



PATHWAYS Workshop
2-5 December 2012
Cumberland Lodge, Windsor, UK

PATHWAYS To ADULTHOOD: Motivation and Attainment



Meeting Sponsored by the Jacobs Foundation

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Welcome

Dear Colleagues

On behalf of the Jacobs Foundation I welcome you to the 8th Pathways Workshop at Cumberland Lodge, Windsor Great Park. This workshop marks the beginning of phase II of our programme, and I extend a warm welcome a new cohort of Fellows, who will be joining the programme. The aim of the workshop is to engage with the work of the post-doctoral Fellows, to provide feedback and support, and to plan future collaborative work.

In preparation for the meeting the Fellows have prepared papers to be presented, and some are already engaged in collaborative efforts involving conversations via email, and 'virtual' meetings using Skype. We now have the opportunity to meet in person in order to get to know each other, establish a plan of work, clarify issues and discuss joint papers. Doing comparative research is a challenging task, and it is great to see how you are addressing issues on a comparative basis, generating more generalisable findings and evidence, especially regarding issues of school engagement, career planning and career development in four countries.

In addition to discussing papers and planning the dissemination of outputs, we also aim to discuss opportunities for third stream funding of our programme activities. We will have a PI led workshop, introducing current research conducted in our partner institutions, and discussing ways of how to get funded. This will be of great interest to all of you, as getting research funding is one of the key milestones in establishing your independent research career.

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 the Lodge and the autumn landscape within the heart of Windsor Great Park.

Ingrid Schoon



List of Participants

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Meeting Programme *(all session will be held in the Library unless otherwise indicated)*

Sunday 2nd December

- 17.00 – 18.00 Informal group meeting: initial discussions, finalize timetable for PI consultations, initial presentation discussion

19.00 Dinner – Cumberland Lodge

Monday 3rd December

- 08.30 – 09.00 Arrival and Welcome
- 09.00 – 13.00 Fellow presentations of ongoing or planned projects / PI feedback (15 mins presentation; 15 mins discussion)

09.00-09.30	John Jerrim
09.30-10.00	Jaime Puccioni
10.00-10.30	Elizabeth Covay
10.30-11.00	Anna Chmielewski

- **11.00 – 11.30 Coffee Break**

11.30-12.00	Richard Göllner
12:00-12:30	Anna-Lena Dicke

- **12.30 – 13.30 Lunch**

13.30-14.00	Jaana Viljaranta
14.00-14.30	Julia Dietrich
14.30-15.00	Heta Tuominen-Soini

- **15.00 – 15.30 Coffee Break**

15.30-16.00	Håkan Andersson
16.00-16.30	Martin Obschonka
16.30-17.00	Sointu Leikas

- 17.00 – 18.00 Roundup

19:00 Dinner – Cumberland Lodge



Tuesday 4th December

- 09.00 – 10.45 PI led workshop: Writing project proposals and getting funded
- **10.45 – 11.00 Coffee Break**
- 11.00 – 12.00 PI led workshop: Writing project proposals and getting funded
- **12.00 – 13.00 Lunch**
- 13.00 – 15.30 PI Steering Group Meeting (*room L27*)
- 13.00 – 15.30 Fellow Group Meeting: Synergies and potential collaborations
- **15.30 – 16.00 Coffee Break**
- 16.00 – 16.15 Report back from meetings
- 16.15 – 18.00 Fellow run session: Suggestions for potential collaborative projects

19:00 Dinner – Cumberland Lodge

Wednesday 5th December

- 09.00 – 10.45 Individual consultations with PIs
- **10.45 – 11.00 Coffee Break**
- 11.00 – 12.00 Individual consultations with PIs
- 12.00 – 13.00 Planning of future activities, identifying training needs

13.00 Lunch & Departure



Presentations

Monday 3rd December

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

- John Jerrim
Social mobility, regression to the mean and the cognitive development of high ability children from disadvantaged homes
- Jaime Puccioni
Academic Socialization and the Transition to School: Parents' Conceptions of School Readiness, Practices, and Children's Academic Achievement
- Elizabeth Covay
Classroom Composition and Racial Differences in Opportunities to Learn
- Anna Chmielewski
An International Comparison of Achievement Inequality in Between- and Within-School Tracking Systems
- Richard Göllner
Contextual Classroom Effects on Personality Development in Young Adolescents
- Anna-Lena Dicke
Differential Effects of Teacher Support on Student Engagement
- Janna Viljaranta
Motivation and education -an integrative approach from kindergarten to adulthood
- Julia Dietrich
Self-determined goal pursuit and the dynamics of motivational states



- Heta Tuominen-Soini

Students' multiple goals: A review of studies examining achievement goal orientation profiles or groups

- Håkan Andersson

Is change in task persistence skills during young adolescence more strongly related to changes in math skills than to changes in language skills?

