



PATHWAYS to Adulthood International Conference

12-13 July 2010

Institute of Education, London

Conference Pack

This event is co-funded by the Jacobs Foundation and the ESRC Centre for Learning and Life Chances in Knowledge Economies and Societies (LLAKES)



**Leading education
and social research**
Institute of Education
University of London

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Background

This conference will bring together experts from different disciplines and from different countries, drawing on evidence from longitudinal studies and large scale surveys to examine the multiple influences on gendered career choices and development in a changing social context. It aims to examine antecedents, correlates, and outcomes associated with gender differences in career aspirations and attainment in a global context. The conference will take an explicit longitudinal perspective, addressing issues related to gender and social inequalities in motivation and attainment during the school years and in the transition to adult roles.

We are hoping the event will help to shape the next wave of research on gender differences in career choice and attainment, and its application to practice and policy development around the world.

Key topic areas to be addressed are:

- Early influences (childhood and adolescence).
- Life planning: how do young people see themselves and their futures.
- Adulthood: gender differences in career pathways and attainment across domains (work, income, family, health and well-being) and their link to earlier influences
- Social, economic, institutional, and cultural constraints and opportunities: how is career planning and attainment shaped by structural forces such as social background, policy agenda, labour market opportunities, and economic cycles.
- Methodological considerations

About the PATHWAYS to Adulthood Programme

PATHWAYS is a post-doctoral Fellowship Programme funded by the Jacobs Foundation. It was established in October 2008 with the objective to promote the next generation of researchers engaged in the study of productive youth development through mentoring and collaboration.

The collaborative programme is directed by Ingrid Schoon (Institute of Education, University of London) and brings together experts in the field from the UK, Germany, Finland, Sweden and the US, including Jacquelynne Eccles (University of Michigan), Barbara Schneider (Michigan State University), Katariina Salmela-Aro (University of Finland), Lars Bergman (University of Stockholm), Ulrich Trautwein (University of Tübingen), and Rainer Silbereisen (University of Jena).

The mission of the PATHWAYS Programme is to stimulate high-quality, innovative, interdisciplinary, and comparative research of youth development, with a strong focus on dissemination and application of the findings. The Programme enables and encourages collaboration between scholars from multidisciplinary backgrounds and pools the expertise of several leading institutions.

Key research questions include how to facilitate the transition to adulthood, how to promote resilience and positive adjustment even in the face of adversity, how to support familial ties and resources that enhance socialisation, and social ties that strengthen connections to educational and workplace settings.

About LLAKES

This ESRC-funded Research Centre investigates the role of lifelong learning in promoting economic competitiveness and social cohesion, and in mediating the interactions between the two.

Key areas of research include: i) the social and cultural foundations of learning, knowledge production and transfer, and innovation, within the context of a changing economy, and ii) the effects of knowledge and skill distribution on income equality, social cohesion and competitiveness.

It has a programme of multi-disciplinary and mixed method research which addresses these issues at the level of the individual life course, through studies of city-regions and sectors in the UK, and through comparative analysis across OECD countries.

LLAKES aims to work with policymakers, education and training professionals, employers, trade unions and other interested parties to improve the way in which national and international research evidence is shared and used.

Bringing together the expertise of the two programmes will provide a stimulating platform for the exchange of ideas and approaches focusing on gender differences and inequalities in aspirations and attainment.

Venue

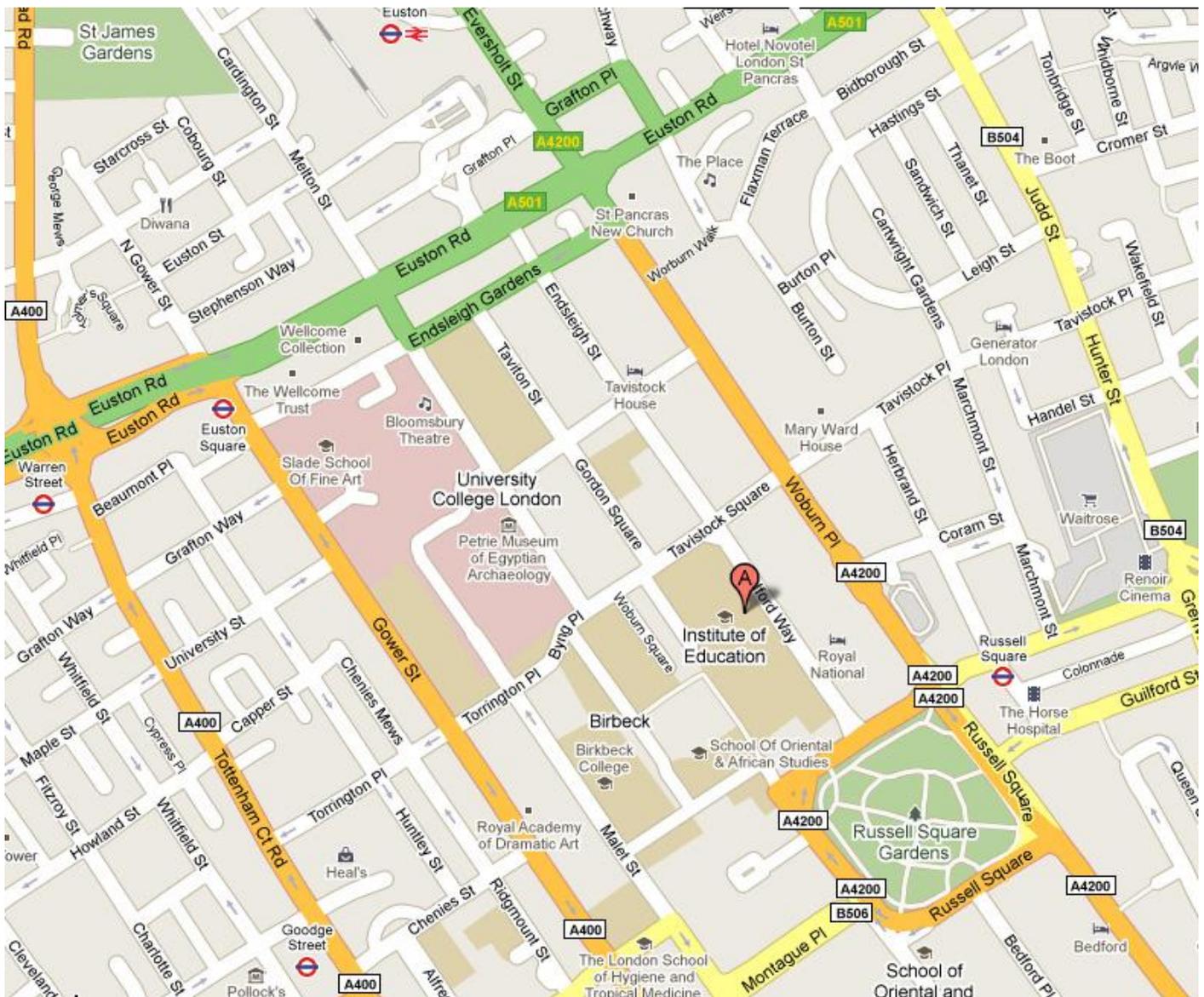
The conference will take place in the **Nunn Hall** for both days

