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PATHWAYS to ADULTHOOD

PATHWAYS 12th International Workshop

14 – 17 November 2014

Marbach Castle, Switzerland



Meeting Sponsored by the Jacobs Foundation

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Welcome

Dear Colleagues

On behalf of the Jacobs Foundation I welcome you to the 12th PATHWAYS Workshop at Marbach Castle, on the shores of Lake Constance. The aim of the workshop is to prepare our next book publication on 'Pathways to Adulthood' and to hear about the latest research of the PATHWAYS Fellows.

The planned book will reflect the major themes of the PATHWAYS project: social inequality, motivation and agency, social change as well as the role of the school context in preparing young people for the transition to adulthood. The book will adopt a lifecourse perspective taking into account the multifaceted influences on individual development and the active interactions between a changing context and a changing individual. In particular the role of macro-level influences on micro-level experiences will be examined, including variations in institutional structures, socio-economic constraints, gender and ethnicity as well as the school context. Regarding micro-level processes individual capabilities, such as skills, self concepts, motivation, aspirations, engagement and coping strategies are assessed to get a better understanding of how these are shaped by distal influences and how young people negotiate the transitions to independent adulthood.

The Fellows have chosen a variety of modes to present their ideas. The mix of paper and posters presentations promises exciting new insights regarding issues of adaption to social change, school engagement, and regarding inequalities in school and employment transitions. Notably, a number of Fellows are engaging in comparative research, comparing findings across different countries and across different socio-historical contexts. It is wonderful to see that teams are building, addressing similar concerns and forging a future research agenda. Identifying common themes and common patterns across context will be one of the contributions of the book, pointing out the interlinkages between project strands and generalizability of findings that expand the current evidence base.

The meeting will offer ample opportunity for discussion and networking, for developing and finalizing the book chapters as well as for planning future activities. I hope you will have a productive and rewarding time at Marbach Castle, and can also enjoy the marvelous facilities and the picturesque surrounding of Lake Constance.

Ingrid Schoon



List of Participants

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List of Participants

| | | |
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Meeting Programme

Friday 14 November 2014

- 13:30 – 14:30** **Lunch**
- 14:30 – 15:30 Welcome and outline of book
- 15:30 – 15:45 **Social Change** - Introduction by *Rainer Silbereisen*
- 15:45 – 16:30 Paper Presentations (15 minutes):
- *Martin Obschonka*
 - *Maria Pavlova*
 - *Clemens Lechner*
- 16:30 – 17:15 Questions and discussion of papers
- 19:00** **Dinner**

Saturday 15 November 2014

- 08:00 – 09:00** **Breakfast**
- 09:00 – 09:15 **Motivation and Agency** – Introduction by *Katariina Salmela-Aro*
- 09:15 – 10:00 Paper Presentations (15 minutes):
- *Julia Moeller*
 - *Jenna Cambria*
 - *Julia Dietrich*
- 10:00 – 10:45 Questions and discussion of papers
- 10:45 – 11:15** **Tea & Coffee Break**
- 11:15 – 13:00 Poster presentations – Introduced and chaired by *Ulrich Trautwein*
(5 minutes to present each poster followed by time for individual consultations and questions):
- *Justina Judy Spicer*
 - *Nayssan Safavian*
 - *Heta Tuominen-Soini*
 - *Richard Göllner*
 - *Anna-Lena Dicke*
- 13:00 – 14:00** **Lunch**
- 14:00 – 14:30 **New Methods** – Presentation by *Philip Parker* and discussion



Meeting Programme

14:30 – 16:30 Steering group meeting/ Fellow team meeting

Tea & Coffee Break

16:30 - 17:30 Team meeting presentations and round up

Sunday 16 November 2014

08:00 – 09:00 Breakfast

09:00 – 09:15 **Social Inequality** – Introduction by *Barbara Schneider*

09:15 – 10:00 Paper Presentations (15 minutes):

- *John Jerrim*
- *Katyn Chmielewski*
- *Nicola Pensiero*

10:00 – 10:45 Questions and discussion of papers

10:45 – 11:15 Tea & Coffee Break

11:15 – 13:00 Poster presentations – Introduced and chaired by *Ingrid Schoon* (5 minutes to present each poster followed by time for individual consultations and questions):

