However, there have been few studies support this assertion. Using Self-determination approach, we investigated associations between teachers’ motivation and students’ motivation in math class. We also examined whether students’ perceptions of their teacher’s instructional styles mediated these associations.

Method. Korean 5th and 6th graders (N = 697) responded to a questionnaire containing items
Results. Multiple hierarchical regression analyses showed that teacher autonomous and controlled motivation, but not amotivation, were related directly to student motivation. Specifically, teacher autonomous motivation was related positively to student autonomous motivation ($\beta = .14$), and negatively to student controlled motivation ($\beta = -.11$) and amotivation ($\beta = -.15$). Teacher controlled motivation was related positively to student autonomous motivation ($\beta = .08$), and negatively to student amotivation ($\beta = -.08$). Among three instructional styles, perceived autonomy support fully mediated the association between teacher autonomous and student controlled motivation. Additionally, perceived structure fully mediated the associations between: (a) teacher autonomous motivation and student autonomous motivation, and (b) teacher autonomous motivation and student amotivation. Student-perceived teacher involvement did not mediate the associations between teacher and student motivation.

Keywords: teacher motivation, student motivation, teacher instructional styles

POS-48

Relations of motivation and reading skills with teaching styles from first to second grade
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The aim of the study was to examine changes in reading motivation and development of children’s reading skills from first to second grade in classes of teachers with different teaching styles.

Participants were 440 students and 21 classroom teachers from Estonia. Children’s motivation (i.e., reading interest and self-efficacy) and word reading skills were assessed three times: at the beginning and end of first grade, and at the end of second grade. Reading comprehension was assessed twice: at the end of first and second grade. In first grade, three lessons were observed in each classroom, and class activities were coded by means of coding measure ECCOM (Stipek & Byler, 2005). The teachers were divided by their approach as practising child-centred (n = 8), teacher-centred (n = 7) and child-dominant (n = 6) style based on the observation. In the data analyses, variable-oriented methods (ANOVA) were combined with person-oriented methods (Configural frequency analysis, CFA).

The results showed that teachers’ teaching styles are significantly related to children’s motivation and skills. The development of reading motivation and reading skills is supported by child-centred teaching style that is inspired by the child’s individual needs and is oriented to comprehension and shaping the learning behaviour that is directed towards attracting interest and masterfulness. Domination of teacher-centred and child-dominant activities in the teacher’s...
behaviour, on the contrary, tend to hinder the development of primary school students’ reading skills and fail to support interest in reading.

*Keywords*: motivation, reading, teaching practices, teaching styles

**POS-49**

**Resilience and Motivation – The Impact of Extrinsic and Intrinsic Life Goals on Resilience**

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Research on resilience has identified numerous protective factors over the past ten years. Among others the significance of locus of control, positive emotions and self-efficacy for the degree of resilience could be proven empirically. Until now, however, there is no research on the interrelation between life goals and resilience. This is surprising as, firstly, life goals are important reference points for an individual’s path in life and have significant influence on life as such and, secondly, there already exists intensive research on the interrelation of life goals and wellbeing and, thirdly, there are obvious conceptual overlaps between the construct based on the theory of self-determination of intrinsic motivation and the concept of resilience. This study examines the interrelation between resilience and life goals taking indicators for wellbeing into account. 252 Persons answered Wagnild and Young’s Resilience-Scale, Kasser and Ryan’s Aspiration-Index, Scheier, Carver and Bridges’s Life-Orientation-Test and Diener, Emmons and Grin’s Satisfaction-With-Life-Scale. The results of the analysis show that it is important for a person’s degree of resilience to have life goals in the first place. Individuals that attach a meaning neither to intrinsic nor to extrinsic life goals show by far the lowest degree of resilience. Furthermore, a significant correlation between the degree of resilience and the pursuit of intrinsic life goals becomes apparent. Intrinsically motivated individuals are generally more optimistic and also more optimistic regarding the achievement of goals. They are also more content with life than individuals who are more oriented towards extrinsic goals.

*Keywords*: Resilience, Motivation, Life Goals

**POS-50**

**The role of intrinsic motivation, information quality and usability on e-learner satisfaction**

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In recent years, increasing attention has been devoted to virtual learning. Many researchers have looked at satisfaction as a measure of success in e-learning system. Previous research has suggested a variety of factors affecting user satisfaction with e-Learning. This study developed an integrated model with relation among three dimensions: intrinsic motivation, information quality and usability on e-learning continuum. Data was collected from 218 Undergraduate students from Hadith Sciences University in Iran. We used 4 scales for gathering data that were reliable and valid. Data was analyzed using Pearson correlation and
multiple regression analysis. The results of computing coefficient of Pearson correlation indicate that intrinsic motivation, information quality and usability are related to satisfaction of e-learning continuum. This predictors predicted satisfaction of e-learning continuum and usability had the biggest influence followed by information quality and then intrinsic motivation.

*Keywords*: Intrinsic motivation, Information quality, Perceived usability, Satisfaction, E-learning

POS-51

**The Role of Social Interactions in Teachers’ Motivation for Instructional Change in the Context of Professional Development**

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This study investigated the role of teachers’ social interaction in the context of professional development (PD) on their motivation to implement newly learned strategies. Discourse analysis of conversations within small teams (3-4) of high-school science teachers (N=22) taking part in a summer PD was informed by a dynamic model of teachers’ professional identity and motivation as anchored in self-perceptions, goals, beliefs, and action possibilities. Findings highlighted the role of social negotiation around the fit of instructional strategies within components of the teachers’ professional identity as undergirding their intentions to implement the strategies. The findings support the social-dynamic processes as foundational to teachers’ motivation to implement new instructional strategies in the context of PD, and can inform PD designers and facilitators in supporting this motivation.

*Keywords*: social interaction, professional development, motivation

POS-52

**Selected element of teachers’ work motivation: What motivates students to become teachers and what motivate teachers to stay?**

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The lack of qualified teachers is a challenge in several western countries. Previous research suggests that it is due to low enrollment in teacher training programs, high rates of retirement, and that fact that many newly qualified teachers leave the profession after a few years in service. Given these challenges, this paper explores some selected elements of teachers' careers and job motivations. Based on the results of three different studies, the present paper highlights a) students’ motives and expectations of becoming teachers, b) factors that force newly qualified teachers’ intention to leave the profession, and c) the fact that beliefs about teaching knowledge and ways of learning teaching skills may affect job motivation among newly qualified teachers. Theoretical and practical implications will be discussed.

*Keywords*: job choice, teachers' job-motivation, teacher beliefs
SELF-DETERMINATION THEORETICAL PERSPECTIVE ON CHEMISTRY STUDENTS’ EXPERIENCES OF PHYSICAL SPACE

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Despite recent increasing interest in learning environments, the role of physical learning environment is rather unexplored (see Sandström et al 2013; Beard 2008). This study focuses on the role of physical learning environment in the learning process with regard to the basic psychological needs as laid out by the self-determination theory of motivation (Deci & Ryan 1985; 2008). Although widely studied empirically, the role of physical space as for learning has not been considered.

We focus on beginning university chemistry students’ learning, especially their experiences during laboratory work. Data consist of semi-structured focus-group interviews performed contextually during the laboratory work of first-year chemistry students. The interviews followed an interpretivist approach (e.g. Scott & Usher 1999), aiming at making sense of the interviewees’ experiences in a hands-on setting. Transcriptions were analysed by members of the research team iteratively, repeating stages of individual and collaborative analysis to find patterns and categories in the data.

The findings shed new light on the dynamics of the three basic psychological needs in the context of learning chemistry. For instance, the laboratory as a space appeared to offer the students a direct connection to their possible future job in the laboratory, which sets the basis for the emergence of the students’ sense of autonomy, competence, and sense of relatedness. Furthermore, theoretical as well as practical implications that are given rise to will be discussed in the paper.

Keywords: Higher education; physical space; psychological needs; self-determination theory; chemistry education

Self-regulatory process oriented studying in teacher education - an emotional challenge or a trigger for internally regulated motivation?

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Process-oriented studying in which the students themselves are defining the learning goals and regulating their own learning can nourish internally regulated motivation and thrive to learn at its best (Ryan & Deci, 2008). However, it requires high levels of tolerance of uncertainty and may threat a safety of a student, who has grown to operate in highly structured and controlled instruction, thus causing high levels of anxiety (Bohuis, 2003, Vermunt & Verloop, 1999). As small amount of anxiety can be natural in the process of learning, strong anxiety can block learning and if it last long, can affect students’ well-being (Inkinen & al. 2013; Salmela-Aro & al, 2009).
The aim of the current research was to examine the motivational-emotional outcomes of the process oriented studying in academic teacher education. The participants were first year teacher students (n=18) majoring educational psychology. The summaries of their learning diaries with additional interviews were used as an empirical data of the study. The data was content analyzed.