Nunn Hall (Level 4)
Institute of Education (main building)
20 Bedford Way
London
WC1H 0AL

Registration will take place in **Committee Room 1** (to the right of Nunn Hall) from 9.30am on Monday 12 July. Refreshment breaks will take place in Committee Room 1 on Monday and Committee Room 2 on Tuesday.

The reception on Monday 12 June will also be held in Committee Room 1 at 17:30

Map



Travel advice

How to get to our main building at 20 Bedford Way, London WC1H 0AL

Bus

Bus stops, within a 5 to 15-minute walk, are located on Euston Road, Gower Street, Tottenham Court Road, Woburn Place and Southampton Row.

The closest are on Woburn Place and Southampton Row.

Tube (underground)

Tube stations, within a 5 to 15-minute walk, include: Euston; Euston Square; Goodge Street; Russell Square; Tottenham Court Road and Warren Street.

The closest is Russell Square.

Train

London's principal railway stations are all within a 30-minute journey, by bus or tube.

The closest is Euston.

Aeroplane

London's airports are all within a 1 to 2-hour journey, by bus or tube.

The closest is Heathrow.

Those of you who are flying in to **London Heathrow** may wish to note that you can take the Underground (Piccadilly Line, East Bound) to King's Cross or Russell Square from where you can take a taxi or walk to Birkbeck

For those flying in to **Gatwick**, we suggest you take the 'Gatwick Express' to Victoria Station, then the Victoria Line to Kings Cross or Euston.

Car

IOE is in the [London congestion charging zone](#).

We don't have a car park. Street parking in the neighbourhood is managed by [Camden Council](#). Private parking is offered by [National Car Parks \(NCP\)](#).

Contact

If you have any problems getting to the venue or any other enquiries please phone our organizer, Clare Sullivan on 07708 942 055

Conference Programme

Monday 12 July

09:30-10:00 Registration

10:00-10:45 Key note address – Jacque Eccles

10:45-11:00 Tea & Coffee

The Early Years

| | | | |
|-------------|---|-------------------------------|--|
| 11:00-11:30 | Marlis Buchman & Irene Kriesi | <i>University of Zurich</i> | How Does Gender Matter for First Graders' School Adjustment and Later Academic Achievement in Elementary School? |
| 11:30-12:00 | Jennifer Symonds (M Galton, L Hargreaves) | <i>Cambridge University</i> | Emerging Gender Differences in Times of Multiple Transitions |
| 12:00-12:30 | Kathryn Duckworth (Ingrid Schoon) | <i>Institute of Education</i> | Gender differences in early academic attainment and school transitions |
| 12:30-13:30 | Lunch | | |

Career planning

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|-------------|-------------------------------------|----------------------------------|--|
| 13:30-14:00 | Angela Chow (Katariina Salmelo-Aro) | <i>University of Helsinki</i> | Students' Task Values across School Subjects: A Gender Comparison |
| 14:00-14:30 | Oksana Malanchuk | <i>University of Michigan</i> | Determinants of Career Aspirations and Occupational Choice |
| 14:30-15:00 | Leslie Gutman (R Sabates, I Schoon) | <i>Institute of Education</i> | Educational and career aspirations: gender differences in young people |
| 15:00-15:30 | Barbara Schneider | <i>Michigan State University</i> | Gendered differences in aligned ambitions: High school experiences and pursuit of postsecondary opportunities in STEM fields |
| 15:30-15:45 | Tea & Coffee | | |

Vocational training

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|-------------|------------------------------|-------------------------------|--|
| 15:45-16:15 | Karen Evans | <i>Institute of Education</i> | Achieving equity through 'gender autonomy': the challenges for VET policy and practice |
| 16:15-16:45 | Allison Fuller & Lorna Unwin | <i>Institute of Education</i> | Can VET break free from gender segregations?: the challenges facing young women in apprenticeships |

Outlook

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|-------------|-------------------------------|-------------------------------|---|
| 16:45-17:20 | Toni Antonucci (Jacqui Smith) | <i>University of Michigan</i> | Gender differences in aspirations and attainment: A life course perspective |
| 17:30-20:30 | Reception | | |

Tuesday 13 July

09:30-09:45 Welcome

Adolescence and Young Adulthood

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|-------------|--|-------------------------------|---|
| 09:45-10:15 | Anna Bagnoli (Jackie Scott) | <i>Cambridge University</i> | Young people, gender, and science: does an early interest lead to a job in SET? A longitudinal view from the BHPS youth data. |
| 10:15-10:45 | Bryony Hoskins (M Kolokitha, JG Janmaat) | <i>Institute of Education</i> | Comparing young peoples' beliefs and perception of gender equality across 28 different countries |
| 10:45-11:00 | Tea & Coffee | | |
| 11:00-11:30 | Yi-Miau Tsai (Jacque Eccles) | <i>University of Michigan</i> | Gender Difference in occupational choice |
| 11:30-12:00 | Julie Ashby (Ingrid Schoon) | <i>Institute of Education</i> | The role of teenage career aspirations, ambition value and gender in predicting adult social status and earnings |
| 12:00-12:30 | Katariina Salmelo-Aro | <i>University of Helsinki</i> | Happiness gap: Gendered pathways to adulthood during educational transitions |
| 12:30-13:30 | Lunch | | |

Long Term Consequences and Policies

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|-------------|--|-------------------------------|---|
| 13:30-14:00 | Hannah Brueckner (Silke Aisenbrey*) | <i>Yale</i> | Gender Inequality by Choice? The Effects of Aspirations on Gender Inequality in Wages |
| 14:00-14:30 | Alice Sullivan (H Joshi, D Leonard) | <i>Institute of Education</i> | Single-sex and co-educational schooling: Lifecourse consequences? |
| 14:30-15:00 | Anne McMunn (E Webb, D Blane, G Netuveli, M Bartley) | <i>UCL</i> | Gender differences in attainment across generations from a historical perspective |