- *Mark Lyons-Amos*
- *Jake Anders*
- *Martin Tomasik*
- *Justin Bruner*
- *Florencia Sortheix*

13:00 – 14:00 Lunch

14:00 – 15:00 News from the lab

15: 00 Meeting time with PIs

Tea & Coffee Break

19:00 Dinner



Meeting Programme

Monday 17 November 2014

| | |
|----------------------|---|
| 08:00 – 09:00 | Breakfast |
| 09:00 – 11:00 | Meeting and discussions with Jacobs Foundation (Gelgia Fetz and Simon Sommer) |
| 11:00 – 11:30 | Tea & Coffee Break |
| 11:30 – 12:30 | Round up and future plans |
| 12:30 – 13:30 | Lunch and departure |



Abstracts

14 – 17 November 2014

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

Session 1: Paper presentations

- Martin Obschonka
The development of entrepreneurship: Advances in the scientific investigation of entrepreneurial lifespan development in context
- Maria Pavlova
Social Change and Youth Civic Engagement
- Clemens Lechner
Social change – uncertainty – religiosity: Psychological perspectives on the role of religiosity in changing societies

Session 2: Paper presentations

- Julia Moeller
Advances in the research on situation-specific and contextual aspects of student engagement
- Jenna Cambria
Rethinking Student Engagement: Observable Manifestations in Context
- Julia Dietrich
Phase-Adequate Engagement during Transitions from Education to Work

Session 3: Poster presentations

- Justina Judy Spicer
Optimal Learning Moments in Science Classes: An International Study in the U.S. and Finland
- Nayssan Safavian
Examining the Impact of Mathematics Motivation on the Course-taking and High School Success of Low-income Hispanic Youth
- Heta Tuominen-Soini
Finnish students' math-specific goal orientation profiles, value beliefs about math, and academic well-being: Integrating achievement goal and expectancy-value perspectives



Abstracts

Session 3: Poster presentations (contd)

- Richard Göllner
Differentiating overall agreement and occasion specific-effects in teacher/student ratings of instructional quality: Time consistency, agreement, and predictive power
- Anna-Lena Dicke
Using motivational theory to improve student outcomes: The case of a short classroom based utility value intervention

Session 4: Paper presentation

- Philip Parker
Machine Learning Approaches to Developmental Transition: Illustrating Penalized Regression and Decision Tree Models of University Entry

Session 5: Paper presentations

- John Jerrim
The socio-economic gradient in educational attainment and labour market outcomes: a cross-national comparison
- Anna Katyn Chmielewski
Social Inequality in Educational Transitions under Different Types of Secondary School Curricular Differentiation
- Nicola Pensiero
Designing instruction to enhance achievement of all and reduce inequality

Session 6: Poster presentations

- Mark Lyons-Amos
Differential responses in first birth behaviour to economic recession in the United Kingdom
- Jake Anders
Sequence analysis of youth transitions: a cross-cohort comparison
- Martin Tomasik
Engagement with and Disengagement from Demands of Social Change: A Comparison of Age Groups and Political Regions



Abstracts

Session 6: Poster presentations (contd)

- Justin Bruner
Relationship of Science Achievement, Variation in Science Achievement, and Sources of Variation: A six country comparative study using TIMSS 2011
- Florencia Sortheix
Work values, employment and well-being during the transition to work life.



The development of entrepreneurship: Advances in the scientific investigation of entrepreneurial lifespan development in context

Martin Obschonka¹ and Rainer K. Silbereisen²

¹*Saarland University,*

²*Center for Applied Developmental Science (CADS), Friedrich Schiller University of Jena*