The initial findings suggest, that the process oriented studying period varied from inspiring to frustrating and exhausting, depending on the learner. The new way of studying challenged the performance orientation and externally regulated motivation of many of the students and facilitated a shift toward a learning orientation. Most of the students gained internally regulated motivation and even flow at some point during the course. The variance in students' orientations and emotional effects pose a challenge to the given structure and guidance of process oriented study programs.

Keywords: teacher education, self-regulation, process oriented learning, inspiration, anxiety

POS-55

The strategic impact of performance-approach goal pursuit on performance when facing scheduled vs. unscheduled tests: Students' initial level matters

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Whilst performance-approach goals (i.e., the desire to outperform others; Elliot & Harackiewicz, 1996) are often diagnosed as positive predictors of exam success, experimental studies have also pointed their distracting impact on task focus (Crouzevialle & Butera, 2013). This research hypothesizes that students who strongly adopt performance-approach goals in academic settings study strategically – rather than regularly –, only before scheduled evaluations. In order to test this hypothesis, we carried out a field experiment in the classroom context of a public high school, and manipulated evaluative test announcement (scheduled vs. pop quiz) following normal class lessons. One hundred and seventy-two high-school students filled out a questionnaire assessing performance-approach goals, and then attended a two weeks’ period lesson, before finally taking a test that had been either announced a few days before (enabling test preparation) or not. Interestingly, the expected interaction between test announcement and performance-approach goal endorsement proved to be moderated by students’ initial level (as measured by students’ average grade both in the first and second quarter). Indeed, for low-achievers, the pursuit of performance-regularly goals was associated with greater performance, but only when the test had been scheduled; conversely, high-achievers who strongly endorsed performance-approach goals reached a high score even when the test was unexpected. This finding shows for the first time the key role played by evaluations schedule on strategic studying for performance-oriented students, and suggests that performance-approach goal pursuit differently impacts low- and high-achievers’ processing of course content.

Keywords: performance-approach goals, performance, test anticipation, strategic studying
Students' characteristics, their Perception of Teachers' Support of Basic Psychological Needs and the Relation to Autonomous Motivation, Well-Being and Emotion

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This study investigates a model of relations between teachers’ need satisfaction and the drop-out rates of Bedouin high school students. We investigated this model within the theoretical framework of the Self-Determination Theory. The model suggests that the level at which teachers feel that their needs are satisfied predicts their motivation to teach and their attitudes towards students motivation. This, in turn, predicts students’ type of motivation and drop-out rates.

The study involved surveys given to 32 teachers and 830 8th–10th grade Bedouin students, all of which were answered during school hours. Teachers were asked about the level to which they believed that their needs are satisfied in school, their type of motivation to teach, and their attitudes towards students motivation. Students were asked about their motivation to learn. Five-year drop-out rates from the class of each teacher were collected from the central school administrator.

The findings indicate that teachers who feel that their needs are satisfied have more autonomous types of motivation to teach, have autonomous attitudes towards students' motivation, and behave in a more supportive way. This affects students’ motivation and drop-out rates directly and indirectly.

The results highlight the importance of teachers’ own need satisfaction. In order to decrease drop-out rates and increase students’ motivation, the school management should make the welfare of teachers a priority. When teachers feel fulfilled, they are more supportive of their students' needs, which lead to an increase in students’ motivation and a reduction in drop-out rates.

Keywords: motivation, teachers, emotion, well being, Bedouin

Students’ motivation toward practical work in physiology education

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The laboratory has been given a central and distinctive role in science education. In tertiary physiology education, although time consuming and expensive, educators report that laboratory work motivate students. However, very little empirical evidence based on motivation psychology seems to exist. The purpose of our research is to investigate how students view the laboratory work in terms of experienced interest and role for learning, as well as their willingness to engage (effort) and self-reported confidence in understanding (self-efficacy).
First-year biology students (N = 132) from a university physiology course responded to a questionnaire with open and closed items on relevance of laboratory work, interest, effort, and self-efficacy. The outcome is correlated to academic performance (exam results). Implications for physiology education as well as for interest theory will be highlighted.

*Keywords*: Tertiary science education, laboratory work, interest, effort, self-efficacy

**POS-58**

Supporting Students’ Autonomy through Gameful Course Design

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This paper describes the research about a “gameful” introductory political science course that reimagined its assessment system to better support student autonomy, encourage student effort, and support students’ exploration of novel assignment types. We present results from an ongoing design-based research effort that signal the success of this design to promote a more engaging experience for students and briefly describe a set of promising practices for the design of gameful courses. Results indicate that feelings of autonomy are both an outcome of students’ perceived fairness of the assessment system, and a predictor of student exploration, student effort, and final course grade. The use of a Learning Management System (LMS) was also shown to predict feelings of autonomy and final grade.

**POS-59**

Teacher Professional Development in Higher Education: An Expectancy-Value Theory Approach

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Teacher professional development (TPD) is essential to the improvement of education, yet little research focuses on TPD in higher education. Despite the general acceptance of the necessity of TPD, some researchers suggest that the majority of programs fail because they do not take into account the teachers’ motivation for participation (Guskey, 2002). Therefore, this study examined what motivates pre-service higher education teachers to engage in TPD using an expectancy-value theory approach. Preliminary findings suggest that the costs associated with training to become a better teacher in higher education shift after a professional development intervention. Self-Worth costs seem to be the most consistent and relationship costs the least consistent. Further research is needed to clarify the cost constructs and to more deeply examine how the values, costs, and outcome expectancies change over time.

*Keywords*: teacher professional development, expectancy value theory, motivation, higher education, graduate students
Teacher professional identity: The structuring role of ethical orientation and the mediating role of self-esteem

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This paper is rooted in the studies of Canrinus, Helms-Lorenz, Beijaard, Buitink and Hofman (2012) and Kelchtermans (2005; 2009), in that it supports the idea that professional identity should not be regarded as variable with a uniform structure and that teacher job satisfaction, self-efficacy, organizational commitment and change on a motivational level are indicators of professional identity.

Based on the existing literature and research conducted concerning teacher identity and teacher ethical thinking, this research has two main goals: to test a model of relationships between variables related to teacher identity that includes ethical orientation, and, to analyse the role of self-esteem as mediator in the relationships between basic needs satisfaction and commitment to school and to the profession.

We propose a model tested through structural equation modelling (SEM), using data from a sample of 450 Portuguese teachers, 144 male and 306 females, aged between 21 and 73 years and with an average of 15,5 years of service.

The tested model showed a good fit to data. The analysis of the trajectories established among the factors showed significant weights, allowing us to conclude that ethical orientation has direct effects on a teacher’s perceived competence and needs satisfaction of relationships. Results also show that self-esteem mediates the relationships between perceived competence and needs satisfaction of autonomy with commitment to the profession but not with commitment to the school.

Keywords: Professional identity, Ethics, Need satisfaction, Commitment

Teachers’ Achievement Goals, Emotions, and Perceived Students’ Emotions: A Meditational Analysis

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Research in educational psychology has extensively explored the nature and effects of achievement goals in students. However, the examination of the instructional goals of teachers is relatively rare but nonetheless important as teachers’ goals can greatly influence their classroom behaviors and teaching quality (Frenzel et al., 2009). The current study evaluated the direct and indirect effects of teachers’ goals on their emotions and their perceived students’ emotions. Practicing teachers (N = 536) from the Canadian provinces of Ontario and Quebec were recruited to complete a web-based questionnaire including measures assessing their achievement goals, emotions, and the perceived emotions of their students. Results from
structural equation modeling provided empirical support that teachers’ endorsement of instructional goals not only directly influence their own emotions, and the perceived emotions of their students, but also indirectly influence their perceived students’ emotions through their own emotional experiences. Both adaptive and maladaptive instructional goals were found to impact teachers’ emotional experiences that, in turn, predicted greater levels of the same emotional experience in their students as perceived by the teacher. Furthermore, results also underscore the importance of recent work by Butler (2012) in which social dynamics are incorporated as an important element of teachers’ instructional goals. Teachers who focused on their relationships and communications with students were found to experience greater enjoyment and less anger in the classroom, and in turn, tend to see the same emotional benefits in their students.

**Keywords:** teachers, achievement goals, emotions, mediation

POS-62

Unpacking passion to learn: three facets of intrinsic motivation.

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Analysis of the history of intrinsic motivation research indicates two different approaches to this concept, a phenomenological approach that is intended to capture the essential aspects of intrinsic motivation and an approach grounded in the concept of basic psychological needs. We hypothesized that intrinsic motivation was not only associated with three basic psychological needs primarily satisfied by the environment (autonomy, competence, and relatedness), but also with three other needs (creation or achievement, knowledge, and self-development) primarily satisfied by the process of intrinsically motivated learning activity itself. We propose a new model of intrinsic and extrinsic motivation that includes basic needs satisfied in activity itself and other needs irrelevant to the activity performed (such as needs for self-esteem and respect). Two studies were conducted to test the model with high school students (N= 182) and university students (N= 460). Two questionnaires with different versions for school and university students were developed, Intrinsic and Extrinsic Academic Motivation Scale (partly based on Vallerand et al., 1992) that includes 7 scales, three of which measure different aspects of intrinsic motivation, and Basic Psychological Needs in Learning Scale (Gordeeva, Sychev, Osin, 2013). The results support structural validity (using SEM) and show sufficient internal consistency (alpha coefficients for individual scales range from .68 to .91) of both instruments. All three types of intrinsic motivation were shown to predict psychological well-being, academic achievement, and adaptive learning strategies (negative attitude toward cheating). We interpret the findings based on our model of intrinsic and extrinsic motivation grounded in self-determination theory perspective.