15:00-15.30 Close
Tea & Coffee

**first author*

Abstracts

In order of presentation

Key Note Speaker: Prof. Jacquelynne Eccles

Jacque Eccles is the McKeachie/Pintrich Distinguished University Professor of Psychology and Education, as well as a research scientist at the Institute for Social Research at the University of Michigan. She is a principal investigator with the PATHWAYS programme and Director of the Gender and Achievement Research Program and a World Scholar at the Institute of Education, London. Over the past 40 years, Prof. Eccles has conducted research on a wide variety of topics including gender-role socialization, teacher expectancies, classroom influences on student motivation, and social development in the family and school context. In the 90s, Prof. Eccles served as Chair of the Advisory Committee for the Social, Behavioral and Economic Directorate at the National Science Foundation, and Chair of the MacArthur Foundation Research Network on Successful Pathways Through Middle Childhood. She was Associate Editor of the journal *Child Development*, and is now the editor of the *Journal for Research on Adolescence and Developmental Psychology*. She is past president of the Society for Research on Adolescence (SRA) and has served on the faculty at Smith College, the University of Colorado, and the University of Michigan. Her work has been honored by several awards including the Kurt Lewin Memorial Award for "outstanding contributions to the development and integration of psychological research and social action" from the Society for the Psychological Study of Social Issues and life time achievement awards from SRA, Division 15 of the American Psychological Association, the American Psychological Society, and the Society for the Study of Human Development.

Conference Chair: Prof. Ingrid Schoon

Ingrid Schoon is director of the PATHWAYS programme and Professor of Human Development and Social Policy at the Institute of Education, University of London. She is a member of the International Collaborative for the Analysis of Pathways from Childhood to Adulthood (CAPCA) organised by the University of Michigan, a visiting scientist at The Center for Applied Developmental Science (CADS) at the University of Jena. She is associate editor of the *Journal of Adolescence Research*, and a member of the editorial board of the 'European Psychologist', 'Advances in Life Course Research', and 'Longitudinal and Life Course Studies'. Her research interests are focused on issues of human development across the life span, in particular the transition from dependent childhood to productive adulthood, the study of risk and resilience, the realization of individual potential in a changing socio-historical context, and the intergenerational transmission of (dis)advantage. She has led numerous research projects and is currently involved in two major UK research networks, the ESRC funded Centre for the Study of Learning and Life Chances in the Knowledge Economies (LLakes), and the DfE Research Centre for the Analysis of Youth Transitions (CAYT). She has published two monographs (including *Risk and Resilience*, 2006, Cambridge University Press), one edited book (with Rainer Silbereisen on 'Transitions from School to Work', 2009, also published by Cambridge University Press), and over 100 scholarly articles, book chapters and reports.

How Does Gender Matter for First Graders' School Adjustment and Later Academic Achievement in Elementary School?

Marlis Buchman and Irene Kriesi

Jacobs Center for Productive Youth Development, University of Zurich

Abstract

One of the core assumptions of life course theory is that transitions in the institutionalized life trajectory are critically important events for developmental processes and outcomes. Transitions mark the entry into novel spheres of social interactions characterized by their own social rules and demanding adjustment processes on the part of those who make the transition. The mastery of the transition is consequential for the future performance in the new social context and likely to affect further development. The beginning school transition is undoubtedly such a critical event in children's life because it denotes the start of the educational career, impacting later educational stages and eventually the future work life (Entwisle, 2003, 2007).

Against this background, the question arises of whether the adjustment to everyday life in school affects children's future academic achievement and whether there are differences between boys and girls. This question is particularly pertinent as recent research has shown increasing gender differences in educational achievement. Girls outperform boys, particularly at later stages of the educational career (e.g. Entwisle et al., 2007; Steinmayr and Spinath, 2008). While there is abundant research on gender differences in academic achievement by family background, parental aspirations, and children's own cognitive and social competencies, empirical evidence on the net effect of the beginning school transition on boys' and girls' academic performance is still scarce.

Our contribution attempts to partially fill this gap by examining the antecedents and consequences of boys' and girls' adjustment to everyday life in school. While we expect a direct effect of the transition quality on academic achievement in elementary school, we also anticipate a series of indirect effects that are mediated by the quality of the school transition. In particular, we expect boys' and girls' social and productive competency levels to affect the school transition quality and, consequently, academic performance in elementary school. How well these competencies are developed critically depends on the opportunities the children encounter in their families. We thus expect a direct and an indirect effect of family characteristics on academic achievement, mediated by the children's competencies. The literature provides ample evidence that family characteristics directly affect academic performance.

While we expect the basic structure of influence to hold for girls' and boys', we do expect gender differences in the salience of particular effects, however. In this respect, a basic assumption is that competencies, transition quality, and academic achievement of boys depend to a greater extent on social background and parental education, in particular. The rationale behind this assumption is that (behavioral) adjustment to elementary school requires informal social and productive competencies traditionally typed as female rather than male. The female connotation of the elementary school context is strengthened by the overwhelming majority of female teachers. While this may engender disadvantages for all boys, we expect them to be more pronounced for those from lower classes. Less-educated parents adhere more strongly to traditional gender roles (Entwisle et al. 2007) characterized, among other things, by male and female competency stereotypes and may be less aware of the competencies required for positive school adjustment and achievement. Consequently, they are less likely to instill the female-typed, school-relevant competencies in their sons as compared to their daughters. Better-educated parents, being greatly aware of the salient competencies required in school, are eager to equally promote these competences in their sons and daughters. Preliminary results are in line with these assumptions.

Our analyzes are based on the first three waves of the Swiss Longitudinal Survey of Children and Youth (COCON), a representative longitudinal study on the development of social competences, values, and educational trajectories of three birth cohorts. We make use of the youngest cohort consisting of 1273 children who were 6, 7 and 9 years old at the time of the surveys in 2006, 2007, and 2009. The data contains information from the primary caregivers and teachers as well as from the children themselves.

Marlis C. Buchmann is Professor of Sociology at the University of Zurich and Managing Director of the Jacobs Center for Productive Youth Development, University of Zurich. Her areas of specialization include life course analysis, school-to-work transitions and transition to adulthood in particular; work, occupations and labor markets; social stratification and mobility; cultural change. She was Visiting Professor at several universities in the USA and Europe, among others, Stanford University; University of California, Los Angeles; New York University; University of Bremen; Social Science Research Center Berlin. She was twice a Fellow at the Center for Advanced Study in the Behavioral Sciences, Stanford University, CA. She is an Elected Member of Leopoldina – National Academy of Sciences. She has also served on Scientific Advisory Boards of many scientific institutions in Europe, among others, Max-Planck Institute for Human Development, Berlin; the Mannheim Centre for European Social Research, Mannheim; Social Science Research Center, Berlin.