Abstract

Entrepreneurship is highly relevant for today's knowledge-based societies (e.g., due to job creation and innovation). It is further an important mechanism by which many people enter the economic and social mainstream of society (e.g., in developing countries with limited job opportunities in employed work). Hence, policy makers across the globe put a focus on effective ways to promote entrepreneurial thinking and acting at all levels of the society. In this chapter we apply a developmental science perspective and start from the premise that the person's entrepreneurial thinking and acting during the occupational career is a developmental outcome, rooted in earlier psychosocial development (e.g., in youth) that unfolds via an ongoing interplay between all levels of human development (biological, psycho-social, and contextual levels). We thus present an overview over research on 1) biologically-related propensities associated with entrepreneurship (e.g., genetic factors or basic personality traits), 2) psycho-social aspects of the entrepreneurial mindset in adulthood and its developmental precursors in childhood and adolescence, and 3) contextual influences located in the micro-contexts (e.g., early socialization and parenting or work peers during the occupational career) and more distal contexts such as the regional and macro-cultural context. We will then present, and discuss the theoretical and empirical foundations of, an integrative biopsychosocial model of entrepreneurial lifespan development in context (Obschonka & Silbereisen, 2012). This model integrates biologically-related propensities, psycho-social factors, and proximal and distal contextual factors relevant for entrepreneurial development. The psycho-social factors in this model comprise early and later characteristic adaptations such as relevant competencies, attitudes, beliefs, identity, or interests (which are both the expression of biologically-related propensities and shaped by the context) as well as the developing occupational self-concept. The model puts a special focus on *early* characteristic adaptations such as age-adequate entrepreneurial competencies in childhood and adolescence, early mild rule-breaking, and the early self-concept development in youth towards an entrepreneurial occupational self-identity in adulthood. The model further stresses the interplay between socialization processes occurring before the occupational career and occupational socialization during the career, for example through entrepreneurial learning during enterprising activities. Finally, we will discuss possibilities for future research and practical implications. Future research in this field could, for example, better integrate not only biological, psychosocial, and contextual research perspectives but also the notion of lifelong plasticity in human development and the relevance of changing contexts (e.g., social and economic change). Potential implications for the world of practice concern, for example, entrepreneurship promotion programs aiming to promote entrepreneurial mindsets and preparing young generation for their future working life. Only if we understand and take adequately into account the intraindividual, age phase-dependent dynamics between the different levels of entrepreneurial development over the lifespan, from biology to the complex context systems, we can infer more effective promotion programs to educate the next generation of successful entrepreneurs.



Abstracts

Social Change and Youth Civic Engagement

Maria K. Pavlova and Rainer K. Silbereisen Center for Applied Developmental Science (CADS), University of Jena

Abstract

For various reasons, the transition to adulthood is regarded a critical period in the development of citizenship. Hence, youth civic engagement draws a lot of attention from policy makers and scholars. In this chapter, we analyse contemporary societal trends that may change the landscape of youth civic engagement, for better or for worse. First, we present some statistical data on trends in youth civic engagement in the past decades. In many countries of the world, youth participation in voluntary organizations and political activism have been declining. However, data from selected Western countries suggest that youth volunteering rates remain stable or are on the rise. Moreover, new forms of civic engagement emerge, such as online activism. In the main part of the chapter, we review sociological and psychological research that sheds light on potential implications of growing uncertainty in the working life, fading of local communities, and global migration for youth civic engagement. We show that such implications are diverse and depend on a multitude of factors. In particular, youth's active stance in the world, their readiness to try out new, unconventional forms of activism, their need for belonging in social and cultural institutions, and the benefits that civic engagement may bring to them serve to foster, rather than hamper, their civic engagement. Ultimately, it should not be forgotten that youth are not only influenced by social change but have always been at the forefront of collective action aimed at social change.



Abstracts

Social change – uncertainty – religiosity: Psychological perspectives on the role of religiosity in changing societies

Clemens Lechner and Rainer K. Silbereisen

Center for Applied Developmental Science (CADS), University of Jena

Abstract

In the wake of the rapid and profound social and economic change that today's societies are undergoing, many people face new biographical uncertainties that create considerable psychological burden and can put successful development at risk. In this chapter, we take a look at what role religiosity may play in dealing with such biographical uncertainties. Linking recent psychological theorizing on social change and on religiosity, we propose that people often resort to religion in times of heightened uncertainty. This is because religiosity can reduce perceived uncertainties and buffer their negative psychosocial consequences. We discuss evidence from diverse strands of research that supports these ideas, covering both experimental laboratory studies and large-scale cross-national surveys. Although this evidence suggests that religiosity can contribute to positive development in the face of biographical uncertainties, however, we also discuss review evidence suggesting that these psychological benefits of religiosity can come at the risk of maladaptive outcomes both at the individual and the group level, from higher closed-mindedness to religious fundamentalism. Finally, we identify some unresolved questions that warrant further research attention and point to initial implications of this burgeoning research area for a public policy aimed at promoting positive development.



Abstracts

Advances in the research on situation-specific and contextual aspects of student engagement.