- Martin Obschonka

Entrepreneurial development: The Special Issue and future longitudinal research

- Sointu Leikas

Personality type change in young adulthood: antecedents and correlates of different trajectories



Social mobility, regression to the mean and the cognitive development of high ability children from disadvantaged homes

John Jerrim

Institute of Education, University of London

Abstract

A gap in cognitive skill between richer and poorer children is evident from a very early age. Some studies have also suggested that highly able children from disadvantaged homes are overtaken by their rich but less able peers before the age of 10, in terms of their cognitive skill. The latter finding has become a widely cited “fact” within the academic literature, and has had a major influence on public policy and political debate. We show that this finding is vulnerable to a spurious statistical artefact known as regression to the mean (RTM) and we propose the application of an alternative methodology to address this problem. After applying some simple adjustments for RTM to data from the Millennium Cohort Study, we no longer find convincing evidence that able but disadvantaged pupils fall behind their more advantaged but less able peers.



Academic Socialization and the Transition to School: Parents' Conceptions of School Readiness, Practices, and Children's Academic Achievement

Jaime Puccioni

Michigan State University

Abstract

By the time children enter kindergarten significant socioeconomic and racial gaps in academic achievement already exist. Kindergarten is considered to be a pivotal point of educational transition, as academic achievement upon kindergarten entry is associated with subsequent academic success. It is broadly assumed that parents' school readiness beliefs influence parenting practices and ultimately children's early academic achievement. Using nationally representative data ($N=13,133$) latent growth curve models were estimated to examine the degree to which parents' school readiness beliefs directly and indirectly influenced children's academic achievement in reading and mathematics during the transition to elementary school. Results show parents' school readiness beliefs were positively associated with children's achievement and growth over time. Additionally, parents' transition practices partially mediated the relationship between their readiness beliefs and children's beginning academic performance. However, parents' school readiness beliefs exerted a greater influence on children's achievement in contrast to transition practices. These findings highlight the importance of subjective values in shaping parenting practices and ultimately child outcomes.



Classroom Composition and Racial Differences in Opportunities to Learn

Elizabeth Covay

Michigan State University

Abstract

Black and white students leave high school with disparate math skill levels despite completing the same advanced math courses. One possible explanation for this math skills gap is that minority students are exposed to different learning opportunities despite being in classes with the same title. Using the Mathematics Survey of the Enacted Curriculum (SEC), this study examines the relationship between how advanced math teachers organize their classroom learning environments and the racial composition of the classroom. Advanced math teachers of minority classrooms spend their instructional time emphasizing different topics and instructional tasks than advanced math teachers of predominately white classrooms. These racial differences continue to exist when classroom socioeconomic and achievement level are taken into account. Students in minority classrooms have different learning opportunities compared to their peers in predominately white classrooms which may explain racial differences in returns to advanced math course taking.



An International Comparison of Achievement Inequality in Between- and Within-School Tracking Systems

Anna K. Chmielewski

Michigan State University

Abstract

Tracking (when students at the same grade level are given different, hierarchically-defined content) is organized in a variety of ways cross-nationally at the secondary school level. Some countries, including the U.S., track within schools on a course-by-course basis, while other countries employ more explicit academic and vocational streaming, usually in separate school buildings. This paper uses PISA data to compare the two forms of tracking across the U.S. and 19 other developed countries. Results indicate that course-by-course tracking is less segregated by SES than is academic/vocational streaming. Yet both forms of tracking have comparable achievement gaps between tracks. In course-by-course tracking, sizable SES disparities in achievement exist among students in the same track. But in academic/vocational streaming, SES disparities are small within streams.



