



PATHWAYS To ADULTHOOD:

Educational opportunities and life chances in context

PATHWAYS 9<sup>th</sup> International Workshop

15- 19 May 2013

Center for Educational Science and Psychology, University of  
Tübingen, Germany



*Meeting Sponsored by the Jacobs Foundation*

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## Welcome

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Dear Colleagues

On behalf of the Jacobs Foundation I welcome you to the 9<sup>th</sup> Pathway Workshop at the Center for Educational Science and Psychology at the University of Tübingen. The aim of the workshop is to give the PATHWAYS Fellows the opportunity to present their recent research, to discuss with their mentors and international colleagues, and to plan future papers, projects, and activities.

The theme of 9<sup>th</sup> workshop is: Educational opportunities and life chances in context. Doing comparative research is a challenging task, and it is great to see how the Fellows are addressing issues on a comparative basis, taking into account multiple sources of influence on human development. Recognizing the role of context, structure and agency, the Fellows are exploring new issues, especially regarding school engagement, career planning, opportunities and life chances in four countries. Finding common themes and common patterns across context generates insights into generalizability of findings as well as context specific issues, and expands the current evidence base.

In addition to discussing papers and planning future activities, this workshop will also address methodological issues and issues of dissemination. Ulrich and his team have organized a pre-meeting workshop on the use of Item Response Theory (IRT), as well as a media workshop. IRT will enable you to test item equivalence across groups – an important issue in comparative research. Furthermore, how to communicate your findings to the media is a key aspect regarding the dissemination of your outputs, and I am sure both workshops will be of great interest to all of you.

The meeting will offer ample opportunity for discussion and networking, for developing and finalizing joint papers as well as for planning future activities. I hope you will have a productive and rewarding time within the beautiful surrounding of Tübingen, a historic university town with excellent facilities and a state-of-the-art research context. And of course we arranged for the perfect spring weather.

Ingrid Schoon



## List of Participants

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## Meeting Programme

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### Pre-Meeting Workshop

#### **Wednesday 15<sup>th</sup> May (Center for Educational Science and Psychology, Europastr. 6)**

- 18.00 – 19.00 Arrival for the Pre-Meeting Workshop (**Room 204**)
- **19.00 Dinner (Tübinger Wurstküche)**

#### **Thursday 16<sup>th</sup> May (Center for Educational Science and Psychology, Europastr. 6)**

- 9.00 – 15.00 Workshop “Why IRT and when to use it” (**Room 204; Norman Rose**)  
*Item response theory (IRT) modeling is a standard method to analyze data from educational tests, as this method provides a number of significant advantages for educational research. The objective of the workshop is to provide an introduction into the basic ideas of IRT and selected IRT models, and to demonstrate their application using different software such as ConQuest or Mplus.*
- 17.00 – 18.00 Arrival and Welcome for the PATHWAYS meeting (**Room 204**)
- **19.00 Dinner (Mauganeschtle)**



## PATHWAYS Meeting

### **Friday 17<sup>th</sup> May (Alte Aula, Münzgasse 22, Room 606)**

- 9.00 – 11.00 Fellow presentations of ongoing or planned projects (15mins presentation; 15mins discussion): Educational opportunities and life chances in context
  - o 09.00 – 09.30 *Anna K. Chmielewski*
  - o 09.30 – 10.00 *John Jerrim*
  - o 10.00 – 10.30 *Nicola Pensiero*
  - o 10.30 – 11.00 *Meeta Banerjee*
  
- **11.00 – 11.30 Coffee Break**
  
- 11.30 – 12.30 PI presentations: What's new in the UK/Jena?
  - o 11.30 – 12.00 *Ingrid Schoon*
  - o 12.00 – 12.30 *Rainer Silbereisen*
  
- **12.30 – 13.30 Lunch (Ludwigs)**
  
- 13.30 – 15.30 Fellow poster presentations
  - o *Håkan Andersson*
  - o *Richard Göllner*
  - o *Clemens Lechner & Martin Obschonka*
  - o *Sointu Leikas*
  - o *Heta Tuominen-Soini*
  