Emerging Gender Differences in Times of Multiple Transitions

Jennifer Symonds, Maurice Galton & Linda Hargreaves

University of Cambridge

Abstract

Gendered identities can develop throughout the lifespan in an undulating process spurred at times by significant physiological, cognitive and social events. Two important developmental transitions occur in early adolescence (age 10-14): changing schools and puberty. This chapter reviews the development of gender identity and gender differences in school engagement, aspirations and attainment, during these multiple transitions.

The chapter synthesizes prior studies and new longitudinal research within a two part framework from a theoretical standpoint of person-environment interaction, gender intensification and the role of femininities and masculinities in shaping motivations. Firstly the interactions between puberty, school transition and emerging gender identities are discussed. Three ethnographies of transfer to secondary school in England yield information on how socially constructed markers of gender identity within school, peer and home environments are construed and internalized by early adolescents. The chapter considers how these gendered markers alter in the process of transfer and in the interaction between the young people's new social environments and psychological development as they experience puberty. Secondly it reviews the differential declines in boys' and girls' attitudes to school and school subjects, and examines the contribution of gender to the behavioural and attitudinal clusters in which these adolescents can be located. The chapter concludes by offering suggestions for how schools and families can utilize developmental markers and provide role models to gently structure the naturally occurring development of early adolescents' gendered identities in a manner that facilitates their aspirations and achievement.

Dr Jennifer Symonds is principal investigator of 'Changing Key: Adolescents' views on how music shapes their development across school transition' for the Paul Hamlyn Foundation and freelance researcher working on the Nuffield Foundation's 'Changing Adolescence' programme for Dr Ann Hagell (PI). She recently graduated from the Faculty of Education at the University of Cambridge where she wrote her doctoral thesis on school transitions and Stage-Environment Fit.

Kathryn Duckworth

Institute of Education

Abstract

Gender differences in achievement have been the subject of much research for many decades. Despite the large literature in this area, disagreement remains on several fronts, including when in the life course gender differences in academic performance emerge, whether males are more variable than females on measures of reading and mathematics achievement, and whether gender differences in test scores are declining over time. Moreover, much of the research syntheses here come from US-based studies which may not adequately reflect the UK context.

This paper provides an overview of gender differences in academic achievement in the UK from the 1960s to the early millennium, focussing in particular on the timing and pacing of individual development in maths and reading achievement. The analysis also builds on recent research highlighting the particular importance of self-regulation skills in predicting academic achievement and considers whether these skills affect gender gaps in attainment.

Analyzing data from three British longitudinal birth cohorts, the results indicate that gender gaps in test scores have remained relatively stable over the last four decades of the 20th Century. The findings also suggest that gender differences in different aspects of attentional control may moderate or contribute to observed gender differences in other tasks. The results are discussed with reference to school transitions and framed within a stage-environment fit perspective.

Kathryn Duckworth is an associate fellow with the PATHWAYS programme. Her PhD examined the key features of academic development during pre-school and primary years and their implication for later outcomes. Her interest lay in exploring the manifestation of educational inequalities through the school years and assessing how different social contexts interact to create them.

Before joining the Pathways team, Kathryn worked at the Centre for Research on the Wider Benefits of Learning from December 2002. During this time her research has explored the intergenerational transmission of education in the family and its effects on children's school readiness and educational success, as well as the role of self-regulation in learning and the amenability of low attainment to policy leverage.

Kathryn was recently seconded to the Prime Minister's Strategy Unit in the Cabinet Office to lead on the evidence base for a project exploring the ways Government can best support young people's development and ensure a smooth transition to adulthood. She is a Research Associate at the Centre for the Analysis of Pathways from Childhood to Adulthood, University of Michigan. At Pathways, she is developing her interest in cross-cohort comparisons and exploring the mechanisms through which social adversity affects children and young people's development.

Angela Chow and Katariina Salmela-Aro

University of Helsinki

Abstract

Gender difference is one of the key concerns of research on students' task values. Literature on task values provides substantial empirical evidences on the differences between boys and girls in terms of their task values on different subjects as well as their subject-related choices or behaviours. For example, Updegraff, Eccles, Barber, & O'Brien (1996) found that the boys in their study attached greater personal importance in learning math, and accordingly, they were more tentative to take optional math courses in high school than the girls did. Nevertheless, to date, most studies on task values have relied mainly on the variable-centred approach. The analysis scopes are bound at a subject-specific level, whereas how each subject is prioritized in relation to other school subjects is not being taken into account. Drawing on a research program which aims to fill in this gap with a person-centred approach, this chapter discusses how the two genders are similar and different from each other when their task values across various subjects are examined in a simultaneous manner. More specifically, using latent profile analysis, the study classified about 600 9th graders into distinct groups according to their task values on the subject domains of languages, math and sciences, social studies and practical subject (such as music and physical education). The findings indicated that among the average achievers, the boys were most likely to fall into a group which reported highest value on math and sciences across the four subject domains. On the contrary, their counterparts were most likely to fall into a group with an opposite profile characteristic, in which the task value on math and sciences was particularly low. This chapter also compares boys and girls based on the empirical associations between their task value profiles and a list of outcome variables, such as their educational aspirations and school burnout, so as to highlight the importance of examining task values and considering the issue of gender differences from a person-centred perspective.

Reference

Updegraff, K. A., Eccles, J. S., Barber, B. L., & O'Brien, K. M. (1996). Course enrollment as self-regulatory behavior: Who takes optional high school math courses? *Learning and Individual Differences*, 8, 239–259.

Angela Chow is an associate fellow with the PATHWAYS programme. She attained her doctorate in May, 2008 from The University of Hong Kong, in the area of educational psychology. The title of her thesis was "Investigating & Measuring Motivation in Collaborative Inquiry-Based Project Settings". She has been working as a full-time researcher at The University of Hong Kong since 1997, with seven years of research project management experience in overseeing an international study: Second Information Technology in Education Study (SITES). After she received her PhD in May, 2008, she moved to Toronto and started working as a postdoctoral fellow in the University of Toronto. She is now working within PATHWAYS under the supervision of Prof Katariina Salmela-Aro of the University of Helsinki.