Julia Moeller¹, Justina Judy³, Katariina Salmela-Aro², and Barbara Schneider³

¹Department of Teacher Education, University of Helsinki,

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³College of Education and Department of Sociology Michigan State University

Abstract

Student engagement is considered a key concept for the understanding and promotion of students' learning motivation in school contexts. This presentation discusses and integrates three aspects that are often overlooked in the current research on school engagement and that reveal new and surprising insights: 1) measures for the malleable aspects of engagement, 2) demands-resources perspectives on student engagement, and 3) person-oriented approaches, as opposed to the prevailing variable-oriented studies.

Despite the fact that most researchers conceptualize engagement as malleable, these malleable aspects are rarely measured and widely understudied. This presentation introduces measures of situational engagement and findings regarding their validity and situational and contextual determinants. The malleable aspects addressed in this presentation include positive, resourceful aspects as well as potentially harmful, demanding aspects of engagement, which is a new line of research in the literature on student engagement: Whereas most previous studies had emphasized the positive aspects of engagement and its negative correlation with harmful experiences such as burnout, recent person-oriented analyses have revealed that highly engaged students are not necessarily those with optimal motivation and with least need for support, but that on the contrary, high engagement is accompanied by high exhaustion in at least one out of four Finnish high school students (Tuominen-Soini & Salmela-Aro, 2014). While these findings were so far limited to stable, trait-like measures of student engagement, this presentation shows on the level of situations that high demands can lead to states of optimal engagement if accompanied by high resources, and to states of stress if accompanied by low resources. The frequency to experience these states of optimal versus stressful engagement predicted the levels of overall engagement and overall burnout as measured with trait-like instruments. This presentation shows how the focus on situational experiences of demands and resources helps to identify ways to promote optimal learning without risking the exhausting and stress that often accompanies high learning motivation.



Rethinking Student Engagement: Observable Manifestations in Context

Jenna Cambria¹, Anna-Lena Dicke² and Ulrich Trautwein¹

¹ University of Tübingen, ² University of California Irvine

Abstract

Educational researchers have provided a great deal of empirical work reporting significant associations between student engagement and achievement, motivation, and student drop out (e.g., Eccles & Wang, 2012; Fredricks, McColskey, Meli, Mordica, Montrosse, & Mooney, 2011). Despite the significant associations that educational psychologists have reported between engagement and outcomes of interest, the field has not come to a consensus on encompassing guidelines for observing behavioral manifestations of engagement. One of the major problems the field faces is the existence of multiple research traditions, which investigate student engagement using different premises, definitions, and conceptualizations. In this presentation, we will (I) explore the most prominent frameworks of student engagement and their shortcomings, (II) propose a new conceptualization – the Model of Observable Engagement in Context – in which we explore student engagement as a task-specific, highly contextualized construct that is ultimately expressed in behavioral manifestations. We believe that this new conceptualization of student engagement advances previous frameworks of student engagement by capturing the nature of student engagement more accurately. Lastly, we argue that applying this new conceptualization of student engagement will also have consequences for (III) the assessment and measurement of student engagement.



Abstracts

Optimal Learning Moments in Science Classes: An International Study in the U.S. and Finland

Barbara Schneider¹, Joseph Krajcik¹, Jari Lavonen², Katariina Salmela-Aro², Michael Broda¹, Justina Spicer¹, Justin Bruner¹, Julia Moeller², Janna Linnansaari², Kalle Juuti², Jaana Viljaranta³

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Abstract

This study presents results from a major collaboration in the U.S. and Finland that aims to define and measure moments of student engagement when they occur in science classrooms. These instances are defined as *optimal learning moments* and are captured using new smartphone technology that employed the experience sampling method (ESM) to collect over 7,000 responses from 335 students. We define the pre-conditions of optimal learning moments as when students simultaneously report feeling above average levels of challenge, skill, and interest. These pre-conditions are moderated by *learning enhancers* that promote optimal learning, *learning detractors* that can reduce moments of optimal learning, and *learning accelerants* that in moderation positively affect learning experiences. Results show that moments of optimal learning are the exception rather than the norm. Pre-conditions of engagement, primarily challenge, appear to increase the frequency of optimal learning moments in both countries in science classes. Students in Finland experience moments of optimal learning more frequently in their science classes compared to students in the U.S., but in both countries students feel less successful in their science classes compared to other courses. In Finland students report that their science classroom work is more important to their future than U.S. students, who report that their work in other academic courses is more important to their futures. We argue that these findings have implications for the implementation of the NGSS standards as it highlights the importance of challenge and science relevance in how science is taught and experienced in the U.S.