- 15.30 – 16.00: What's new in Tübingen?
  - o 15.30 – 16.00 *Ulrich Trautwein/Anna Lena Dicke*
  
- **16.00 – 16.30 Coffee Break**
  
- 16.30 – 18.30 PI Steering Group Meeting (**Room 605**)
  
- 16.30 – 18.30 Media workshop - Ingrid Bildstein (**Room 606**)

*This workshop will give an introduction into how to communicate with various audiences. The participants will discuss concerns about speaking to the public, learn how to present their research in 30 seconds, and get to know more about how the media work. In the second part (held on Saturday), the participants will have the opportunity to put the theory into practice.*
  
- **19.00 Dinner (Casino)**



## **Saturday 18<sup>th</sup> May (Alte Aula, Münzgasse 22, Room 606)**

- 9.00 – 11.00 Fellow presentations: Student engagement in the class room and beyond
  - o 09.00 – 09.30 *Julia Dietrich*
  - o 09.30 – 10.00 *Jenna Cambria*
  - o 10.00 – 10.30 *Jaana Viljaranta*
  - o 10.30 – 11.00 *Elizabeth Covay*
  
- **11.00 – 11.30 Coffee Break**
  
- 11.30 – 12.30 PI presentations cont.: What's new in Finland/ the US?
  - o 11.30 – 12.30 *Katariina Salmela-Aro*
  - o 12.00 – 13.00 *Barbara Schneider*
  
- **12.30 – 14.00 Lunch (Ludwigs)**
  
- 14.00 – 15.00 Media workshop cont.
  
- 15.00 – 16.30 Individual consultations with PIs
  
- **16.00 – 16.30 Coffee Break**
  
- 16.30 – 18.00 Field trip - The monastery of Bebenhausen  
*The Medieval monastery complex of Bebenhausen is nestled in the gently rolling hills of the Schönbuch nature reserve (about 10km from Tübingen). The monastery is one of the best-preserved Cistercian abbeys in southern Germany. Founded between 1180 and 1183 and promptly developed into one of the wealthiest monasteries in the region.*
  
- **19.00 Dinner in Bebenhausen (Hirsch)**

## **Sunday 19<sup>th</sup> May (Alte Aula, Münzgasse 22)**

- 9.00 – 11.00 Fellow Group Meeting (**Room 606**)
  
- 9.00 – 11.00 PI Steering Group Meeting (**Room 605**)
  
- **11.00 – 11.30 Coffee Break**
  
- 11.30 – 12.30 Planning of further activities and outlook for the next meeting in Windsor (**Room 606**)
  
- **13.00 Lunch & Departure (Ludwigs)**





## Presentations

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17 – 18 May 2013

*The contributions are listed in order of presentation. The summary shows the name of the presenter only.*

### Session 1: Paper presentations

- Anna K. Chmielewski  
**Educational excellence and equity in international comparison: complementary, contradictory, or unrelated?**
- John Jerrim  
**The mathematics skills of school children: How does England compare to the high performing East Asian jurisdictions?**
- Nicola Pensiero  
**Social inequalities in educational attainment across 3 UK age cohorts: A refined tale.**
- Meeta Banerjee  
**The relationship of neighborhood violence and racial socialization on psychological well-being in African American youth.**

### Session 2: Poster presentations

- Håkan Andersson  
**The influence of pubertal maturation on the development of verbal ability: Within and between sex differences**
- Richard Göllner  
**Students' idiosyncratic perception of teaching quality: Individual judgment tendency or expression of students needs.**
- Clemens Lechner & Martin Obschonka  
**Examining the positive side of social and economic change: A comparison between German and Polish adolescents' and adults' subjective perceptions of broadening choice.**