Determinants of Career Aspirations and Occupational Choice

Oksana Malanchuk and Pamela Davis-Kean

University of Michigan

Abstract

We will examine career aspirations across time in two diverse samples in the US. We will examine the aspirations for careers in European and African American adolescents as they transition into adulthood. Previous research has indicated that achievement may be a strong predictor in the career aspirations. We will examine this relation as well as other factors in the prediction of career aspirations (e.g., parent expectations, parent education, parental income, adolescent self-concept of ability, etc...) in two longitudinal, datasets. The first is primarily an African American dataset collected in the mid-Atlantic region of the United States, Maryland Adolescent Development in Contexts (MADICS). The other is a national dataset, The Panel Study of Income Dynamics-Child Development Supplement (PSID-CDS). These datasets have many variables in common and so we will be able to replicate findings from a community sample (MADICS) with a national study (PSID-CDS).

Leslie Gutman, Richard Sabbates & Ingrid Schoon

Institute of Education

Abstract

The following chapter examines gender differences in the aspirations of young people regarding their future educational and career goals. The chapter begins with a review of past research, highlighting gender differences in aspirations including their antecedents and consequences on later educational and employment outcomes. We then focus on young people who hold uncertain aspirations, that is, those who do not know what they would like to do in the future. As there is little past research available examining gender differences in uncertain aspirations, we employ the use of secondary data analysis in two national cohort data sets, London Study of Young People in England (LSYPE) and British Cohort Study (BCS-70) to fill this gap. First, we examine the predictors of uncertain aspirations and whether these vary across gender. We then investigate gender differences in the predictive nature of uncertain aspirations on later outcomes. Using LSYPE, we examine whether uncertain aspirations predict educational outcomes and, using BCS-70, investigate whether uncertain aspirations in adolescence predict later career attainment in adulthood. Lastly, we discuss our findings within societal expectations regarding gender, including the devaluation of traditional female careers and the recent concerns about the low aspirations of White British males.

Gendered differences in aligned ambitions: High school experiences and pursuit of postsecondary opportunities in STEM fields

Barbara Schneider

Michigan State University

Abstract

In order to successfully pursue postsecondary opportunities in the STEM fields, students, especially females who are least likely to pursue these fields, need early exposure to information about STEM careers and the educational requirements for obtaining these jobs. Despite expectations about attending college and pursuing a particular career path, some students may be unaware of the preparation that is required. Without these aligned ambitions, successful transitions from high school to college, and ultimately to a STEM-related career, may be unlikely. The focus of this chapter will be an exploration of gendered differences in aligned ambitions and ultimate pursuit of postsecondary education with a STEM-related academic major. Using the Education Longitudinal Study: 2002, we will consider how persisting in gatekeeping mathematics and science courses in high school, pursuing activities that strengthen the college application, and talking to adults about financial resources, aspirations and plans affect the likelihood that young women attend college and focus on a STEM field.

Barbara Schneider is the John A. Hannah Chair and Distinguished Professor in the College of Education and Department of Sociology at Michigan State University. Dr. Schneider is a principal investigator with the PATHWAYS programme. She is also the principal investigator of the College Ambition Program (CAP), a study that tests a model for promoting a STEM college-going culture in two high schools that encourages adolescents to pursue STEM majors in college and occupations in these fields. She is co-principal investigator of the Michigan Consortium for Educational Research (MCER), a collaboration between the Michigan Department of Education, Michigan State University, and the University of Michigan created to assess the implementation and impact of two key reforms in Michigan that were designed to work in tandem to promote college attendance and workplace success. Dr. Schneider also worked for 18 years at the University of Chicago, holding positions as a Professor in Sociology and Human Development and as a senior researcher at NORC. Currently she continues to hold an appointment as a senior fellow at NORC, where she is the principal investigator of the Center on Advancing Research in Communication in Science Technology, Engineering, and Mathematics. She uses a sociological lens to understand societal conditions and interpersonal interactions that create norms and values that enhance human and social capital. Her research focuses on how the social contexts of schools and families influence the academic and social well being of adolescents as they move into adulthood. Professor Schneider has published 15 books and over 100 articles and reports on family, social context of schooling, and sociology of knowledge. She recently was the editor of Sociology of Education. She received her Ph.D. from Northwestern University.

Achieving equity through 'gender autonomy': the challenges for VET policy and practice

Karen Evans

University of London

(published in *Journal of Vocational Education and Training* Vol. 58, No. 4, December 2006, pp. 393–408)

Abstract

This article is based on research carried out in an European Union Fifth Framework project on gender and qualification. The research partners, from five European countries, investigated the impact of gender segregation in European labour markets on vocational education and training (VET), with particular regard to competences and qualifications. The research explored the part played by gender in the vocational education and training experiences of young adults entering specific occupations in childcare, electrical engineering and food preparation and service, and of adults changing occupations. Empirical data from 244 interviews, observations in VET institutes and at workplaces and content analyses of job advertisements, curricula, brochures and other sources confirmed that 'gender still matters' from the viewpoint of the individual, in their experiences of skill formation and attribution, occupational choice and personal development. But empirical data also revealed 'gender blindness' in VET institutes and workplaces when it comes to considering, positively and constructively, the continuing significance of gender differences in vocational education and training and in work. This article undertakes a secondary analysis of key findings and identifies the need to create the conditions for strengthening 'gender autonomy' as the conclusion of most relevance to the United Kingdom's VET and lifelong learning policy context.

Can VET break free from gender segregation?: the challenges facing young women in apprenticeships

Alison Fuller (University of Southampton) and **Lorna Unwin** (Institute of Education)

Abstract

Vocational education and training (VET) programmes in the UK, as in many other countries, display the same gendered characteristics as the labour market. The government-funded 'Apprenticeships' programme (for 16-24 year olds) is highly gendered and also segregated by ethnicity. This paper will outline and analyse the reasons for the continued segregation and discuss the implications in relation to the learning opportunities and life chances of young women. The paper draws on qualitative and quantitative evidence gathered as part of three projects: a) a study funded by the former UK Equal Opportunities Commission; b) a study funded by the Economic and Social Research Council (ESRC); and c) a research and development project funded by the Learning and Skills Council (LSC). In the first study, the main focus was on the impact of gender and 'race' on young people's (14 and 15 year olds) perceptions of the educational and labour market opportunities available to them once they completed their compulsory schooling in England and Wales. Data was collected through a questionnaire survey and focus groups. In the second two studies, which focused on differences in the nature of the settings in which apprenticeship takes place, data was collected through a range of qualitative methods including semi-structured interviews, observation, and learning logs. For both projects, administrative data was analysed in order to monitor the gender profile of both Level 2 and Level 3 (advanced) apprenticeships across the 100 or so sectors, which offer apprenticeship programmes. The findings show that young people receive very little practical information and guidance about the consequences of pursuing particular occupational pathways, and are not engaged in any formal opportunities to debate gender and ethnic stereotyping as related to the labour market. This is particularly worrying for females, who populate apprenticeships in sectors with lower completion rates and levels of pay, and which create less opportunity for progression due to the restricted nature of some Level 2 vocational qualifications. The paper argues that, because good-quality apprenticeships can provide a strong platform for lifelong learning and career progression, young people need much more detailed information about how to compare a work-based pathway with full-time education. At the same time, they also need to understand that apprenticeships (and jobs more generally) in some sectors may result in very limited opportunities for career advancement. The paper also offers recommendations for challenging gender segregation in VET.