**Keywords:** intrinsic motivation, extrinsic motivation, basic needs, psychological well-being
Validation of the Intrinsic Motivation Inventory for mathematics and portuguese language

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The SDT framework, where the three basic needs (autonomy, competence, relatedness) are considered to be central in promoting intrinsic motivation, has been the subject of a great deal of research taking place at the University of Rochester, where a group of researchers have been developing a multidimensional instrument to assess the motivational characteristics of participants related to a target activity. The result of this ongoing research is an instrument called Intrinsic Motivation Inventory – IMI, which determines the level of intrinsic motivation in specific activities. The aim of this paper is to study the characteristics of IMI among Portuguese students, focusing on the assessment of their motivation in Mathematics and First Language. The validation study was obtained from a sample of 3685 students’ from the 5th to the 12th grades. Results show high levels of internal consistence, all the IMI dimensions present satisfactory Cronbach’s alpha scores, both when the data is analyzed together (First language, Mathematics) or in separate analyses. The factorial analysis revealed five conceptual dimensions: Enjoyment, Perceived Competence, Pressure/Tension, Perceived Choice and Value/Utility. This indicates that this scale is appropriate when used in evaluating the underlying constructs of the theoretical model of SDT. These results are of great importance as they may help technicians and teachers to understand levels and types of student motivation in specific curricular subjects. Such information may be fundamental in the definition of new teaching strategies, aims and tasks in order to promote intrinsic motivation.

Keywords: intrinsic motivation, inventory, mathematics, portuguese language; self-determination theory

The well-being of high school students from high school to university

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This longitudinal study focused on investigating senior high school students’ well-being and academic performance and the transition into a new educational environment, university.

The research questions were:

(1) what kinds of achievement and social strategies do high school students and young adults deploy;

(2) does the deployment of certain kinds of strategies predict their well-being;

(3) does the deployment of certain kinds of strategies predict academic performance and well-being; and
what kind of aspirations senior high school senior students have concerning their studies after high school and do these aspirations predict their future studies at university.

The participants were asked to fill in a questionnaire measuring achievement and social strategies and well-being during the senior high school year (n=210) and a year and a half after their graduation (n=129). The results revealed that well-performing senior high school students deployed functional strategies like the optimistic achievement strategy and social support as a social strategy. The deployment of dysfunctional strategies like self-handicapping and avoidance decreased across the follow-up period. Senior high-school students were satisfied with their lives and their well-being showed high stability. After graduation almost all participants were studying at university and most of them exactly where they had aimed to study at as senior high school students. Well-performing high school students had many developmental assets and their positive development followed a cumulative cycle.

Keywords: achievement and social strategies, well-being, academic achievement.

POS-65
Why do I study this field? An integrative motivation concept on the choice of field of study.
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Why do students study their domain? The choice of a certain field of study is the initial point of a (sometimes) long process until graduation. Focussing on students’ motivational factors at the beginning of this process should help to understand further decisions and actions, i.e. resilience or drop-out.

This paper presents an integrative model to develop and validate an empirical instrument for the assessment of the motivational impact on this decision. First, the model structures motives by a temporal dimension (A) with ‘because motives’ referring to the past and ‘in-order-to motives’ directed to the future (Schütz, 1951, 1960, 1971). Second, the other dimension (B) distinguishes between other-based and self-based motives along the line and direction of influence by the actor himself. Within these two dimensions we integrated the basic assumptions of the Achievement Goal Approach (e.g. Harackiewicz et al., 2000) and the Expectancy-X-Value Theory (e.g. Eccles & Wigfield, 1995, 2002).

Based on this model the constructed items are particularly based on the linguistic differentiation between because- and in-order-to motives of Schütz: e.g., ‘I chose my field of study […] in order to have a job free of stress or […] because it fits my abilities.’

In an online survey among first semester students (N=1518) the theoretical assumptions were basically confirmed. An EFA extracted 6 factors representing achievement- and success orientation concerning studies (1), intrinsic value and perceived abilities (2) income and
promotional (job related utility) (3), work avoidance (4), altruism (5) and social influence factors (6).

*Keywords*: Student motivation, Expectancy-X-Value, Achievement Goals, Phenomenology

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**POS-66**  
**Would witness cause emotional disturbance? The students after Hurricane trauma**  
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Would witness cause emotional disturbance?  

The students after Hurricane trauma  

Emotional factors often influence student’s learning intensively. The traumatic events may cause student to high anxiety, hyper-vigilance, distraction, irritability and even bad qualities of sleeping. This research is to describe the effective factors which affected students’ emotions. Especially, the study puts emphasis on those who were not injured, but merely witnessed.

The method uses questionnaire to investigate 2,137 students. They are students from elementary or junior high schools, located at rural regions of southeastern Taiwan where were severely damaged by Typhoon Morakot.

There are 33.7% (719) students who were suffered in the hurricane. Some were injured, some families were hurt or dead, some houses were damaged, and some were forced to migrate. The rest of the students (62.2%) did not get suffering but witnessed the others’ hurt or circumstance hurt by the hurricane. We are so surprised that merely witness could cause 11.6% (154) students emotional disturbance. (The PTSD scores are higher than 9 indicating that they are in dangerous moods). This phenomenon is similar to “secondhand smoke theory” which Comer and Kendall (2007) used to describe the omnipresent threat and insecurity that hovered around the students able to cause their emotional disturbance.

The study also added the relevant factors to establish Structural Equation Modeling for witnesses and victims. It can raise more applicable policies of mental health education for children in the natural disaster areas’ schools.

*Keywords*: PTSD, emotion disturbance, Nature disaster
Teacher’s Support for Students’ Engagement and Deep Learning

Chair(s): Marja Vauras (University of Turku), Alexander Minnaert (University of Groningen), Anu Kajamies (University of Turku), Julianne Turner (University of Notre Dame)

Despite impressive advances in motivation research, we still know too little about how teachers motivationally support or could optimally support students’ engagement and deep learning in complex learning environments. This symposium presents three intervention studies where teachers and researchers together have tried to apply motivational theories to educational practices. All papers describe intensive collaboration while supporting teachers in implementing motivational principles in the classrooms. Each paper also scrutinizes motivational support provided by the teachers during the interventions, because the importance of the quality of instructional support for students’ adaptive classroom behavior is crucial. Students’ engagement is also analyzed to deepen our understanding of dynamic interplay between teacher’s support and students’ engagement. Papers focus on matches and mismatches observed between teachers’ motivational support and students’ engagement and the challenge level of the tasks during the intervention processes. The Turner and Fulmer paper reveals the pressures that affected teachers’ decisions to implement challenging instruction and how some teachers used instructional practices successfully to challenge students. The paper by Kajamies et al. concludes that it was difficult for teachers to optimally challenge and motivationally support their low-achieving students. The paper by Poikkeus et al. suggests that sharing of videotaped excerpts of one’s classroom and smart phone motivation ratings give new intrapersonal windows into motivation research. The results emphasize the need to understand multimodal aspects of all participants in classroom interactions and to find more effective ways to integrate motivation theory to educational practices to advance motivational support, engagement and deep learning.
Teachers’ Views of Enacting Challenging Instruction
Julianne Turner (University of Notre Dame), Sara M. Fulmer (State University of New York at Oneonta)

Both motivation theory and current education policy and reform advocate for increasing the level of challenge in K-12 classrooms in order to maximize students' learning and engagement. However, challenge level in K-12 U.S. classrooms remains low. This study examined middle school teachers' views about implementing challenging instruction while participating in a whole-school professional development initiative about enhancing student engagement. A grounded theory analysis revealed teachers' feelings about challenge, the pressures that affected their decision to implement challenging instruction and how some teachers used instructional practices successfully to challenge students. Teachers perceived 19 different pressures related to implementing challenging instruction, with pressures from students the most common across all subject areas. Some teachers were able to resolve pressures from students by having conversations with students about challenge, providing emotional and motivational support, scaffolding students' thinking, and increasing student autonomy. Implications for the application of motivation theory, teachers' practice and professional development are discussed.