- Sointu Leikas  
**Personality trait changes among young Finns: The role of life events and transitions.**
- Heta Tuominen-Soini  
**Vocational school students' engagement and burnout profiles and their relations to motivation and dropout.**

### Session 3: Paper presentations

- Julia Dietrich  
**Phase-adequate engagement at the post-school transition** (A Project Proposal for the Deutsche Forschungsgemeinschaft)
- Jenna Cambria  
**Cognitive engagement as a mediator of values, efficacy expectancies, and reading outcomes.**
- Jaana Viljaranta  
**Introducing new international study: EAGER - Improving understandings of student engagement in STEM to enhance teacher education and classroom instruction.**
- Elizabeth Covay  
**Differential effects of instruction on achievement**



## **Educational excellence and equity in international comparison: complementary, contradictory, or unrelated?**

**Anna Chmielewski**

*Michigan State University*

Two of the primary goals of national education systems are educational excellence, or the average level of educational achievement, and educational equity, or the minimization of socioeconomic disparities in achievement. The relationship between equity and excellence is a fundamental question in educational research, but the cross-national evidence on this question has been inconsistent over time. While FIMS results appeared to show a tradeoff between equity and excellence, SIMS and TIMSS research suggested a complementary relationship, and recent evidence from PISA has been mixed. This study investigates the relationship between equity and excellence more thoroughly than past literature by incorporating many years of data from 11 different cross-national assessments over 18 years. It examines not only the country-level association between equity and excellence, but also the relationship within countries over time using hierarchical growth models. Results indicate that at the country level, there is a weak negative relationship between socioeconomic achievement gaps and average level of achievement, but only when the sample is limited to wealthy countries. Within countries over time, nearly all wealthy countries have seen increases in SES achievement gaps, but there has been no systematic relationship between increases in gaps and changes in levels of achievement. Therefore, it does not appear to be the case that countries with increasing socioeconomic disparities experience lower overall levels of achievement.



## **The mathematics skills of school children: How does England compare to the high performing East Asian jurisdictions?**

**John Jerrim**

*Institute of Education, University of London*

The Programme for International Student Assessment (PISA) and Trends in Mathematics and Science Study (TIMSS) are two highly respected studies of school pupils' academic achievement. English policymakers have been disappointed with school children's performance on these tests, particularly in comparison to the strong results of young people from East Asia. In this paper we provide new insight into the England – East Asia gap in school children's mathematics skills. We do so by considering how cross-national differences in math test scores change between ages 10 and 16. Our results suggest that, although average math test scores are higher in East Asian countries, this achievement gap does not increase between ages 10 and 16. We thus conclude that reforming the secondary school system may not be the most effective way for England to 'catch up' with the East Asian nations in the PISA math rankings. Rather earlier intervention, during pre-school and primary school, may be needed instead.



## **Social inequalities in educational attainment across 3 UK age cohorts: A refined tale.**

**Nicola Pensiero**

*Institute of Education, University of London*

This study examines social inequalities in educational attainment, focusing in particular on the attainment of university entry qualifications (A-level) and subsequent entry into university among 3 UK age cohorts born between 1958 and 1990. Across all Western countries, educational qualifications, especially participation in tertiary education has become an ever important stepping stone in finding a job that pays a living. The UK is a distinct case of high and persisting educational inequalities. It has not shared the widespread equalizing trend in educational attainment and currently is one of the countries with the strongest influence of social origins on educational attainment (Breen and Jonsson, 2005; Shavit et al., 2007; Breen et al., 2009 ). There is however controversy regarding the fact that the observation of educational inequality in the UK may be dependent on the conceptualization of social origins, especially regarding the omission of relevant individual and family characteristics (Holm and Jæger, 2011; Lucas et al., 2011; McIntosh and Munk, 2012), and also regarding the possibility that different aspects of family origins might have undergone distinct patterns of change over the last 50 years (Bukodi and Goldthorpe, 2012). Most studies on education inequality have, in fact, focused only on household income or a limited number of indicators of social origins and are exposed to the mentioned criticisms.