Abstracts

Examining the Impact of Mathematics Motivation on the Course-taking and High School Success of Low-income Hispanic Youth

Nayssan Safavian
University of California, Irvine

Abstract

The effects of a rigorous mathematics curriculum on the probability of attending and graduating from college are well established. Despite the economic incentives, Hispanic youth neither opt into nor persevere in these pathways and often drop out of the pipeline before reaching college. This study uses the Eccles et al. (1983) Expectancy–Value framework to examine the longitudinal associations between motivation and mathematics participation and high school success with Hispanic high school youth. For Hispanic males, expectancy for success was associated with increased participation (i.e., mathematics course-taking and advanced course-taking) and likelihood of high school graduation. Whereas, attainment value and reduced cost were associated with increased course-taking among Hispanic females. Cost was inversely associated with the likelihood of graduation and college eligibility among Hispanic females. Measuring task value as a monolithic construct (as done in previous literature), or alternatively, examining only interest, attainment, and utility, while excluding costs would have missed some of these important and informative associations. Findings from this study underscore the importance and longevity of achievement attitudes from the onset of their high school studies for Hispanic youth. Future studies should examine divergent socialization experiences of males and females within Hispanic families as one possible explanation for the reported gender difference.



Abstracts

Finnish students' math-specific goal orientation profiles, value beliefs about math, and academic well-being: Integrating achievement goal and expectancy-value perspectives

*Heta Tuominen-Soini and Katariina Salmela-Aro
Institute of Behavioural Sciences, University of Helsinki*

Abstract

In this study, we integrated 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' ($N=286$, $M_{\text{age}}=16.78$) 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 (Gaspard et al., in press; see also Trautwein et al., 2012) 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.



Abstracts

Differentiating overall agreement and occasion specific-effects in teacher/student ratings of instructional quality: Time consistency, agreement, and predictive power

Richard Göllner

University of Tübingen, Hector Research Institute of Education Sciences and Psychology

Abstract

Prior research has shown that the correlation between teacher and student ratings of instructional quality is, at best, moderate, and the associations between measures of instructional quality and outcomes such as standardized achievement are typically small and somewhat mixed across both perspectives. One explanation for these low-to-moderate associations is the assumption that teacher and student ratings are not perfectly stable over time and are influenced by a perspective-specific referent period during the assessment. For this reason, the present study investigated whether teacher and student ratings of mathematics lessons in the fifth grade (74 classes from lower academic track) consist of stable and time-specific components (timeconsistency), whether teacher-student correlation would increase when aggregated measures were used instead of single-wave measurements (agreement), and which component had the strongest predictive effect for the development of standardized math achievement and math self-concept (predictive power). In multi-level factor analyses with three measurement points over a period of 3 months a moderate to high stability for both teacher and student ratings of instructional quality was found. Furthermore, the correlation between teacher and student ratings of classroom management and goal clarity increased when using aggregated measures of instructional quality, whereas this was not found for support of autonomy. Finally, the most consistent associations with developments in standardized math achievement and math self-concept were found for aggregated student ratings and for the third measurement point. Aggregated measures might thus be a way to overcome the influence of perspective-specific referent periods.



Using motivational theory to improve student outcomes: The case of a short classroom based utility value intervention

*Anna-Lena Dicke, Hanna Gaspard, Brigitte Schreier, Isabelle Häfner, Barbara Flunger, Benjamin Nagengast & Ulrich Trautwein
University of Tübingen*

Abstract

In reaction to the call for action against students' lack of long-term academic engagement, in particularly in the STEM fields, there is a surge in intervention studies applying motivational theories to foster students' motivation and educational outcomes. These studies have shown positive effects on a multitude of students' outcomes ranging from interest to achievement (Lazowski & Hulleman, 2014). However, these studies are often conducted either in lab or small-scale educational settings resulting in a lack of studies implementing and evaluating interventions based on motivational theories in the real-life setting of the classroom. Building on existing intervention research by Hulleman and colleagues (2009, 2010), the aim of the current study was to increase students' competence beliefs, effort and achievement in the subject of mathematics through a short classroom based utility value intervention using Eccles et al.'s (1983) expectancy-value model as a theoretical backdrop.