Teachers Scaffolding Motivationally Vulnerable Low-Achievers to Take up Challenges
Anu Kajamies (University of Turku), Marja Vauras (University of Turku), Erno Lehtinen (University of Turku), Riitta Kinnunen (University of Turku)

This paper analyses what kind of challenges the teachers created for the students’ learning and engagement and how students took up these challenges. We use State Space Grids to systematically analyze the real-time dynamic multimodal instructional match/mismatch and its implications with students’ learning and engagement. Two experienced special needs teachers participated in a half-year-long intervention to foster six low-achieving students’ reading comprehension strategies and engagement in reading. All verbal communications and relevant nonverbal activities were analyzed from videotapes. A code describing the level of strategic and motivational participation was given for each participant’s turn. In-depth interaction analysis shows that teachers had difficulties challenging their students and finding a dynamic match despite the guidance provided to them in implementing scaffolding principles. Reading comprehension was mainly practiced at low levels and too few challenges were created for deep learning. No increase could be seen during the intervention in the challenge level despite the development of the students' skills to take up challenges. It was difficult for teachers to increase their motivational support and students’ engagement during the intervention. It was hard especially for the teacher 1 to challenge her students systematically and for the teacher 2 to provide optimal motivational scaffolding based on the needs of her students. The results emphasize the need to understand cognitive, metacognitive and motivational aspects of all participants in classroom interactions and to integrate both challenging instruction and motivational scaffolding to support deep learning and engagement.
Classroom processes fostering students’ motivational engagement: Preliminary findings from a teacher intervention case study

Anna-Maija Poikkeus (University of Jyväskylä), Marja-Kristiina Lerkkanen (University of Jyväskylä), Kati Vasalampi (University of Jyväskylä), Helena Rasku-putkonen (University of Jyväskylä)

The present paper describes the design and preliminary experiences of a case study piloting a model of enhancing teacher competences for fostering student engagement, and an adjoining pilot of using on-line smart phone ratings to assess students’ motivation. Our focus is on selected aspects of classroom process quality which provide lenses for enhancing teacher’s sensitivity to motivational dynamics in the classroom and their ways of contributing to them, e.g., through feedback, regard for student perspectives, support for thinking skills, and scaffolding of dialogue in classroom. Preliminary findings will be presented based on the first phase of trying out a model with teacher workshops and reflection on their videotaped classroom lessons and interactive small group discussions. The target group consists of a case study of a group of teachers in one school (n = 4) and their students (n = 80). The pilot study suggests that providing teachers’ knowledge on the effects of interactions on students’ engagement and a theoretical framework for labelling and understanding interaction were not perceived by the teachers as an incentive to reflect on their practices. Sharing of videotaped excerpts of one’s classroom in the group and observing feedback cycles, and the engagement patterns of one’s students through observation of feedback, on the other hand, was experienced as providing more opportunities for insight. Moreover, the smart phone ratings indicate that an intrapersonal approach gives new window into motivation research. For example, the amount of competence significantly varies from lesson to lesson.

PAPER-17: Motivation and situational interest

Time: Saturday, 14/Jun/2014:
9:00am - 10:30am

Location: K232
Floor -K2, Siltavuorenpenk 5A

Session Chair: Niels Bonderup Dohn, Aarhus University

The role of motivation and participation for predicting performance in Massive Open Online Courses

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In the last five years, massive open online courses (MOOCs) have increasingly provided learning opportunities worldwide. However, it is unclear how students’ motivation and participation contribute to high performance in this environment. This study investigated how students’ motivation and their level of participation influenced performance in MOOCs. A total of 913 students from an Introduction to Macroeconomics MOOC completed a post-course
questionnaire measuring specific motivation processes: individual interest, situational interest – both on entry and maintained situational interest during the MOOC, mastery-approach goal orientation, and utility value beliefs. Moreover, online traces were used to measure participants’ interaction with the MOOC content; video-lecture viewing, and quiz attempts. Analysis of performance differences (audit, fail, pass, distinction) indicated that participants who passed or achieved distinction had significantly higher level of maintained situational interest in comparison to those who failed or simply audited. Distinction participants also had a higher level in mastery-approach goal orientation and utility value beliefs than other groups. Participation by viewing video-lectures was initially similar across groups but from mid-course onwards, pass and distinction groups presented a higher level of engagement than fail and audit groups. With regards to quiz attempts, pass and distinction students had a significantly higher number of quiz attempts than the other performance groups. Students who achieved a distinction attempted significantly more practice quizzes across the entire course compared to those students who simply passed. These findings indicate that specific motivation processes and levels of participation with MOOC content were significantly related to students’ MOOC performance.

Stimulating situational interest by contradictory information in a museum context

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Due to their situational characteristics museums are attractive learning environments with the potential of positively influencing visitors’ situational interest (SI). Science museums are moving from presenting science history to science in progress and increasingly have to convey open-ended and conflicting information in a motivating manner. This can be done through text exhibits that offer opposing views on a current science topic. Until now, it remains unanswered how this kind of information should be presented to support motivational processes like the stimulation of SI. From interest research, we know that text characteristics have an impact on the development of interest. We therefore investigated the impact of conflict salience, which was manipulated through changes in text structure (aspect-oriented vs. object-oriented) and presentation modality (written text vs. audio guide) on visitors’ SI. In addition we considered the influence of specific cognitive and motivational personal variables that are assumed to have an impact on how museum visitors deal with conflicting information. In a field experiment, data from 554 visitors were collected in two science museums. Results show an impact of text structure on catch-SI as well as Hold-SI and of presentation modality on catch-SI. Results also indicate an interaction between both factors for catch-SI. Regarding the personal variables, predictive power was found for self-efficacy, tolerance of ambiguity and closed-mindedness for catch-SI, while hold-SI was predicted by topic interest, self-efficacy, closed-mindedness and prior knowledge. These findings are of relevance for researchers as well as practitioners in the field.
Science outreach programs and students’ interest development in science

Niels Bonderup Dohn, Tomas Højgaard
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Due to decline in students’ interest in pursuing scientific careers, universities have developed outreach programs for upper secondary audiences in order to increase students’ interest in science and recruitment. In the study to be presented, we investigated how a university-arranged outreach program in physics, organized as a one-day excursion to an educational laboratory, stimulated Year 11 students’ situational interest (N = 93). The program involved four experimental demonstrations. In order to find evidence for whether the program had a desired effect in terms of increased individual interest in science and willingness to consider science as a career pathway, we measured students’ individual interest three times (in Year 10, Year 11 and Year 12). Data were collected by a mixed method approach; observation, informal interviews, focus group interviews and self-report surveys. The results show that the students found the outreach program interesting, but that nonetheless there were no changes in individual interest over the three years as measured by the survey. The findings suggest that it is optimistic to believe that a single science event can change students’ individual interest in science. Implications for outreach strategies as well for theory of interest development will be discussed.

Situational Interest and Learning: The Underlying Psychological Mechanisms

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The objective of this study was to investigate how situational interest is related to knowledge acquisition. Situational interest is construed as a motivational response to a perceived knowledge deficit. It is triggered in situations where this knowledge deficit becomes manifest, such as in the confrontation with a problem. In this study we manipulated prior knowledge of 32 secondary-school students about a particular problem (i.e., reasons for the conquest of Singapore by the Japanese during World War 2). Only students who lacked the appropriate knowledge showed an increase in situational interest after the problem was presented. We argue that the findings support the knowledge-deprivation account of situational interest. Our findings are at variance with the broadly held conviction that interest and learning are positively related.
Antecedents and Consequences of Achievement Goal Profiles in Elementary School: A Seven-Wave Longitudinal Study

**Malte Schwinger**, **Ricarda Steinmayr**, **Birgit Spinath**

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In the achievement goal literature, there is high agreement on the importance of multiple achievement goals which has stimulated numerous studies exploring multiple goals and their relation to important outcomes in high-school and college students. In contrast, however, the number of empirical studies investigating the structure and development of multiple goals in younger students is still scarce. The present study therefore examined antecedents and consequences of achievement goal profiles across seven measurement waves from second to fourth grade in a sample of 542 German elementary school students. Latent profile analyses revealed five different achievement goal profiles (high, moderate, and low multiple goals, as well as primarily mastery- and primarily performance-oriented) although not all profiles were prevalent at each measurement wave. Over 80% of the students did change their goal profile over time, with greater instabilities within than between school years. Though the amount of primarily performance-oriented students increased over time, the overall number of students adopting this profile remained small until the end of fourth grade. Regarding antecedents of goal profiles, we found that girls and students favoring an incremental view of intelligence were more likely to pursue primarily mastery goals. Primarily mastery-oriented and high multiple goal students showed significantly higher values on intrinsic motivation than primarily performance-oriented and those pursuing low multiple goals. Though mean differences were not always significant, primarily mastery-oriented students mostly received the best school grades. Results are discussed in relation to our understanding of the nature and development of individual goal profiles in elementary school.
Using a 2 x 2 achievement goal framework to predict students’ self-regulation, self-efficacy, positive and negative affect and academic achievement in a Peruvian sample of university students

Lennia Matos
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We used the 2x2 achievement-goal framework to study the role of motivation in the academic context of a Peruvian sample of university students (N = 202). The purpose of this research was to study the relationship between students’ achievement goals, self-regulation, self-efficacy, positive and negative affect, and academic achievement in a Peruvian sample of university students. Previously we have used the three goal framework (mastery, performance-approach, and performance-avoidance) to predict cognitive outcomes (learning strategies and academic achievement). In the current study we wanted to predict cognitive and affective outcomes using a 2x2 goal framework (mastery-approach and avoidance, performance-approach and avoidance).