In this study we add to the study of trends in educational inequality and mobility in the UK methodological, empirical and theoretical features. First, we include a broader selection of factors in conceptualizing social origins, comprising indicators of social class, parental education and family income. Second, we use 3 cohorts born respectively in 1958, 1970 and 1990."



## **The relationship of neighborhood violence and racial socialization on psychological well-being in African American youth.**

**Meeta Banerjee**

*University of Michigan*

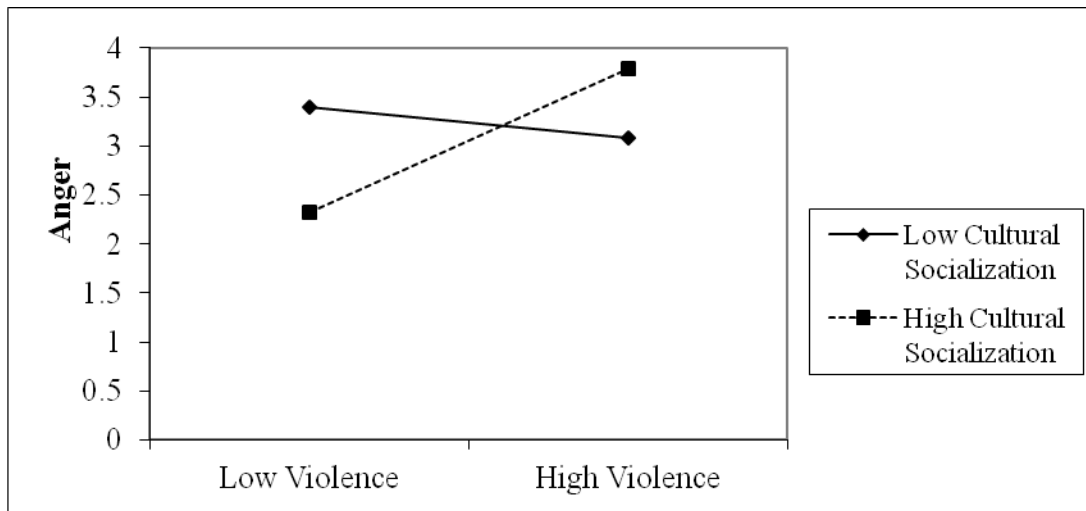
Although crime rates have been on the decline in the United States, there is a higher incidence of violence in the U.S. than in most countries around the world (Osofsky, 2000). Studies suggest that an accumulation of risk factors or stressors such as poverty, neighborhoods characterized by high crime, inadequate income, low parental education attainment may lead community violence exposure (Garbarino, 2001; Garbarino et al., 2004). Furthermore, community violence exposure has been linked to poorer psychological well-being and academic achievement (Overstreet, 2000). It is also important to note that majority of the studies on community violence exposure has been conducted in urban areas that are comprised of ethnic minority youth (e.g., Latinos, African Americans). Therefore, Aisenberg and Herrenkohl (2008) suggest that it is imperative to identify protective factors that are culturally relevant for youth within these environments. Racial socialization has been defined as the verbal and non-verbal messages and practices surrounding race that are transmitted to African American youth (Hughes et al., 2006). Previously, racial socialization has been found to mitigate the effects of negative contexts such as racial discrimination on African American's mental health (Harris-Britt et al., 2007) and academic outcomes (Neblett et al., 2006). Moreover, racial socialization has been found to moderate the effects of community violence in a sample of African American college students (Banerjee, 2012). However, given that exposure to community violence may occur over an individual's lifetime and the aforementioned study is retrospective, it is important to understand how community violence exposure influences mental health over time. Additionally, there is a need to investigate how exposure to community violence and racial socialization influence psychosocial outcomes prospectively.