*Alison Fuller is Professor of Education and Work and Head of the Lifelong and Work-Related Learning Research Centre in the School of Education, University of Southampton. Her research interests include: apprenticeship, changing patterns of participation in education, training and work; education – work transitions, and workplace learning. She has recently completed research for the Hampshire and Isle of Wight Lifelong Learning Network on apprenticeship progression to HE. Alison is currently working with colleagues from the IOE, University of Bristol and National Institute for Economic and Social Research on projects looking at the role of education and training in enhancing life-chances at the level of the city region as part of the ESRC LLAKES Research Centre (www.llakes.org). She has recently (with Alan Felstead, Lorna Unwin and Nick Jewson) published the book, *Improving Working as Learning* and has been appointed to the UK Commission on Employment and Skill's Expert Panel.*

*Professor Lorna Unwin holds the Chair in Vocational Education at the Institute of Education, University of London, and is also Deputy Director of the ESRC-funded LLAKES Research Centre. As part of her research for LLAKES, she is studying the ways in which education and training providers are responding to and are affected by both the competitiveness and cohesion agendas within city-regions. With Professor Alison Fuller, Lorna investigates the changing nature of apprenticeship as both a model of learning and an instrument of State policy. Her recent books include: *Improving Working for Learning*, 2009; and *Communities of Practice: Critical Perspectives*, 2008, both published by Routledge. Lorna is a member of the UK Commission on Employment and Skills (UKCES) Expert Panel.*

Toni C. Antonucci and Jacqui Smith

University of Michigan

Abstract

Society constructs gendered sequences of roles, expectations, and opportunities across the life course which shape the potential for personal well-being in later life. The actual life-histories of individuals, however, differ in the extent to which they fit these normative pathways. These differences are likely to contribute to disparate late-life outcomes. Surprisingly little research has examined the role of early life experiences and historical contexts for the differential gendered well-being of older women and men. We draw from multiple historical contexts and several data sets across a number of countries and cultures to examine the role of earlier life experiences on later life attainment, beliefs, activities, and well-being.

Objective: To examine differences in gendered aspirations and activities among different cohorts and the consequences of gendered pathways in education, occupation and family for well-being in later life.

Method: Several longitudinal datasets from the United States, Japan, and Germany will be used to illustrate cohort and country similarities and differences. These include Americans View Their Mental Health (1957; 1976) a longitudinal, adult two-wave national representative United States sample; The Social Relations over the Life Course study (1992;2005) a regional representative two wave panel study with samples in the United States and Japan; the Health and Retirement Study (HRS), a multi-wave longitudinal representative study of the United States population over 50, and the Berlin Study of Aging (BASE), a longitudinal and locally representative study of individuals aged 70 to 100+.

Results: Preliminary results suggest significant cohort differences in gendered aspirations and activities in old age. Education, occupational status, as well as family income, family status, structure and quality of relationships are significantly and differentially related to later life beliefs, activities, and well-being. For example, comparisons of women in the Berlin Aging Study who had started a family as young adults with those who were childless revealed differences in hopes and fears and sources of well-being after age 85. Cohort differences in the family and work histories of men and women in HRS have consequences for activities and lifestyles after retirement. Data from the Social Relations and Health in the United States and Japan detail how family structure, social support and relationship quality influence work history, income and well being.

Country differences in gendered work history are significantly influenced by cohort and historical events (e.g. war and legal restrictions). These will be illustrated by findings across three countries i.e. the United States, Germany and Japan.

Conclusion: While less research attention has addressed the question of gender differences in later life aspirations and activities, it seems clear that earlier life experiences fundamentally and cumulatively influence personal beliefs as well as the sources and potential for later life well being.

Young people, gender, and science: does an early interest lead to a job in SET? A longitudinal view from the BHPS youth data

Anna Bagnoli, Jackie Scott and Dieter Demey

Cambridge University

Abstract

In recent years there has been widespread concern about the declining interest in science shown by young people. Particularly for young women, entering the labour market with no scientific skills seems to be a crucial factor associated with the persistence of a gender pay gap. Our project, funded by the Nuffield Foundation, uses data from the British Household Panel Survey to explore how young people's interest in SET relates to gender. We also use longitudinal analysis to investigate whether an early interest in science leads to SET-related jobs in adulthood. The results show that aspirations for SET careers have increased noticeably over time, although this is more pronounced for boys than for girls. Job aspirations are reasonably stable over adolescence. However, interestingly aspirational change is gender-specific, with boys more likely to aspire to a SET job as they grow older, and girls moving away from earlier SET interests. Although young people's SET aspirations increase the chances of having a SET-job in young adulthood, there are very strong gender differences, with 25 per cent of boys in a SET job compared to only 4 per cent of girls. The implications of these findings for policy are discussed.

Dr Anna Bagnoli is Research Associate at the CIDDRG, Cambridge Intellectual and Developmental Disabilities Research Group, Department of Psychiatry, University of Cambridge, currently working on a project investigating the interface between the new Mental Capacity Act Deprivation of Liberty Safeguards and the Mental Health Act. From 2008 until April 2010 she was working at the Department of Sociology of the University of Cambridge, on the EC 7th Framework project PRAGES, Practising Gender Equality in Science, and on a Nuffield funded project investigating young people's interest to get into science. Her PhD (University of Cambridge, 2001) used a qualitative and mixed-methods approach to investigate the identities of young people. She has a keen methodological interest, particularly in the design and application of a range of qualitative methods, including visual and arts-based approaches, and from 2005 to 2008 she was a member of the ESRC National Centre for Research Methods Real Life Methods Node. Her research interests include young people and gender and she has investigated science interest amongst girls and boys, the process of identity construction and the identities of young migrants. She has published in the areas of identities, youth research, and qualitative methods in the Journal of Youth Studies, Sociological Research Online, Qualitative Research and European Societies.