For this purpose, we used the Achievement Goal Questionnaire (Elliot & Murayama, 2008), the Patterns of Adaptive Learning Scales (PALS, 2000), the Motivated Strategies for Learning Questionnaire (MSLQ, 1991), the Positive and Negative Affect Scale (PANAS, 1988, 2012). The adapted questionnaires were valid and reliable in our sample. Results from the regression analyses showed that mastery-approach goals positively predicted self-regulation strategies and self-efficacy. Performance-approach goals, positively predicted the use of self-regulation strategies, self-efficacy, and positive affect. Students’ avoidance-goals (mastery and performance) did not predict any of the outcome variables. Results from Structural Equation Modeling will be discussed. Our study contributes to the previous work by examining achievement-goal theory related to cognitive and affective outcomes in a sample of Peruvian university students which have been understudied in the achievement goal literature in particular and in the motivation literature in general (commonly, studies are done with white, middle class North American students).

The role of goal orientations for learning behavior and achievement during teacher training.

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Recent studies revealed the goal orientation approach as a promising framework for the conceptualization of teacher motivation. There is growing evidence that teachers’ personal goal orientations have a crucial impact on their job-related attitudes and behaviors. However, up to now there is little research on the role of goal orientations during teacher training, although this phase constitutes a fundamental basis for the development of teachers’ professional competencies. The aim of the current study was to examine whether and to what extent goal orientations predict the magnitude and change in several aspects of teacher trainees’ learning behavior (i.e. reflection on teaching, self-regulation, resignation and proactive coping) as well as the predictive value of these aspects of learning behavior for the magnitude and change of teacher trainees’ achievement, indicated by grades. A two wave longitudinal study with 186
A study of German teacher trainees was conducted to investigate this research question. Results of a two-wave latent growth model indicated that goal orientations significantly predicted the magnitude, but not the change in learning behavior. In detail, learning goal orientation positively predicted reflection on teaching, performance approach goal orientation was associated with lower resignation and higher proactive coping, performance avoidance goal orientation was associated with higher resignation and lower proactive coping and work avoidance negatively predicted reflection on teaching and self-regulation. Contrary to our hypothesis, neither the magnitude nor the change in competence could be predicted by the magnitude or change in learning behavior. Theoretical and practical implication of our findings will be discussed.

**PAPER-19: Self-determination theory and motivation**

*Time:*
Saturday, 14/Jun/2014:
9:00am - 10:30am

*Location: K222.2*
Floor -K2, Siltavuorenpenger 5A

*Session Chair:* Cornelis J. de Brabander, Open University

**Testing a Unified Model of Task-specific Motivation: how teachers appraise three professional learning activities**

*Cornelis J. de Brabander*¹,², *Folke J. Glastra*²

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This paper tests the tenability of a Unified Model of Task-specific Motivation (UMTM). The UMTM is an attempt to integrate different theories on task-specific aspects of motivation. Core assumption of the model is the existence of four relatively independent valences: positive and negative, and affective and cognitive. Affective and cognitive valences represent intrinsic and extrinsic aspects; positive and negative valences call for approach respectively avoidance motivation. The interaction between these four types of valences results in a valence expectation that influences readiness for action. In turn, valences are influenced by task-specific antecedents, like autonomy expectation, feasibility expectation, social relatedness and subjective norm. 441 Teachers from 54 primary schools provided responses on all components of the model for three imaginary professional learning activities intended to contribute to the solution of a particular instructional problem. The three activities were framed as a school board decided, a team decided and a personally decided professional learning activity. The data analysis is not yet complete, but a preliminary confirmatory factor analysis shows that the differences between the activities require separate models. However, patterns of bivariate correlations reveal that the components of the model behave as expected with minor differences between activities. Multilevel structural equation modeling will be used to develop three models, one for each professional learning activity, that are expected to be specialized variants of a general model.
The effect of competency-differentiated classes on students' basic needs satisfaction and school engagement

Kaare Bro Wellnitz
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A new school structure is emerging in Denmark that employs competency-differentiated classes instead of the traditional age-differentiated classes. While much focus in contemporary school research is given to performance, the present study focused on characteristics of wellbeing since this is of more interest if we want to facilitate a durable passion to learn. Specifically the basic needs satisfaction and student engagement of middle school students from two schools, employing respectively the competency differentiated and the age-differentiated structure, were compared. Based on Self-Determination Theory (SDT) it was hypothesized that the greater meaningful flexibility of the emerging school structure would lead to higher experienced autonomy (H1) and competence (H2) but, through a lack of social stability, lower satisfaction of relatedness (H3). Using Self-System Model of Motivational Development (SSMMD) it was further hypothesized that the higher satisfaction of the needs for autonomy and competence would lead to higher student engagement (H4). Two-tailed independent samples t-tests confirmed hypotheses 1 and 3 (p<.05) while hypotheses 2 and 4 were only confirmed as trends (e.g. p<.10). The confirmation of the hypotheses lends support for both SDT and SSMMD and indicates that it might be reasonable to challenge the traditional age-differentiated structure of the Danish primary school if we want to improve our students’ passion to learn. The difficulty of employing the new school structure is however a limitation for practical implementation, and further replication is needed.

Choosing a high-school major: Parents' involvement, type of motivation and success

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Choosing high school major is considered one of the first career decisions. This decision affects future academic competence, opportunities, and well-being.

The goal of this research is to examine the way in which parents are involved in the decision making process of choosing a high school major, and the relation between the type of involvement and the type of motivation, success and well-being of their children. The study employs Self-Determination Theory (Deci & Ryan, 2000) as the theoretical framework for this investigation.

Two hundred and forty one 11th grade students participated in this study. The participants completed questionnaires assessing their type of motivation in choosing the major subject, their perceptions of their parents' need supportive behavior, their type of motivation to learn the major subject, their well-being and their grades.

Using path analysis, the findings indicated a model in which parents' need-supportive behaviors are positively associated with adolescents' autonomous reasons to choose the major subject, which in turn is positively associated with autonomous motivation to learn the subject. This
results in higher grades and better well-being. The results support the importance of autonomous motivation to learn and indicate the positive role that parents take in their children’s motivation.

PAPER-20: Motivation & Emotion II

Time: Saturday, 14/Jun/2014: 9:00am - 10:30am

Location: Minerva Plaza
Floor -K2, Siltavuorenpeneg 5A

Session Chair: Kristina Kögler, Goethe University
Frankfurt

The Developmental Dynamics of Children’s Academic Performance and Mothers’ Homework-related Affect and Practices

Gintas Silinskas, Noona Kiuru, Kaisa Aunola, Marja-Kristiina Lerkkanen, Jari-Erik Nurmi
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This study investigated the longitudinal associations between children’s academic performance, and their mothers’ affect and practices in homework situations. The children’s (n = 2,261) performance in reading and math was tested in Grade 1 and Grade 4, and the mothers (n = 1,476) filled out questionnaires on their affect and practices while their children were in Grades 2, 3, and 4. The results showed, first, that children’s good academic performance in Grade 1 predicted mothers’ positive affect and autonomy granting in homework situations later on, whereas poor performance predicted mothers’ negative affect, help and monitoring. Second, the more help in homework the mothers reported, the slower was the development of the children’s academic performance from Grade 1 to Grade 4. Finally, mothers’ negative affect mediated the association between poor children’s performance and the repertoire of maternal practices when assisting their children with homework (i.e., increased help, increased monitoring, and decreased autonomy granting).

Peer mentors’ positive and negative emotions

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Despite current literature indicating the importance of emotions in higher education, there is limited research on mentor emotions. Peer mentoring programs are commonly used to facilitate the transition of new students in higher education settings. Research has shown that peer mentors also benefit as they gain new skills and support their mentees. Previous work by the authors indicated that mentors regarded their experiences as positive but this was based on retrospective structured survey data gathered after the experience was completed. In this study 45 university peer mentors completed face to face or online open-ended questions about their experiences early in the semester when they had recently begun mentoring. Transcripts were examined for references to emotions and the resulting 394 text segments coded by two
researchers. These indicated that the experience was a positive one with mentors saying, for example, that they loved being a mentor and found it enjoyable. Some felt anxious and frustrated, especially when their mentees did not respond. Strong negative emotions were not present as in some previous research, perhaps because the program was across all beginning students, not those “at risk”, and the mentors were well-trained and supported. The findings provide useful points for mentor training programs, build on previous studies examining emotions of smaller groups or retrospectively, and contribute to a limited area of research.

The relationships between job demands, stress, depression and alcohol use among a large-scale sample of Australian school principals.