The purpose of the current study was two-fold. First, we sought to examine the link between the longitudinal effects of neighborhood violence and mental health in African American youth. Second, we explored the moderating effects of racial socialization on the relation between neighborhood violence and psychological well-being. We examined the relation between parents' reports of neighborhood problems at Time 1 and youth reports of mental health at Time 2. Racial socialization reports were collected at Time 2 from the adolescent sample. Racial socialization measures consisted of cultural socialization behaviors, preparation for bias messages, and cultural socialization messages. Mental health variables included measures of depressive symptomatology and anger. The study sample was composed of 500 (47% female)



African American youth who were in 11th grade and their parents, all of whom were participants in the Maryland Adolescent Development in Context Study (MADICS).

Hierarchical regressions were conducted to test hypotheses after controlling for gender and parent education. Preliminary analyses suggest that similar to previous studies, neighborhood violence is associated with poor mental health. In particular, parent reports of neighborhood violence were related to youth reports of more depressive symptoms ( $b = 0.06, p < .05$ ) and anger ( $b = 0.29, p < .05$ ). Interestingly, the main effects of racial socialization were not significant. Finally, racial socialization was found to amplify the effects of neighborhood violence on anger. Specifically, at high levels of neighborhood violence, higher levels of cultural socialization messages are associated with higher levels of anger. Implications regarding the importance of studying the effects of racial socialization on the mental health outcomes in African American youth will be discussed.



## **The influence of pubertal maturation on the development of verbal ability: Within and between sex differences**

**Håkan Andersson & Johanna Lovén**

*University of Stockholm*

Girls and women typically excel over boys and men in performance on some, but not all, verbal tasks. Males typically excel over females on tasks tapping spatial ability. It is commonly assumed that sex differences in cognitive abilities become larger during puberty, as increased and differential levels of sex hormones would make boys and girls more dissimilar cognitively. However, few studies have assessed this notion. Moreover, it is not clear whether pubertal maturation influences verbal and spatial abilities within each sex. Based on that girls enter puberty earlier than boys do, and that females outperform males on verbal tasks, it has been suggested that individuals maturing earlier would perform at a higher level on verbal tasks. The same logic has been applied to individuals entering puberty later (generally males), who would be expected to perform better on spatial tasks. The main mechanism suggested is that these differences are a result of differential lateralization in the brain.

There are few longitudinal studies on (1) the influence of pubertal maturation on girls' verbal and spatial performance, and (2) whether the sex difference in verbal ability increases during late childhood and adolescence. Generally, the findings are mixed, and many studies suffer from small sample sizes, cross-sectional designs, and/or inappropriate measures of cognitive abilities.

Based on a large sample, we longitudinally assessed whether girls' performance on verbal and spatial tasks at ages 10, 13, and 15 were influenced by age at menarche (as a proxy of onset of pubertal maturation), and whether sex differences in verbal abilities were magnified between ages 10, 13, and 15.

Results showed that girls' verbal ability was influenced by age at menarche. Earlier and mid-maturing girls (age at menarche < 13 years) performed at a higher level than later maturing girls (age at menarche ≥ 13 years). This difference was found already at age 10 and it was of a similar magnitude at ages 13 and 15. This difference remained when timidity and socio-economic status were controlled for, and there were no differences between the groups in performance on inductive or spatial tasks. Thus, pubertal maturation seems to influence girls'

verbal ability, already during adrenarche and/or the beginning of gonadarche, although the exact mechanisms have to be further explored in future studies.





Regarding the expected sex difference in verbal ability, girls outperformed boys on verbal tasks at the age of 10, and this difference increased linearly from age 10 to age 15. This supports the notion that girls' advantage over boys on verbal tasks is magnified during puberty as a result of the biological changes associated with pubertal development. Additionally, this could imply that at this point during development, girls' and boys' social environments differ and may facilitate the development of language skills to a different extent in girls and boys.