Contextual Classroom Effects on Personality Development in Young Adolescents

Richard Göllner

University of Tübingen

Abstract

Findings from previous research in early adulthood suggest that normative life transitions have the potential to trigger personality changes. Cross-sectional and longitudinal studies showed that personality generally develops towards greater maturity during this time period. With regard of the Big Five personality traits, individuals tend to become more agreeable, more conscientious, and less neurotic. However, that does not mean that change is the same for all. There is also broad empirical evidence pointing to substantial interindividual differences in intraindividual change. Equipped with this basic knowledge, the present study applied the big five framework to examine personality trait changes in a sample of $N = 2830$ students during the period of early adolescence. Despite the rather short observation period of three annual measurement waves, latent growth curve analyses revealed significant mean-level changes in personality traits. These changes occurred both in positive (e.g., neuroticism) and negative directions (e.g., agreeableness). In addition, significant interindividual differences in change were found. Bivariate growth curve models indicated that individual differences in personality change were associated with experiences made within the educational context.



Institutional Effects on Students' Interest: The Case of Mandatory Course Enrollment

Anna-Lena Dicke, Ulrich Trautwein, Benjamin Nagengast

University of Tübingen

Abstract

Within educational settings students are typically forced to engage with certain subjects by means of mandatory course enrollment irrespective of their interest level. As mandatory course enrollment can be construed to have positive as well as negative effects on students' interest, the purpose of this study was to investigate this issue empirically.

To this end, we examined changes in student reported interest in science subjects after the introduction of a mandatory course enrollment for basic courses in these subjects in upper secondary schools in the German state of Saxony. Using a quasi-experimental design, student reported interest in physics, chemistry and biology before (Cohort 1: $N = 2125$) and after (Cohort 2: $N = 1116$) the introduction of a mandatory course enrollment were compared.

Results for mean differences showed no statistically significant differences for the overall sample, but significant decreases in mean interests were found for two of the three subjects when considering course level (basic vs. advanced). Standard deviations also decreased statistically significantly for two of the three subjects in the overall sample as well as by course level. Findings, thus, indicate that mandatory course enrollment can affect students' interest negatively. Future research should investigate processes potentially influencing the decrease in interest related to mandatory course enrollment.



Motivation and education - an integrative approach from kindergarten to adulthood

Jaana Viljaranta

University of Jyväskylä

Abstract

In this presentation I will present the key ideas of my post-doctoral research plan. This planned research tries to find some insights to successful and unsuccessful schooling careers and to the risks of marginalization and social exclusion by applying an integrative motivational perspective on education. The main aim of this planned study is, first, to integrate motivational research by investigating the role of several different aspects of motivation (that is, task values and interests, self-concept of ability, and achievement strategies) on school achievement and success in educational transitions. Second, the aim is to integrate the research of the role of motivation at different phases of the school career by investigating students' motivational trajectories from kindergarten to the transitions to secondary education, to further education and to work life. The final aim is to examine the role of these trajectories on skill development and school achievement, success in educational transitions and career plans and choices, on the one hand, and on marginalization, on the other.

Several longitudinal data sets, together spanning from kindergarten to work life, can be used while working with this plan. Most of them have been collected among Finnish students but also one Australian data is available. All the data sets include several measures of motivation, which provides an opportunity for the integration of different motivation theories and constructs. In addition, several measures of skills and other academic and occupational outcomes (e.g. academic plans, actual choices, dropping out of school) are included in all the data sets, which set a basis for examining the long-term effects of motivation. The planned research will use both variable-oriented and person-oriented methods to examine the role of motivation.



Self-determined goal pursuit and the dynamics of motivational states

Julia Dietrich^{1,2}, Håkan Andersson³

¹University of Helsinki, ²University of Erfurt, ³University of Stockholm

Abstract

According to self-determination theory (Deci & Ryan, 1985, 2000) and the more goal-specific self-concordance model (Sheldon & Elliot, 1998; Sheldon, 2002), the reasons why people pursue their goals influence the processes and outcomes of their goal pursuits. Self-determination increases as people's motivations shift towards autonomous motivation which indicates behavior that is self-initiated and freely chosen. The more a behavior is self-determined, the more it is thought to contribute to a person's successful goal progress and well-being. In this paper we focus on daily dynamics of self-determined goal motivation and test the assumption that it is related to people's motivational experiences, such as the frequency of being in a state of flow experience or the frequency of feeling overwhelmed.

Because autonomously motivated individuals should be better in selecting goals that are in line with their personality and inner needs, they should be more likely to experience positive motivational states such as flow. Individuals whose behaviors are highly driven by controlled motivation look for external rewards or seek to avoid guilt, shame, and anxiety. Having high controlled motivation can be assumed to go hand in hand with engagement in situations which are pressured and competitive, and thus stressful and unpleasant.