The intervention study was conducted with 1978 ninth grade students in 82 mathematics classrooms in Germany. The intervention consisted of a 90-minute session in which the utility of mathematics for students' future lives was discussed. To examine the effectiveness of the given intervention, classrooms were randomly assigned to three different conditions: two intervention conditions as well as a waiting control group. In intervention condition 1, students were asked to reflect on the usefulness of mathematics by writing a letter ("letter condition"). In intervention condition 2, students were asked to critically reflect on evaluations of the usefulness of mathematics ("quotation condition"). Students in the waiting control group did not receive any intervention.

Using a pre-post-follow up design, students' outcomes in mathematics were assessed prior to the intervention, 6 weeks and 5 months after the intervention. Competence beliefs were assessed as students' self-reported self-concept and homework self-efficacy. Students' effort in mathematics classrooms was assessed using teacher reports. Lastly, achievement was assessed through a standardized math test at pre-test and a normed speed test at follow-up.

Analyses showed that students in the quotation condition reported statistically significant higher self-concepts and homework self-efficacy beliefs and were perceived as showing more effort by their teachers six weeks after the intervention in comparison to students in the control condition. Students in the letter condition did not differ significantly from students in the control condition on the outcomes of interest. At the follow-up five months after the intervention, students in the quotation condition still reported statistically significant higher homework self-efficacy beliefs and performed statistically significantly better in the normed speed test than students in the control condition. Students in the text condition also reported higher homework self-efficacy beliefs than students in the control condition. No further statistically significant differences were found.

In sum, the current study showed that a short classroom based intervention implemented in the real-life context can successfully increase students' competence beliefs, effort and their achievement. Results indicate that fostering students' critical reflection on typical arguments for usefulness shows more beneficial effects on students' outcomes than pure self generation of arguments for the usefulness of mathematics. Further implications of the findings for the implementation of educational interventions drawing on motivational theories will be discussed.



Machine Learning Approaches to Developmental Transition: Illustrating Penalized Regression and Decision Tree Models of University Entry

Philip D. Parker¹, John Jerrim², Anna K. Chmielewski³, Herbert W. Marsh¹

¹ *Institute for Positive Psychology and Education, Australian Catholic University,*

² *Institute of Education, University of London,*

³ *Ontario Institute for Studies in Education, University of Toronto*

Abstract

Increasingly governments and grant bodies around the world are funding large longitudinal databases of young people as they transition from adolescence into adulthood. They are often put together by multidisciplinary teams including economists, sociologists, educators, and psychologists and have led to considerable advancements in theory within these fields. Nevertheless aspects of these databases remain underutilised. In particular, belying their conception, research flowing from these databases tends to be discipline-specific and consist of a small subset of variables. This is consistent with a dominant focus on social science research on explanatory science at the cost of predictive science. However, advances in machine learning algorithms mean that there are possibilities to leverage off the broad multidisciplinary nature of these databases to build models that can be used to predict important transition outcomes like university entry. We illustrate various machine learning approaches, using over 100 variables from the Longitudinal Study of Australian Youth collected when participants ($N = 6,363$) were 15 years of age to predict university entry three years later. We also consider what insights the various approaches provide to theory on university entry. While not a replacement for rigorous testing causal explanations, machine-learning approaches provide a powerful additional tool for developmental researchers with important real world applications.



Abstracts

The socio-economic gradient in educational attainment and labour market outcomes: a cross-national comparison

Jake Anders and John Jerrim
Institute of Education, University of London

Abstract

This paper reviews evidence on the link between family background, educational attainment and labour market outcomes across four rich, English-speaking countries (Australia, Canada, England and the United States). It uses a 'life-course' approach, where the magnitude of socio-economic disparities are measured and compared cross-nationally at key transition points. We find that socio-economic inequalities are usually (although not always) smallest in Canada and greatest in the United States. Thus, drawing upon evidence from a collection of independent studies, we find little evidence to support suggestions that the United States is the 'land of opportunity', where individuals from humble origins can successfully pursue the 'American Dream'. Rather, family background matters more to lifetime opportunities in the United States than in other comparable countries.