## **Students' idiosyncratic perception of teaching quality: Individual judgment tendency or expression of students needs.**

**Richard Göllner**

*University of Tübingen*

In educational research, student ratings are often used to assess teachers' instructional practices. Student ratings have the conceptual advantage that they are typically based on a large amount of experiences and might draw a more accurate picture of teaching behavior than other data sources (e.g., external observer data). In most cases, student scores are aggregated to the classroom level and reflect shared perceptions of teacher's instructional quality. Students' idiosyncratic or non-shared perceptions received much less attention. In the present study, we used data from a longitudinal study in Germany to distinguish between different variance sources in students' idiosyncrasies. The data were derived from the TRAIN study in which 8<sup>th</sup> graders ( $N = 2213$ ) rated the instructional quality of their classroom teachers ( $N = 96$ ). The assessment was repeated one year later. The results showed that idiosyncratic perceptions of different instructional quality dimensions were relatively stable over time. This stability was mainly due to students individual judgment tendencies such as leniency or severity bias. However, for some of the dimensions (i.e., understandableness of teacher's explanations and teacher's support), we also found substantial dyadic effects between students and teachers.



## Examining the positive side of social and economic change: A comparison between German and Polish adolescents' and adults' subjective perceptions of broadening choice.

Clemens Lechner, Martin Obschonka, and Rainer K. Silbereisen

*Friedrich Schiller University, Jena*

Across the globe, macro-structural trends of social and economic change (SEC), such as globalization, individualization and pluralization, and technological progress (often subsumed under the umbrella term of *modernization*) are reshaping the various contexts of human development and thus altering the opportunities and constraints for individual agency in these contexts. Whereas much research on the consequences of SEC for individual development has focused on negative consequences of current SEC, such as growing occupational uncertainty, several sociological approaches agree that SEC also holds a number of potential benefits for individuals. In particular, societal modernization is considered to result in *broadening human choice* in different life domains of the individual. For example, many individuals today enjoy greater personal freedom in the choice of their relationships and lifestyles, new opportunities offered by media and technological developments, and growing options for lifelong learning.

However, little is known about whether and to what degree individuals actually perceive these potential benefits of SEC in their everyday lives. Moreover, it is unclear whether these benefits affect individuals relatively uniformly, or whether there are individual differences in the degree to which individuals perceive these benefits according to social structure, individual life-circumstances, and psychosocial resources.

In our study, drawing on the *Jena Model of Social Change and Human Development*, we intend to address these questions by comparing 16- to 46-year-old adolescents and adults from Germany ( $N = 2,863$ ) and Poland ( $N = 3,078$ ), two neighboring countries that show substantial differences in socioeconomic development and cultural tradition. More specifically, we are interested in the level, predictors, and consequences of a set of perceived benefits of SEC in the two countries.

In a first step, we will develop hypotheses on systematic interindividual variation in the perceived benefits that accrue from SEC *within* the countries. Here we want to consider contextual factors (e.g., urban vs. rural place of residence), sociodemographic factors (e.g., education, occupational status), and psychosocial resources (e.g., exploration, self-efficacy) as predictors of perceived benefits. Another focus will lie on interactions between regional characteristics within the country (e.g., economic conditions in the region) and psychological characteristics. In addition, we will develop hypotheses on the relationship of perceived benefits



and subjective well-being. In a second step, we will develop hypotheses on possible country-differences with a particular focus on patterning effects; e.g., we expect that psychological resources are stronger predictors of perceived benefits in relatively disadvantaged contexts and socio-demographic positions. Finally, we will test the developed hypotheses by means of cross-country comparative structural equation models.

In shedding light on the question of who benefits from the broadening of choice that today's SEC can bring with it in these two countries from an individual-level perspective, we hope to expand extant sociological research and theories by considering psychological factors and their interplay with structural factors.



## **Personality trait changes among young Finns: The role of life events and transitions.**

**Sointu Leikas**

*University of Helsinki*

Recent research has shown that personality traits continue to develop throughout the life span, but most profound changes are typically found during young adulthood. Increasing evidence suggests that life events play a significant role in many of such changes. The present longitudinal study examined the role of work, education, social and health-related life events in the development of the Big Five traits among young Finns followed from the age of 20 to 23. Beginning a relationship and entering work life predicted increases in Conscientiousness. In turn, trying drugs was related to increases in Neuroticism. Moreover, high Extraversion was related to lower risk of later unemployment. The results add to the cumulative literature regarding the role of life events in personality change.