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School principals are key in offering teachers the supportive working conditions they need to foster students’ motivation and engagement. Yet, they are facing increasing demands, which may lead them to experience distress and harmful coping behaviors. The purpose of this study is to investigate the relationships that quantitative demands, emotional demands and school-related obstacles for learning (e.g. absenteeism, drugs, bullying) share with school principals’ stress, feelings of depression and alcohol use. The sample is composed of 2049 school principals (44 % of men) from all over Australia. Results showed that: (1) emotional demands had a stronger impact on stress and depression than quantitative demands and school-related obstacles for learning, (2) stress and depression were significant mediators of the relationship between the demands and alcohol use, (3) gender and job control (i.e. autonomy and influence over one’s work) were significant moderators of this relationship, and (4) the percentage of explained variance of alcohol use was limited, suggesting that demands and emotional distress do not automatically lead to alcohol consumption. The practical implications of increasing job demands and school principals’ emotional distress are discussed.
PAPER-21: Social motivation in the school context

**Time:** Saturday, 14/Jun/2014: 9:00am - 10:30am

**Location:** K113
Floor -K1, Siltavuorenpenkari 5A

**Session Chair:** Stuart Karabenick, University of Michigan

**Pupils’ Academic and Non-Academic State Goals in Authentic Learning Situations and their Impact on Aspects of Functional State**

**Kathrin Bürger**  
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Recently, pupils’ situational motivation and its impact on learning received more attention in research. Different theoretical approaches provide assumptions on the impact of situational (state) goals on the learning process. First, the Cognitive-Motivational Process Model (Rheinberg, Vollmeyer, & Burns, 2000) implies that state goals serve as predictors of the psychological activity during learning which is called functional state (i.e., flow, use of learning strategies). Second, the Model of Adaptive Learning (Boekaerts & Niemivirta, 2000) as well as the Theory of Motivational Action Conflicts (Hofer, 2007) assume that pupils’ basically orient their behaviors regarding two goal priorities: competence and well-being. Depending on the goals pupils’ strive for, they should be differentially activated towards learning, which is indicated by the functional state variables. Hence, pupils’ competence and well-being oriented goals were assumed to differentially impact the use of learning strategies as well as the flow experience during learning. In a longitudinal correlation study with N = 542 pupils, competence oriented state goals positively predicted the experience of flow and the use of learning strategies during the lesson whereas well-being oriented goals were negative predictors of adaptive functional state variables. This pattern of results was confirmed even when controlling for the influence of the trait goals on the state goals. This shows that dynamic models of motivation are worthwhile to be tested in authentic classroom situations.

**Do always social development goals predict optimal functioning?**

**Aikaterini Michou¹, Hasan Ugur², Saniye Yelcin¹, Athanasios Mouratidis³**  
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Social achievement goals have been associated with social adjustment. Research findings support the positive relation of social development goals (i.e., goals focusing on cultivating meaningful relationships) and the negative relation of social demonstration-approach (i.e., goals focusing on gaining recognition) and –avoidance (i.e., goals focusing on avoiding social rejection) goals to optimal functioning. In the present research we investigated the relations of Turkish adolescents’ social achievement goals to coping. We also examined whether the autonomous (i.e., well internalized) versus controlling (i.e., pressuring) reasons for endorsing
the “adaptive” social development goals could make a difference in the prediction of aggression. In a longitudinal study (Study 1) with \(N = 427\) Turkish adolescents, we found through regression analysis, that social development goals in Time 1 (T1) positively predicted adaptive coping in Time 2 (T2) after controlling for need satisfaction and adaptive coping in T1. We also found that social demonstration approach goals predicted maladaptive coping in T2 after controlling for T1 need satisfaction and T1 maladaptive coping. More interestingly, in a cross-sectional study with \(N = 138\) Turkish young adults, regression analysis showed that controlling reasons for endorsing a social development goal did predict aggressive reactions in social events. The results suggest that individuals who endorse prosocial goals and satisfy their psychological needs are more likely to copy effectively in adverse situations. However, the results further suggest that individuals who endorse prosocial goals could be aggressive in social events when the reasons underlying such goals are not well internalized to the self.

**Necessary but not sufficient alone: The role of autonomy-support and mastery-goal orientation in the reduction of cheating**

**Caroline Julia Pulfrey\(^1\), Maarten Vansteenkiste\(^2\), Aliki Michou\(^3\), Fabrizio Butera\(^1\)**

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What kind of learning context should educators set up if they want to reduce cheating? Research in achievement goal theory and in Self-Determination Theory has shown that a mastery-goal focus and autonomous motivation are both associated with less cheating, but to date no research has explicitly tested how autonomy-supportive versus controlling achievement goal contexts might interact and enrich each other in countering academic dishonesty. We explored this question with a two-by-two experimental study that manipulated the controlled versus autonomous promotion of performance and mastery-approach goals and used a behavioral measure of cheating, hypothesizing that the least amount of cheating would occur in a task context that promoted mastery-approach (intrapersonal improvement) goals in an autonomy-supportive way.

The study was carried out with 164 second-year students in a management school. In the two controlling conditions, students were told in controlling language that they were expected to prove themselves as a way of impressing others, whilst in the two autonomous conditions, they were told in autonomy-supportive language to try the exercises as a personal challenge. The dependent variable consisted of twelve puzzles presented in two sets, with three puzzles in each set that could only be solved by cheating. Poisson regression analyses revealed significantly lower amounts of overall cheating in the autonomy-supportive, mastery-approach goal condition compared with the other three conditions.

These results indicate not only the combined benefits of autonomy-support and a mastery-goal orientation in education, but, more importantly, the fact that both seem to be needed to reduce academic dishonesty effectively.
Student Responsibility: Its Assessment and Links to Students’ Self-efficacy, Intrinsic Interest, and Achievement

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The present study utilized a cross-lagged experimental design in a sample of 140 college students in Introductory Psychology to examine the usefulness of two types of student responsibility assessments and the implications of personal responsibility for students’ motivation (intrinsic interest) and achievement. The findings indicate that, compared to negatively worded responsibility items, positively worded items are more strongly related to other positively valenced constructs, including actual achievement. Furthermore, positively valenced responsibility for student achievement, but not self-efficacy, positively predicted actual achievement, after controlling for expected course grade. The findings indicate that researchers and educators should consider not only whether students believe that they can produce desired outcomes, but also whether they feel personally responsible to actually produce these outcomes.

PAPER-22: Achievement Goals: Conceptual and methodological issues

Time: Saturday, 14/Jun/2014:
1:00pm - 2:30pm

Session Chair: Gera Noordzij, Erasmus University
Rotterdam


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Ample achievement goal research has compared mastery and performance goals. It shows positive outcomes for mastery goals but inconsistent effects for performance goals. This has sparked research into when and why performance goals produce positive versus negative outcomes. The present study bridges those research strands. The “When” strand emerges from a recent meta-analysis (Hulleman et al., 2010) revealing that performance goal measures which emphasize outperforming others (“normative” goals) predict high academic achievement, while others measures which emphasize appearing competent (“appearance goals”) predict low achievement. The “Why” strand examines how normative goals’ effects depend on the underlying reasons for pursuing them: they predict adaptive outcomes when pursued for autonomous reasons (e.g., enjoyment of competition), but negative outcomes when pursued for controlling reasons (e.g., earning rewards; Vansteenkiste et al., 2010). The present study
replicates and unifies both strands. University students completed measures of normative, appearance, and mastery goals, their reasons for pursuing a normative goal, and finally several educational outcomes. Mastery goals predicted adaptive outcomes (e.g., self-efficacy) and appearance goals predicted maladaptive outcomes (e.g., help-avoidance). Overall, normative goals had weak effects on all outcomes. Tests of students’ reasons for pursuing normative goals revealed adaptive effects when pursued for autonomous reasons, but, like appearance goals, maladaptive effects when pursued for controlling reasons. Theoretical implications will be considered, particularly for the lingering debate about how best to conceptualize achievement goals: either as broad “orientations” entailing multiple experiential processes, or more narrowly as “standards” for defining success (Elliot, 2005; Kaplan & Maehr, 2007).

A new rationale for situated antecedents of learning goal orientation – integrating need fulfillment into the theoretical framework of Achievement Goal Theory

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Learning goal orientation (LGO) is defined as the striving to improve own abilities in achievement situations. LGO is beneficial for the learning progress, since it is associated with deep processing. Ames (1992) postulated several strategies to foster LGO in school. They include the provision of interesting tasks, autonomy, a collaborative working atmosphere and low time pressure. Furthermore, individual progress should be evaluated, and recognized. It can be assumed that most of these strategies deliver possibilities to fulfill the basic psychological needs for autonomy, competence and relatedness. According to this assumption, need fulfillment should predict LGO in various achievement-related environments beyond primary and secondary education. This hypothesis was tested with structural equation modelling in two different environments: at university (n = 532 students) and at school as workplace (n = 334 teachers). As expected, LGO was positively associated with perceived need fulfillment in both samples. Intrinsic motivation was added as potential mediator of the relation between need fulfillment and LGO, since the original strategies included the activation of students’ interest, which is also a direct consequence of need fulfillment. By including intrinsic motivation into the model, the direct effect of need fulfillment on LGO disappears in both contexts. The analyses suggest that perceived need fulfillment is associated with LGO in different environments. Furthermore, this relation seems to be mediated by intrinsic motivation. Future studies should investigate if these results reflect the actual causation. The further validation of the model and its practical implications will be addressed.