Bryony Hoskins, Magdalini Kolokitha and Jan Germen Janmaat

Institute of Education

Abstract

This paper, using IEA 1999 CIVED data from 28 countries, explores two questions. First it examines how perceptions of gender inequality and beliefs about equality are related by categorising the respondents into 8 groups according to their gender and their perceptions and beliefs on gender equality. The 8 groups are Girls social justice, Girls Meritocracy, Girls traditional satisfied, girls traditional dis-satisfied, Boys social justice, Boys Meritocracy, Boys traditional satisfied, Boys traditional dis-satisfied. By far the largest category of respondents from both girls and boys were the meritocracy groups who believed in gender equality and perceived no form of discrimination suggesting that, across the 28 countries, the system belief in meritocracy is quite strong. The next highest group was the social justice group combining a strong belief in gender equality with a perception of inequality. Lastly, we found a small minority of respondents not believing in gender equality and falling into the two traditional categories for both boys and girls.

Similarly patterns could be found within the different countries except for Sweden who had a much larger percentage of respondents in the social justice groupings for both boys and girls. Russia and then other former communist countries had the smallest numbers of social justice respondents. French speaking Belgium and Italy topped the groups for meritocratic respondents. Correlations run with the Gender Equality Index showed that in those countries where there is greater equality there were both higher beliefs in gender equality and higher perceptions of inequality.

The second question addressed the relation between these categories and attitudes towards participation. The results of a multilevel regression analysis show that both the girls social justice group and boys social justice group had a higher association with positive participatory attitudes than their respective meritocratic groups. We can tentatively conclude from these results that believing in gender equality and recognising the discrimination women face are motivating factors for participation.

Bryony Hoskins is currently leading a project on Inequalities which is part of the ESRC LLAKES Centre at the Institute of Education. This project aims to identify the relationship between perceptions of inequalities and behaviour, such as active citizenship, that effect socially cohesive societies. The project is collecting and analysing both quantitative and qualitative data in five countries (France, Germany, England, Denmark, and Singapore) in three different educational settings (Lower School, Further Education and Higher Education). Before arriving at the IoE, Bryony worked at the European Commission in the Centre for Research on Lifelong Learning (CRELL). Whilst there, Bryony was responsible for leading projects on the development of indicators on Active Citizenship and Learning to Learn. Her work contributed to the monitoring of the then EU Lisbon Strategy on Education and Training. In addition, she was part of the Project Advisory Committee of the IEA International Citizenship and Civic Education study (ICCS) 2009.

Do Readers Choose People-Oriented Science Profession? Gender Difference in Science-Related Job Aspiration

Yi-Miau Tsai, Jacquelynne S. Eccles

University of Michigan

Abstract

Choosing an occupation is a major task during adolescence to adulthood, yet little is known about how aspirations for such life-defining choices develop and how it relates to motivational constructs. The present study investigates how science-related occupational aspirations emerge and persist through young adulthood. Using the Child Development Supplement (CDS-II) and Transition to Adult (TA-2007) element of the Panel Study of Income Dynamics (PSID) data, we first describe the development of aspirations to become computer and engineer professional as well as life and health-related professionals over a 5-year period. Second, based on expectancy-value model, we investigate how adolescence's self-concepts and values in mathematics and reading/English manifested to form their job aspiration. Our findings revealed that about 25% of adolescence maintained their earlier science aspiration over a five-year period. In addition, logistic regression analyses showed that, after controlling for SES, age, math and reading aptitude, boys' value toward reading/English pulled them away from computer and engineering science. On the other hand, girls' aspiration to pursue computer and engineering job are predicted by their self-concept in mathematics domain.

Yi-Miau Tsai is a post-doctoral fellow with the PATHWAYS programme based at the University of Michigan. She received her doctorate from the Faculty of Psychology, Humboldt University in Berlin in February 2008. Her dissertation, completed at the Max Planck Institute for Human Development, investigated students' motivational processes after middle school transition. This project applied a diary design to show that in the dynamic, every-changing classroom context, instructional features in the classroom shape students daily motivational experience. In addition, her research topics also include the role of teachers' own motivation and their classroom behaviour.

With her post-doctoral fellowship, Yi-Miau's research focuses on development of students' occupational aspiration. In particular, she is interested in how motivational factors and contextual factors work together to shape and sustain science-related occupational aspiration and occupational identity.

Career success: The role of teenage career aspirations, ambition value and gender in predicting adult social status and earnings

Julie S. Ashby and Ingrid Schoon

Institute of Education

Abstract

Links between family social background, teenage career aspirations, educational performance and adult social status attainment are well documented. Using a contextual developmental framework, this article extends previous research by examining the role of gender and teenage ambition value in shaping social status and income attainment in adulthood. Drawing on data from an 18 year British follow up study we tested a path model linking family background factors (such as family social status and parental aspirations) and individual agency factors in adolescence (in particular, career aspirations and ambition value) to social status attainment and earnings in adulthood. The findings suggest that ambition value is linked to adult earnings. That is, young people for whom it is important to get on in their job earn more money in adulthood than their less ambitious peers. The findings also confirm that teenage career aspirations are linked to adult social status attainment, and suggest that family background factors, teenage aspirations and ambition value interact to influence social status attainment and earnings in adulthood. Gender differences are discussed.

Julie Ashby is a fellow with the PATHWAYS programme and based at the Institute of Education, London. Julie has a BSc in Mathematics, an MSc in Economic and Consumer Psychology and a PhD in Social and Economic Psychology, all from the University of Exeter. Her MSc research focused on the appointment of women to risky or precarious leadership positions in a legal context. Her PhD research, which was funded by the ESRC, explores the role of (a) occupational group membership and identity, and (b) occupational taxpaying norms and values in taxpaying behaviour and attitudes. Overall, the thesis highlights the subtleties surrounding the relationship between identity and taxpaying norms and values in influencing taxpaying behaviour and attitudes. It builds a strong case for the development of an approach to taxpaying behaviour and attitudes that marries traditional variables (e.g., deterrence) with social and cultural ones (in particular, occupational identity and taxpaying culture). At a practical level, the thesis speaks to current debates about the role of social norms in government policy, and makes suggestions as to how taxpayers could be managed in a way that boosts their cooperation and increases compliance.