## Vocational school students' engagement and burnout profiles and their relations to motivation and dropout.

Heta Tuominen-Soinia<sup>a</sup> & Katariina Salmela-Aro<sup>b</sup>

*a Institute of Behavioural Sciences, University of Helsinki, Finland*

*b Department of Psychology, University of Jyväskylä, Finland*

School engagement has been linked to many positive outcomes, such as higher grades, school completion, lower dropout rates, positive self-perceptions, and well-being. This study complements the prior research on school engagement by focusing on simultaneous engagement and disengagement (i.e., burnout) processes in upper secondary vocational education. In our previous study, we examined high school students' (academic track) schoolwork engagement and burnout profiles, the progressions of these profiles from adolescence to young adulthood, and relations to long-term educational outcomes. The aim of the present study is to investigate what profiles of schoolwork engagement and burnout (i.e., exhaustion, cynicism, inadequacy) can be identified among first-year vocational school students (N = 682) and how students with different profiles differ with respect to academic and socio-emotional functioning as well as school completion and dropout. Also, gender differences are examined.

Using latent profile analysis, four groups of students with distinctive engagement and burnout profiles were identified. Highly engaged students (36%) scored relatively high in engagement and low in all the burnout dimensions. Engaged–exhausted (36%) students had slightly above average scores on engagement, exhaustion, and inadequacy. Cynical (24%) students scored relatively low in engagement and high in all the burnout dimensions, while the small group of burned-out (4%) students was characterized by low engagement and very high levels of exhaustion, cynicism, and inadequacy. Boys and girls were equally distributed in the groups. The students in the different groups differed in terms of their motivational appraisals, satisfaction with their educational choice, and thoughts about discontinuing studying. Highly engaged students had the most positive appraisals, followed by engaged–exhausted students. Cynical students had relatively negative appraisals, but burned-out students valued school the least, were the least satisfied with their educational choice, and reported the most intentions of discontinuing studying. The long-term educational outcomes (i.e., completion of the degree vs. dropout) will be investigated. The profiles identified in this study are very similar to those found among high school students in our previous study. The findings of these two studies will be discussed and compared.



## **Phase-adequate engagement at the post-school transition**

A Project Proposal for the Deutsche Forschungsgemeinschaft

**Julia Dietrich**

University of Jena

Research on career development and choices made in adolescence and emerging adulthood has commonly been concerned with understanding young people's educational and occupational aspirations, the contents of their career choices, and what makes these choices and people's approach to career transitions satisfactory and successful. Various theories have been used to understand, model, and analyze transitions that individuals make throughout their lives. This proposal introduces a new perspective on career transitions based on the concept of phase-adequate engagement (Dietrich, Parker, & Salmela-Aro, 2012) which focuses on psychological processes and individuals' agency as essential elements in predicting successful career transitions. Drawing on Baltes and colleagues' (Baltes, Staudinger, & Lindenberger, 1999) work on adaptive development, phase-adequate engagement is defined as intentionally engaging in behavior that is adaptive to meeting the demands posed by the post-school transition.

Three major lines of research are useful to address post-school phase-adequate engagement: developmental regulation theories, career development theories and theories of personal identity development. As Dietrich et al. (2012) argue, when considered together these three approaches provide a comprehensive account of the range of behaviors that cover key points, both before, during, and after the transition point. In their review of the relevant theories, Dietrich et al. (2012) proposed five principles of phase-adequate engagement with a key focus on adequate and inadequate engagement and disengagement behaviors. These behaviors are in central to the planned proposal.