Abstracts

Social Inequality in Educational Transitions under Different Types of Secondary School Curricular Differentiation

Anna K. Chmielewski

Ontario Institute for Studies in Education, University of Toronto

Abstract

Secondary school curricular differentiation has been organized in a variety of ways across schools, across countries, and over time. Two of the most common types of formal differentiation are course-by-course tracking, in which courses are offered at varying levels of difficulty in one or more subjects within a school (often practiced in the US, Canada, the UK, Australia, and other Anglo countries) and academic and vocational streaming, in which students are allocated into overarching programs—often located in separate school buildings—with curricula that prepare them either for university or for trades (traditionally practiced in Germany, France, the Netherlands, and other continental European countries). Both forms of curriculum differentiation may have the unintended consequence of segregating students by socioeconomic status (SES) and directing low-SES students into lower-status educational trajectories and high-SES students into higher-status educational outcomes. But differences in the two types of differentiation (between-school versus within-school, the age at which track selection occurs, overarching study programs versus subject-specific grouping) could lead to differences in the level of social inequality produced by each type of differentiation. Understanding these differences is increasingly important as more and more countries reform their systems of curricular differentiation and replace academic/vocational streaming with course-by-course tracking, in the face of globalizing educational systems, increasing access to higher education, and increasing concerns with equality of opportunity. Yet to date, the body of research directly comparing the two types of curricular differentiation is small. This chapter reviews findings from this emerging literature (including comparisons both across countries and within countries) with a focus on comparisons of the extent of SES segregation between tracks, the correspondence between secondary school tracks and educational attainment, and resulting levels of social inequality in educational attainment. It also examines potential mechanisms underlying differences between the two types of curricular differentiation, including classroom instruction, opportunities to learn, student achievement, motivation, academic self-concept, educational aspirations, and institutional contexts that regulate linkages between secondary school tracks and higher education.



Designing instruction to enhance achievement of all and reduce inequality

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Abstract

This article presents a theoretical framework for designing instruction in order to pursue simultaneously the objectives of enhancing achievement of all and reducing inequality of opportunities and of skill distribution. It is argued that a mixed- common/targeted model of provision, combining per each student common and targeted inputs of instruction, is a framework that enables to pursue the two objectives. The mixed provision complements the baseline common instruction with a personalised instruction, consisting in a temporary and complementary provision of instruction that compensates for the difficulties and delays that students experience throughout their school year and meet the higher learning goals of the high achievers. The focus is shifted from finding the best way of dividing students in groups/tracks to finding the best portfolio of common and targeted inputs per each student. The framework draws on the literature on the optimal diversification of instruction inputs and on the literature on skill formation to analyse how common and personalized instruction inputs generate different outcomes in terms of achievement growth and inequality over the life-course and with different combinations of common and targeted inputs.



Differential responses in first birth behaviour to economic recession in the United Kingdom

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Abstract

Economic conditions have dramatic influences on demographic behaviours, and in particular fertility. However, there has been little analysis of variation according to individual characteristics in the UK. This paper evaluates the effect of the recession on first birth rates- which are the most susceptible to external economic conditions. The key contribution of the paper is to allow the effect of the recession on fertility to vary by individual level characteristics, enabling us to observe variation in responses to economic hardship. Cumulative transition models are used to model the probability of first birth between the ages of 17 and 30 for three birth cohorts (1980-85, 1985-89, 1990 or more recent). The effect of the recession is captured using direct measures (local unemployment rates and individual unemployment status) and a pre-/post- comparison, capturing indirect effects. We control for other individual level effects, and interact these effects with the pre-/post-recession indicator. First births increase during the teenage years, peaking after age 20. First birth rates decline across birth cohorts. Higher birth rates are observed among more disadvantaged women compared to advantaged groups. However, after the recession there is a fall in fertility rates among the most disadvantaged groups. The effect of the recession is disaggregated by social strata. Relatively advantaged groups are less affected by external economic influences regarding their fertility behaviour. In contrast, women in disadvantaged positions are generally more likely to experience early fertility; they also are most likely to change their fertility behaviour in response to external economic conditions.