Are adult students’ goal orientation profiles and self-defined course goals equally associated with course evaluations?

Antti-Tuomas Pulkka¹, Markku Niemivirta²
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This study examined whether adult students’ goal orientation profiles and self-defined course goals are equally associated with course evaluations.

The sample consisted of 88 students from the Finnish National Defence University (NDU). The students’ achievement goal orientations (survey), course-specific achievement goal
preferences (open-ended format), and course evaluations were assessed.

Four groups of students were identified based on their achievement goal orientation profiles. The goal orientation groups differed in their evaluations of teaching methods, quality of pedagogical materials, quality of assessment methods, satisfaction with the course, effort and attainment, and participation. In most cases, students oriented towards increase of competence or absolute and relative success tended to give higher ratings than the other two groups.

Students’ open answers were found to include responses displaying mostly qualification goals (gaining specific instrumental qualification for working career), and mastery-intrinsic goals, and clearly less other goal categories. The presence of mastery-intrinsic goals (focus on learning new things and increasing competence) was associated with higher ratings of satisfaction with the course, interestingness, effort and attainment, and participation, and the presence of mastery-extrinsic goals (focus on success and good grades) was associated with higher ratings of the perceived quality of teaching methods and pedagogical materials. In contrast the presence of work-avoidance goals was associated with lower ratings of satisfaction with the course and interestingness.

In sum, the results show that general achievement goal orientations and course-specific goals are having equal effects on course evaluations. The relation between general and course specific achievement goal preferences is discussed.

The impact of state goal orientation on motivation and performance: A meta-analytic review
Gera Noordzij, Lisenne Giel, Heleen Van Mierlo
Erasmus University Rotterdam, Netherlands, The; l.i.s.giel@gmail.com

To date the majority of meta-analyses on achievement goal orientation (GO) has focused on trait-GO (e.g., Hulleman et al., 2010). However, relatively few meta-analyses have been conducted on state-GO (see for exceptions, Rawsthorne & Elliot, 1999; Utman 1997). The current meta-analysis examined the effects of experimentally induced GO (i.e., mastery-approach = MAp, mastery-avoidance = MAv, performance-approach = PAp, and performance-avoidance = PAv GO) on performance, intrinsic motivation, self-efficacy, and enjoyment. Ninety-eight empirical studies, comprising 312 individual effect sizes and 15,167 participants were coded on study characteristics (publication status, sample size, achievement domain, goal framing, and manipulation check) and socio-demographic characteristics (age, sex, and nationality). The results indicated that MAp goals were more beneficial for performance and self-efficacy than PAp and PAv goals, and MAp and PAp goals were more beneficial for motivation than PAv goals. In addition, several state goal orientation-performance relationships differed significantly from each other as a function of publication status, achievement domain, goal framing, manipulation check, age, and nationality. For example, compared to studies that induced goal orientations through either goal content or goal climate, studies that induced goal orientation through both goal climate and goal content exhibited a larger difference in performance between MAp and PAp goals. It is hard to draw conclusions for MAv goals because of the striking lack of studies that incorporate MAv goal.
A SECOND VERSION OF A PICTORIAL INSTRUMENT ASSESSING ACHIEVEMENT EMOTIONS IN CHILDREN AND ADULTS

DANIELA RACCANELLO, CATERINA BIANCHETTI, NICOLE CARANTANI, ESMERALDA GALAZZINI, MARA GHIO, SOLDA’ STEFANIA
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Achievement emotions, as those emotions focused on achievement activities or outcomes, are usually measured by means of questionnaires (Pekrun & Stephens, 2012). To favour their evaluation in children, such instruments could present both verbal labels and graphical devices, facilitating a more direct access to the semantic network in which emotional information is stored. While there are many instruments assessing basic emotions through graphical aids such as photographs or drawings, scarce attention has been paid to instruments about a wider range of emotions, which could be variously used to assess children’s emotions related to learning. Therefore, the aim of this work was to explore the goodness of a second version of an instrument representing ten achievement emotions through depicted faces (Raccanello & Bianchetti, in press), also examining age differences. Second-graders, fifth-graders, and university students completed three written tasks assessing the correspondence between drawings of faces and ten achievement emotions (enjoyment, pride, hope, relief, relaxation, anxiety, anger, shame, boredom, and sadness): An agreement task (Study 1, n = 143), a matching task (Study 2, n = 145), and a naming task (Study 3, n = 136). The results suggested the goodness of the proposed instrument, confirming the correspondence between the pictorial representations and the hypothesized verbal labels, with some differences characterizing different age students. Notwithstanding possible limitations related to the characteristics of self-report or cross-sectional data, such instrument could be used in a variety of learning contexts to assess children’s emotions, for both research and educational purposes.

Emotion and writing: A study from 3rd to 11th grade

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The aim of this study was to analyze the effect of emotions during narrative writing, based upon Hayes’s models (1996, 2012) suggesting that motivation and affect have an important role during the writing process. Previous studies (e.g., Fartoukh, Chanquoy, & Piolat, 2012) have already shown that emotion could indeed lead to differences in young graders’ written productions, such as length, vocabulary, and nature of the lexicon (verbs, adjective, pronouns...).
In this study, we observed the effect of emotions in the classroom through the exercise of writing with more than 500 children and adolescents from 3rd, 5th, 7th, 9th and 11th grades. Participants were divided into five groups according to the instruction concerning writing a text about: (1) a normal day of their life (neutral condition), (2) the happiest day of their life, (3) the saddest day of their life, (4) the day they got the biggest surprise of their life, (5) and the day they got the biggest fear of their life.

The first results, which show differences in terms of words’ number, number of sentences used, spelling accuracy, affective lexicon... according to the nature of the emotion involved base on instructions and grade, seem also to indicate that emotions have a strong impact on written production and beyond that on school’s activities.

**Emotion Experiences and Emotional Dissonance of Teachers During Class and How They Relate to Emotional Exhaustion: An Experience-Sampling Study**

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There is a distinct lack of research addressing emotional processes within the context of teacher burnout. The present study investigated teachers’ emotional exhaustion and how it relates to teachers’ in-situ emotional experiences and emotional dissonance on an inter- and intraindividual level. Employing the Experience Sampling Method, N = 39 teachers of German Gymnasium were equipped with handheld computers and reported on their emotions and emotional dissonance while teaching in class (state-level), thus yielding a total of N = 717 state-assessments. Additionally, teachers rated their emotional exhaustion in a previously issued trait-questionnaire. Descriptive results on a state-level show that teachers report to suppress their emotions in 38% of the lessons, and in about 28% of the lessons to fake emotions. Multilevel structural equation modeling reveals that emotional exhaustion is positively related to teachers’ experience of anger, and negatively related to enjoyment, yet not to their experience of anxiety. On an interindividual level – that is between teachers – only anger is a significant contributor to teachers’ emotional dissonance, while on an intraindividual level – that is within teachers – all emotions significantly predict emotional dissonance. Implications will be discussed in the presentation.
How does studying in teacher education feel like? Student teachers’ academic emotions in teacher education

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Academic emotions are central ingredients in student teachers’ learning. They have, for instance, shown to effect on cognitive performance, motivation, achievement and decision-making (Linnenbrink-Garcia et al., 2011). However, until recently the role of academic emotions in student teachers learning has been often neglected (e.g. Ketonen & Lonka, 2012). The present study focuses on exploring the spectrum of academic emotions experienced by the student teachers embedded in different academic activities provided by the teacher education.

The data was collected from 19 primary school student teachers majoring in educational science (female: 14, Male: 5, Age: mean= 31, min/max= 23/51 years) from the University of Helsinki. The interviews were qualitatively content analysed by using abductive strategy (e.g. Chamberlain, 2006).

Results showed that student teachers experienced a wide variety of emotions during their studies. Altogether student teachers described 834 emotional experiences: 18 different positive emotions and 20 different negative emotions were reported. Student teachers described more (62%) positive emotions than negative (38%) emotions. Most commonly described positive emotion was enthusiasm, and the most typical negative emotion was inefficacy. Further investigations showed that student teachers reported more emotional experiences embedded in individual activities than social activities. Both positive and negative emotions were more frequently reported in individual than in social activities. Results implied that the spectrum of academic emotions experienced by the student teachers is wider than previous literature suggests. Moreover, the results show that student teachers experience wide range of academic emotions in various academic activities provided by teacher education.
PAPER-24: Interventions of mathematics motivation

Time: Saturday, 14/Jun/2014: 1:00pm - 2:30pm

Location: K222.2
Floor -K2, Siltavuorenpuenger 5A

Session Chair: Hanna Gaspard, University of Tübingen

Motivation in learning mathematics and attitudes towards word problems

Nonmanut Pongsakdi, Teija Laine, Erno Lehtinen
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This study is a part of a pilot experiment of word problem enrichment intervention programme (WPE) aimed at support of students’ realistic mathematical modeling and problem solving skills. The purpose of this paper is a) to investigate relationship between motivation in learning mathematics and attitudes towards word problems b) to explore how initial motivation in learning mathematics was associated with the development of students’ problem solving achievement. Fourth-, and sixth-graders (N = 170) participated in the study. Data for this study were collected using three test instruments: Word Problem Test, Motivation Questionnaire, and Word Problems Attitudes Questionnaire. The results confirm the reliability of used instruments, and they indicate that, in general, motivation in learning mathematics is significantly positively correlated with situation model, while keyword approach has a positive correlation with attainment and cost. Moreover, the development of students’ problem solving performance in WPE group is significantly positively correlated with cost, while the development of students’ problem solving achievement in the control group (traditional teaching) group has a positive correlation with self-efficacy.