The planned research sets out to fill two research gaps:

- (1) To progress towards a theoretical and empirical integration of the theories underlying adequate and inadequate engagement and disengagement at the post-school transition.
- (2) To examine the extent to which phase-adequate engagement is reflected in school motivation, engagement, and self-regulated learning.



## **Cognitive engagement as a mediator of values, efficacy expectancies, and reading outcomes.**

**Jenna Cambria**

*University of Maryland*

In the past ten years there has been a flourishing body of research examining the potential ways that constructs from different theories of motivation and engagement may be associated with student achievement outcomes across domains (Eccles & Wang, 2012; Fredricks, Paris, & Blumenfeld, 2005). During this time, educational policies have been passed that require students to perform at unprecedented levels within the genre of informational texts (Common Core State Standards Initiative, 2010; Education Sciences Reform Act, 2002). However, the question of how engagement may harness student motivation into performance (Skinner, Kindermann, Connell, & Wellborn, 2008) has been largely unexamined in general and also specifically for this genre of text. The goal of this study is to examine these associations specifically for cognitive engagement, expectancy-value constructs, and reading outcomes.

This study includes data from 1197 seventh grade students from four middle schools in a rural area of a mid-Atlantic state. Values, efficacy expectancies, and cognitive engagement were assessed using 7-12 items for each construct. Student performance included achievement on an informational text comprehension measure as well as Reading/Language Arts grades reported from the school district. Two structural equation models were examined to evaluate the extent to which cognitive engagement may be a mediator for either values or efficacy expectancies on informational text comprehension and Reading/Language Arts grades. These analyses revealed that there was no significant mediation for informational text comprehension; however, there was significant mediation for Reading/Language Arts grades. This finding offers further insight on how motivations for reading informational texts may be harnessed by student engagement (Skinner, Kindermann, Connell, & Wellborn, 2008) in order to translate motivation into different student achievement outcomes.





## **Introducing new international study: EAGER - Improving understandings of student engagement in STEM to enhance teacher education and classroom instruction.**

**Jaana Viljaranta**

*University of Helsinki*

One of the most critical issues in education and job markets is the decreasing number of students who are engaged in learning and choosing careers related to STEM (science, technology, engineering, and mathematics). A key challenge is to better understand engagement—what it is, how to measure it, and how it affects learning in STEM. This new collaborative study carried out in Finland and in the United States will focus on these issues. In addition, although numerous studies have shown the use of technology in education could support student engagement, teachers' beliefs about teaching and learning do not support the educational use of technology. This is another focus of this study.

This study started by selecting and developing the research instruments that will, among other methods, utilize Experience Sampling Method (ESM) that will be employed through smart phone technology. Paco system developed in Google will be used. The idea is to get understanding of what features of teaching support students' engagement. Using the ESM methodology we will be able to “capture” students throughout the teaching every day during the two-week period of the study. The pilot testing of the study will take place during April 2013. Students from Grade 9 and 1st year of secondary school will answer questions concerning their current activity, company, feelings etc. eight times per day during their biology and physics lessons. They will also take photos of themselves and activities at hand each time they are asked to answer the questions. In addition, the participating teachers will also answer similar kinds of questions in a similar kind of procedure than their students. Parallel data will be gathered in Finland and USA, which allows us to compare the data internationally.

In this presentation I will present some of the very preliminary results from the pilot testing of the study.



## **Differential effects of instruction on achievement.**

**Elizabeth Covay**

*Michigan State University*

The Measuring Effective Teaching (MET) Longitudinal Database was collected through research supported by the Gates Foundation. Recently, ten early career grants were awarded with this study being one of them. This study will ask whether instruction varies by student characteristics including race and income level and whether there are differential effects of instruction. The MET data have multiple measures of instruction, which will allow me to examine multiple operationalizations of instruction and whether the relationship between student achievement and various definitions of instruction vary by student characteristics. Disparities in access to effective instruction may help to explain the longstanding and emerging achievement gaps and help to identify sites of inequality that can be addressed by focusing interventions and policies in the appropriate places.