This paper is a follow-up to the study presented at the Jena meeting. It is based on the CASS study, in which 72 first-year university students in Finland (55 female, 17 male; mean age: 21.9 years) provided information about their motivational state 3 times throughout the day across a 14-day period. In the morning of each day, participants wrote down 3 goals for the current day and rated the amount of autonomous and controlled motivation for each goal. We used multilevel modeling to examine whether goal motivation predicted people's motivational states on the level of a day and the level of the individual. As expected, autonomous motivation predicted a higher likelihood of experiencing flow during the day, but also on the level of the individual. Autonomous motivation was also negatively related to feeling bored, both on the day level and the person level.



Students' multiple goals: A review of studies examining achievement goal orientation profiles or groups

Heta Tuominen-Soini, Katariina Salmela-Aro, Markku Niemivirta

University of Helsinki

Abstract

The multiple goals perspective – the idea that students can and do pursue multiple goals simultaneously and to varying degrees – is widely accepted among goal theorists and has prompted numerous studies. The aim of this study was to review studies examining achievement goal orientation profiles or groups. We focused on clarifying what kinds of goal orientation profiles have been extracted and which profiles have been shown to be most adaptive with respect to academic and socio-emotional functioning. This review includes 46 studies in peer-reviewed, English-language journals that meet the criteria of clustering or grouping of students on the basis of achievement goal orientations and use person-centred analytical methods.

The use of different conceptualizations and methods, as well as participants of different ages and from various educational contexts make the interpretation and generalization of the results difficult. Even though there is no consensus on the number and composition of profiles or groups, the following profiles are commonly identified: predominantly mastery, predominantly performance, high-mastery/high-performance, and low achievement goal profile. In studies including a work-avoidance orientation, a work-avoidant profile is usually identified. Some debate also exists about which combination of goals leads to the most adaptive outcomes. Studies have demonstrated support for the merits of mastery-only and high-mastery/high-performance profiles. However, some studies suggest that strivings for performance might, even in the presence of mastery strivings, entail some unfavourable outcomes. Low motivation and avoidance-oriented students manifest the most negative outcomes in terms of academic and socio-emotional functioning.

Together these studies indicate that as several goals can interact in complementary ways to jointly regulate achievement behaviour, it is critical to consider patterns of motivation. Despite the wide array of studies investigating goal profiles, deeper reflection and interpretation of the findings is scarce. This study addresses the issues of prevalence, functionality, and stability of goal profiles and discusses the advantages of person-centred approach.



Are changes in task persistence skills during young adolescence more strongly related to changes in math skills than to changes in language skills?

Håkan Andersson¹, Julia Dietrich^{2,3}

¹University of Stockholm, ²University of Helsinki, ³University of Erfurt

Abstract

A growing body of research has pointed the importance of different forms of self-regulation skills for the successful development of academic skills during childhood and adolescence. Earlier studies have mainly focused on inhibitory or interference control and working memory and these are some of the strongest predictors of academic success across different ages (e.g., Blair & Razza, 2007; Fuchs et al., 2006; Swanson et al., 2008). Further, attention skills such as selective attention or focused attention have been shown to be important for academic skill development (e.g., Duncan et al., 2007; Fuchs et al., 2006). Longitudinal studies based on children in their early school years and later during adolescence show that different forms of self-regulation and executive functions also predict change in academic skills such as language and mathematics (Blair & Razza, 2007; Swanson et al., 2008; Valiente et al., 2008; Welsh et al., 2010). There are some empirical indications and theoretical suggestions that change in executive functioning skills are more strongly related to mathematical skills than to language skills (e.g., Blair et al., 2005; van der Sluis et al., 2007; Welsh et al., 2010). Even though some findings support this notion, these studies are mainly based on children in their early school years and most have used longitudinal designs spanning over shorter time periods (e.g., Welsh et al., 2010; Blair & Razza, 2007). Some of the suggested reasons for the closer connection between mathematical problem solving and executive functioning are: (1) that language skills become more automatic than math skills during middle childhood, resulting in that mathematical problem solving would generally demand more mental effort and attention control than language studies; (2) that mathematical problem solving, especially in later school years, involves more verbatim or “exact” information than language studies, resulting in higher mental effort demands (Reyna & Brainerd, 1995); (3) that successful mathematical problem solving is more susceptible to lapses in attention (Blair et al., 2005; Fuchs et al., 2006; Reyna & Brainerd, 1995).