Effects of a utility-value intervention on students’ competence beliefs and achievement in mathematics

Brigitte Maria Schreier, Anna-Lena Dicke, Hanna Gaspard, Isabelle Häfner, Barbara Flunger, Benjamin Nagengast, Ulrich Trautwein
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Students’ value and competence beliefs in mathematics have been found to decrease steadily throughout secondary education (e.g., Watt, 2004). In particular, students seem to have difficulty in perceiving the utility of mathematics (e.g., Chouinard & Roy, 2008).

Students’ perceptions of utility can be successfully manipulated via classroom interventions in various domains, with an increase in utility value beliefs having positive effects on students’ achievement (e.g., Hulleman & Harackiewicz, 2009). Yet, it remains unknown whether the manipulation of utility value also influences students’ competence beliefs as indicated by non-experimental studies (e.g., Husman & Hilpert, 2007). Moreover, as previous classroom interventions mainly focused on the utility of a pre-defined learning task or consisted of several measurements over a long period of time, they are rather unsuitable for large-scale implementation by educational practitioners.
Using a sample of 1916 students in 82 classrooms, the effects of two 90 minutes classroom interventions targeting utility value (evaluating quotations or writing a text about the utility of mathematics in general) on students’ competence beliefs (self-concept, homework self-efficacy) and achievement (grades, speed test) in mathematics was assessed.

Hierarchical linear regression analyses showed a successful increase of students’ utility value in both conditions. Students’ homework self-efficacy in mathematics was improved through both intervention conditions. Students’ self-concept and speed test performance in mathematics was only increased through the quotations condition. No intervention effects on students’ math grades were found.

**Promoting students’ motivation and achievement in mathematics: Differential effects regarding parents’ intrinsic math values**

*Isabelle Häfner, Barbara Flunger, Hanna Gaspard, Brigitte Schreier, Anna-Lena Dicke, Benjamin Nagengast, Ulrich Trautwein*

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Recent research has provided evidence that students from families in which math is not seen as interesting and enjoyable have lower motivation in math (e.g, Frenzel, Goetz, Pekrun, & Watt, 2010). Therefore, it is important to foster those students’ value perceptions to close potential achievement gaps related to parents’ intrinsic math value. Within the expectancy-value framework (Eccles et al., 1983), interventions promoting students’ utility value in math have been successful (Hulleman, Godes, Hendricks, & Harackiewicz, 2010; Hulleman & Harackiewicz, 2009). The present study investigated whether a utility value intervention had more positive effects on value perceptions, self-concept, and achievement in mathematics for students whose parents reported lower intrinsic math values than for students from families with parents reporting higher intrinsic math values. The utility value intervention consisted of a 1.5 hours course unit including a presentation and an exercise about the usefulness of mathematics. Data from 1488 students in 82 classes from 25 schools and their parents were analyzed. Students filled out questionnaires at a pretest and five months after the intervention. Using multilevel regression analyses, significant main effects of the intervention on students’ motivation could be found. Additionally, significant cross-level interactions were found between the intervention and parents’ intrinsic value: The intervention effects on the value components, as well as on students’ math achievement, were higher for students whose parents reported lower intrinsic math values than their counterparts. Therefore, the utility value intervention promoted students’ motivation and achievement especially for students whose parents reported lower intrinsic math values.
Promoting Value Beliefs for Mathematics with a Relevance Intervention in the Classroom

Hanna Gaspard, Anna-Lena Dicke, Barbara Flunger, Brigitte Schreier, Isabelle Häfner, Ulrich Trautwein, Benjamin Nagengast
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As student motivation declines across secondary school (e.g., Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Watt, 2004), it is important to find ways to counter this negative development. Interventions targeting students’ utility value are a powerful tool to this end (Hulleman, Godes, Hendricks, & Harackiewicz, 2010; Hulleman & Harackiewicz, 2009). In our study, we tested whether students’ value beliefs for mathematics could be enhanced by a relevance intervention in the classroom and whether this intervention had different effects depending on gender. Eighty-two ninth grade classrooms were randomly assigned to one of two experimental conditions or a waiting control condition. Both experimental groups received a 90 minute intervention on the relevance of math within the classroom which consisted of a presentation and individual tasks (either writing a text or evaluating quotations). Effects of the intervention were evaluated via self-reports of 1916 participating students six weeks and five months after the intervention. The intervention had a positive effect on students’ value beliefs at both time points. Whereas the quotation condition had stronger effects on utility value and also affected attainment value and intrinsic value, the text condition only had significant main effects on utility value. No effects on cost were found. Both intervention conditions had more positive effects on utility value and intrinsic value for females than for males.
A Longitudinal Study on Motivation to Teach, Causal Attributive Style, Perception of Teaching Experience, and Burnout

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There is limited evidence of the effect of motivation to become a teacher on subsequent perceptions and engagement during the career. Accordingly, this study investigated how motivations to teach (T1: entry into teacher education) explain future teachers’ interpretations of students’ academic successes and failures (T2: immediately prior to teaching qualification), and to symptoms of burnout after several years practising in the profession (T3). The sample consisted of 137 early career teachers in Australia. Motivations to teach (T1) were assessed by the Factors Influencing Teaching (FIT-) Choice scale. Teachers’ causal attribution of students’ success and failure (T2) were measured with items related to five causes: abilities, effort, teaching, family resources, and genes. Burnout (T3) was assessed by the Maslach Burnout Inventory-Educators Survey. Quality of teaching experience (T3) was assessed by items tapping their experience (interest, confidence in one’s content knowledge, and confidence in teaching the topic to the specific class) with each their most and least favourite classes. Globally, the results indicate that the effects of motivation to teach on T3 variables were fully mediated by teachers’ causal attribution of students’ success and failures, with effort attribution predicting quality of teaching experience and ability attribution explaining burnout. The results reveal the beneficial role of teachers’ causal attribution to effort, and at the opposite, the harmful role of attribution to abilities. Interestingly, these effects were found on different outcomes suggesting that the role of attributions is a function of the outcome. The presentation will discuss these effects and their implication for research on teacher motivation.

How secondary school teachers’ work environments influence motivation for professional learning

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This study investigates factors in secondary school teachers’ work environments that influence their motivation for professional learning. Theoretical starting point for this research is self-determination theory. From questionnaire data (N=656), four profiles of different types of motivation for professional learning are discerned. These profiles were labelled as follows:
extremely autonomous, moderately motivated, externally regulated, and highly autonomous. From each profile, five to seven teachers were interviewed about factors in their work environment that influence their motivation for professional learning. These interviews indicate that teachers in different profiles name similar factors as to what influences their motivation, however the meaning they attach to these factors differs. This research gives insight into the circumstances and processes that precede, or go hand-in-hand with, teachers’ motivation for professional learning. Results may help principals in stimulating teachers’ learning for professional development.

**Online Motivational Interventions: Promoting Psychological and Physical Health in Teachers**

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Weiner’s (1985) attribution theory asserts that the causal explanations used by individuals to explain negative events in academic achievement settings can substantially impact subsequent emotions, behaviours, and performance. Whereas over 30 years of research demonstrates significant benefits for students from brief interventions in which personally controllable attributions for failure are encouraged (e.g., lack of effort vs. low ability; see Forsterling, 1985; Haynes et al., 2009), little research to date has evaluated the effects of Attributional Retraining (AR) for teachers. The present study addressed this research gap in examining the longitudinal benefits of a web-based, motivational program for teachers, based on attribution theory, on psychological and physical health. In the spring of 2013, 526 Canadian teachers completed an online questionnaire including baseline self-report measures of causal attributions, emotional exhaustion, and physical well-being. Immediately following was a series of brief readings summarizing (a) the content of AR interventions in prior empirical research with students, and (b) short segments from a published teacher handbook providing examples of in-class assessment and instruction methods that encourage adaptive, personally controllable attributions in students. ANCOVA analyses (controlling for age, gender, years of experience, grade level of instruction, baseline measures) on the same questionnaire completed six months later revealed statistically significant main effects of the AR intervention on each dependent measure. The present findings thus provide preliminary empirical support for the potential cognitive, emotional, and health benefits of informational, online, motivational programs for teachers in which research and advice concerning motivational topics are presented in an accessible manner.
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