Katariina Salmela-Aro

University of Helsinki

Abstract

The aim of this chapter is to focus on girls and boys gendered pathways to adulthood in the context of motivation, well-being and achievement during educational transitions. The chapter addresses how girls and boys see themselves and their future in the context of motivation, educational transitions and interpersonal co-regulation. Our results based on FinEdu longitudinal study in which about 1000 Finnish adolescents have been followed during the age of 15 to 21 revealed that during adolescence gender differences emerge on motivation, well-being and achievements. Girls perform well academically, but they suffer from depressive symptoms and school burnout, in terms of exhaustion and inadequacy as a student. In turn, life satisfaction among adolescent boys is higher compared to that of girls during educational transitions. However, among girls more diversity emerges in life satisfaction compared to boys. Girls have also higher educational aspirations compared to boys: peer groups composed mainly among girls had higher secondary school aspirations compared to groups composed mainly among boys. Moreover, among girls school engagement predicted successful educational transition from upper secondary school to university and school burnout predicted delay in their studies and lower educational aspirations, while among boys school engagement and burnout was not related to later educational trajectories. In addition, girls and boys seem to differ in their motivation. Taking a person-oriented approach three motivational orientations emerged: achievement-, social- and self-orientation. Boys were more often in the achievement-orientation group, while for girls it was more typical to belong the social-orientation group. The results of the intervention, the aim of which was to promote positive motivation towards the future career and prevent burnout, was particularly successful among girls compared to boys. These results will be discussed in the context of recent theories of motivation and well-being. Finally, the aim is to discuss to how to promote gender equality and implications to social policy.

Katariina Salmela-Aro is a Principal Investigator with the PATHWAYS programme and currently Professor and Research Director in the Helsinki Collegium for Advanced Studies in the University of Helsinki. She is a Director of the FinEdu and Helsinki Longitudinal Student Study Longitudinal Research. She was a post-doc in the Max-Planck Institute, Berlin and is a member of the Academy of Finland's Research Council for Culture and Society and several steering committees, and member of the EC of the Finnish Graduate School of Psychology. She is a Secretary General in the International Society for the Study of Behavioral Development (ISSBD), member of the EC of the European Society for Developmental Psychology and a member of the International Collaborative for the Analysis of Pathways from Childhood to Adulthood (CAPCA), organized by the University of Michigan. She is an associate editor in European Psychologist, in the editorial board of European Journal of Developmental Psychology and consulting editor in the Developmental Psychology and associate editor in Psykologia.

She is a EC member of the National Graduate School of Psychology. She has published over 100 papers and chapters, and given several keynote presentations. She has received several research grants and led several research projects. Her main interests are motivation, critical life transitions, productive development, well-being, school burnout and engagement and related intervention.

Silke Aisenbrey and Hannah Brueckner

Yeshiva University

Abstract

Focusing on the role of occupational choices in maintaining gender stratification, this paper analyzes occupational aspirations and attainment among cohorts born between 1942 and 1964. Although male and female life course patterns have strongly converged among younger cohorts, the gender wage gap is still significant. In theory and in daily debates, the differences in choices and characteristics of men and women are seen as one of the main driving forces in gendered wage inequalities. This article is structured around the question of whether gendered choices are the driving force for the gender wage gap. We start out with a longitudinal analysis, showing the development of the actual gender wage gap and what we refer to as the aspired gender wage gap. We then demonstrate that, for the youngest cohort, gender differences in human capital, family obligations, and work life characteristics do not account for the gender wage gap. We also show that it is not – as assumed by human capital theorists – gendered aspirations and expectations that drive the gender wage gap. Our findings support structural demand side theories that assume that inequality in wages is mainly generated by the different evaluation of women and men in the labour market.

Single-sex and co-educational schooling: Lifecourse consequences?

Alice Sullivan, Heather Joshi and Diana Leonard

Institute of Education

Abstract

This chapter reports on a study examining whether attending single-sex versus co-educational secondary schools made a difference to the lives of a cohort of men and women born in Britain in 1958. The study aimed to assess the impact of single-sex secondary schooling, not just on short term and narrowly academic outcomes, but also on longer term social, psychological and economic outcomes. In a generally gendered environment for adults did it make any difference to have been to a more or less gender segregated school, and in which direction?. This chapter provides an overview of our findings, and a discussion of the implications for policy and for future research.

We examine outcomes from age 16 to age 42, including the following:

- Qualifications at ages 16, 18 and 33, including level and subject.
- During school (at 16), liking for school, truancy, psycho-social adjustment and self-concept in maths, English and science.
- Childbearing (during the teenage years and by age 42), marriage, divorce, relationship quality.
- Attitudes to gender roles (at age 33), and domestic division of labour.
- Employment outcomes up to age 42, including wages and labour market gender segregation.

In each case the experience of men and women is compared.

Alice Sullivan is a Senior Lecturer at the Centre for Longitudinal Studies, Institute of Education, University of London. She is a sociologist with research interests focussing on educational inequalities relating to gender, social class and ethnicity. Recent publications include (with Heather Joshi and Diana Leonard) (2010) "Single-Sex Schooling and Academic Attainment at School and Through the Lifecourse" American Educational Research Journal 2010 47: 6-36.

Abstract

Gender differences in opportunities for achievement have steadily decreased following second wave feminism of the 1970s. Attainment among young women, in terms of educational qualifications and starting occupations, now equals or exceeds those of young men, but the gender gap in earnings and career trajectories remains, starting at the time women become mothers. Also, despite apparent increases in choice, reported levels of life satisfaction are decreasing among women and recently became lower than those of men, on average. There is a need to better understand potential changes in gender differences in attainment across different life domains, as well as predictors and impacts of attainment for men and women. This chapter will examine whether gender differences in attainment across the multiple life domains of paid work, socioeconomic position, family formation, health and subjective wellbeing has decreased across generations of men and women in the English Longitudinal Study of Ageing (ELSA). ELSA includes over 11,000 men and women living in England who were born across the first half of the twentieth century. Detailed information across a variety of attainment domains is available from four prospective data collections (spanning eight years) when respondents were aged 50 and over, as well as retrospectively from early life using a life grid technique. Antecedents and correlates of gender differences in attainment will be discussed within the context of changing features of the social environment, comparing men and women who forged their careers and families during the height of second wave feminism with those who came before.

Dr. Anne McMunn is a Senior Research Fellow in the Department of Epidemiology & Public Health at UCL. Her main research interest is in the impact of gender divisions in labour forms on the health of women, men and children. She was a member of the research team that established the English Longitudinal Study of Ageing (ELSA) and maintains an interest in the social determinants of healthy ageing. She currently leads a research project within the ESRC International Centre for Life course Studies in Society and Health (ICLS) investigating the influence of parental divisions of paid employment and domestic labour, as well as stability and change in the family, on the emotional wellbeing of children in the Millennium Cohort Study (MCS). In previous work she has examined the health effects of combining work and family over the life course amongst women in the MRC National Study of Health and Development 1946 birth cohort.