The purpose of this study was to investigate the longitudinal relations between the ability to focus attention and to handle mental effort, that is, task persistence, in relation to change in language and mathematical skills during early adolescence. We had two main expectations: (1) mathematical skills would be a stronger predictor of change in task persistence than change in



language skills, and (2) change in task persistence would be stronger related to change in mathematical skills than to change in language skills.

Data from approximately 1000 children tested at ages 10 and 13 from the Swedish research program IDA was used in this study (Magnusson, 1985). Task persistence was rated by (different) teachers at the two time points on a 7-point scale. Mathematical and language skills were measured by nationally standardized achievement tests. Parents' SES and general intelligence at age 10 were included as covariates.

Using path analysis, results were in line with our expectations. Mathematical skills but not language skills predicted change in task persistence and change in task persistence was significantly correlated with change in mathematical skills but not with language skills. Thus, the results confirm the expectation of a closer connection between attention skills and mathematical skills than with language skills. An interesting idea based on these results would be to use mathematics as a way of training attention skills.



Entrepreneurial development: The Special Issue and future longitudinal research

Martin Obschonka

University of Jena

Abstract

The talk will give a short summary on the Special Issue “Entrepreneurial development: Person and Context” and an outlook on my research on entrepreneurial development. Specifically, I will present the model on entrepreneurial development over the life-span that was developed by Rainer Silbereisen and me and that was the conceptual basis for the Special Issue, which is going to be published in the International Journal of Developmental Science within the next weeks. This model takes a developmental science perspective and helps integrating biological, psychosocial, behavioural, and contextual factors in entrepreneurial development across childhood, adolescence, and adulthood. Regarding my future research on entrepreneurial development, I will speak about my planned work using the IDA data from Sweden. I will present a first research question that deals with early antisocial behaviour in childhood and adolescence as precursor of entrepreneurship in adulthood. By means of the IDA dataset, which includes detailed information on early rule-breaking and delinquency, I want to find out whether budding entrepreneurs are indeed early rule-breakers as suggested by a recent retrospective study. In this study, I will collaborate with Rainer Silbereisen and colleagues from Sweden.



Personality type change in young adulthood: antecedents and correlates of different trajectories

Sointu Leikas, Katariina Salmela-Aro

University of Helsinki

Abstract

Large majority of personality research has taken a variable-centered approach while person-centered personality research has received less attention. The present longitudinal study took a person-centered approach by examining the antecedents, correlates, and change trajectories of personality types in a longitudinal sample of young Finns. The goals of the research included a) identifying emerging personality types at two different age points (at 20 and 23 years); b) examining different trajectories of change and stability in the personality types; c) investigating the relations of well-being, self-esteem, and educational goal orientations with the personality types, and d) identifying life history predictors of different type trajectories. The results showed that at the age 20, participants were best described by two personality types, Resilients and Non-Resilients, but at the age 23, participants were best described by four personality types, three of which conformed to the types identified in previous literature (Resilients, Over- and Undercontrollers), complemented by the Non-Resilient type. Four trajectories of personality type change were identified. The trajectory from Resilient to Undercontroller was most likely (49 %), followed by the trajectory of Stable Resilience (21 %), Stable Non-Resilience (14 %), and from Non-Resilient to Overcontroller (13 %). Transitions from Resilient to Overcontroller and from Non-Resilient to Undercontroller were very rare (> 1 %), and transitions from Resilient to Non-Resilient or vice versa did not occur. Interestingly, Stable Resilients had higher self-esteem and life satisfaction (but not lower Depression) at the age 18 (i.e., two years before the first personality measurement). By contrast, Stable Non-Resilients did not differ from those moving from Non-Resilient to Overcontroller in terms of their self-reported well-being. Regarding trajectories and life situations at the age 23, Stable Non-Resilients were more likely to be unemployed and less likely to have completed secondary education than others. Those moving from Non-Resilient to Overcontroller were less likely to be in a relationship at the age 23 than others. The results showed that the personality type trajectories are not only related to general indicators of well-being but also to more objective life situation outcomes. Perhaps most importantly, the results suggest that signs of a desirable developmental pattern may be evident years before this pattern actually emerges.