Abstracts

Sequence analysis of youth transitions: a cross-cohort comparison

Jake Anders and Richard Dorsett

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Abstract

Making a successful transition from education into the labour market is important for young people's long-term economic success: periods of unemployment during these early years have long-term scarring effects. In this report, we use sequence analysis to cast new light on how early (up to age 19) post-compulsory schooling experiences have changed over time. We use data from four major longitudinal studies – the NCDS, BCS, YCS and LSYPE – covering a period of more than thirty years. Over this period, our results show a decrease in the proportion of young people moving quickly from education to employment, alongside a large growth in the proportion of young people getting education beyond compulsory levels, and an increase in the proportion of young people whose transition into the labour market is a potential cause for concern. Females and individuals of non-white ethnicity have gone from being more at risk of a difficult transition, to being less at risk. Cumulative disadvantage from various indicators of SES continue to play a large role in predicting difficult transitions.



Engagement with and Disengagement from Demands of Social Change: A Comparison of Age Groups and Political Regions

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Abstract

Human development can be considered a permanent transaction between individuals and their social ecology. In this transaction, both the individual and the social ecology are subject to change, which triggers processes of adaptation at both levels. The starting point of our research is the assumption that social change (such as change in labour market flexibility) results in new demands for the individuals (such as the demand of occupational uncertainty) that disturb hitherto effective behavioural routines and thus need to be dealt with adequately. Based on a motivational theory of adaptive behaviour, we broadly distinguish between engagement with these demands and disengagement from them. Within this framework, this paper provides an integrative overview of the results from three conceptually related empirical studies on how individuals deal with demands of social change. Study 1 comprises a longitudinal sample of young and middle-aged adults (aged 15-43 years) from Germany and Study 2 comprises a sample of similar age from Poland. We hypothesized that engagement and disengagement depend on (a) the load of demands individuals are confronted with, (b) the appraisal of these demands in terms of gains/losses and threat/challenge, as well as (c) the appraisal of the controllability of the demands. Furthermore, we explored the hypothesis that engagement and disengagement strategies are most adaptive if they are matched with the opportunities and constraints in the social ecology. Finally, we compared a subsample of those still in training and education with a subsample of those who have already entered the labour market. By and large, all our hypotheses were confirmed, although we also found specificities of age and culture. More specifically, young people still in training and education seem to be more protected from demands of social change and appraise them in a more optimistic way. We discuss these findings against the backdrop of the conceptual model used and point to future directions for research on social change and possible applications.



Abstracts

Relationship of Science Achievement, Variation in Science Achievement, and Sources of Variation: A six country comparative study using TIMSS 2011

Justin Bruner

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Abstract

This poster contributes to the large body of work on inequality and student achievement, specifically the argument put forth by the 2009 PISA report (OECD, 2010b) that reducing variation in achievement improves overall national performance. Using Hierarchical Linear Modeling with the TIMSS 2011 eighth grade science dataset and a strategically selected six-sample country, this poster will test the argument put forward by the OECD; explore variation in achievement as it relates to student, teacher, and school characteristics; and highlight how student achievement in science might be helped or hindered by factors other than student SES. The results generally support an overall negative relationship between country-level achievement and country-level variation in achievement as well as consistent impacts of SES and student attitude. A range of context specific factors are also found suggesting that there are also local factors impacting student performance and country variation.



Abstracts

Work values, employment and well-being during the transition to work life.

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Abstract

Research on career development has shown that work values are crucial motivations in finding well suited jobs. In the context of the current economic crisis it is relevant to know whether work values predict success in employment in the transition from study to work life. The present longitudinal study examined the role of intrinsic work values (i.e. the importance of having a job that is interesting and matches own interests and competences), rewards (having a good salary and promotion) and security (having a stable job) work values on youth's work situation and well-being in a Finnish sample. Participants' work values and background variables were measured via questionnaire at ages 20 and 23 (Ns = 597 and 588 respectively). Intrinsic work values predicted a higher chance of having a job related to education, and a lower chance of being unemployed two years after assessment. Rewards work values predicted less chances of being unemployed, whereas security work values predicted higher unemployment. Intrinsic work values were related to higher self-esteem at the same time point, but not longitudinally. Extrinsic work values and self-esteem were not related cross-sectionally, but higher rewards work values predicted increases in self-esteem two years later. Intrinsic work values showed a small negative association with burnout, but extrinsic work values were unrelated. Furthermore, intrinsic work values partially mediated the influence of background variables (e.g. low SES and gender) on employment status showing their relevance as a personal resource in the transition to work.



