

# PATHFINDER



The Pathways to Adulthood Newsletter



Capacity building and advancing the understanding of productive youth development in an international context are the objectives of the PATHWAYS Post-Doctoral Fellowship Programme funded by the Jacobs Foundation. In our biannual issue of the PATHWAYS newsletter, the PATHFINDER, we report on research conducted by the PATHWAYS fellows and the PATHWAYS team. The fifth issue focuses on work investigating the development of pathways to entrepreneurship.

In this issue of PATHFINDER we focus on two studies that conceptualised and examined the antecedents and processes of becoming an entrepreneur. The decision to commit to an entrepreneurial career is not a single act but a process that takes time to unfold. Individual intentions and preferences are developing over time and are influenced by a range of factors, including biological predispositions, individual characteristics, socio-economic opportunities, socialisation influences and role modelling, cultural norms, as well as the state of the labour market. The two studies presented here, both formulate a developmental approach in defining the process of becoming an entrepreneur by taking into account these multiple influences. Kathryn Duckworth, a PATHWAYS fellow based at the Institute of Education, University of London, describes a developmental-contextual model of entrepreneurship, testing two distinct pathways linking early socialization experiences to later outcomes, comprising the intergenerational transmission of socio-economic resources, and the intergenerational transmission of values and behaviours.

This model has been tested using longitudinal data collected for a nationally representative sample from the 1970 British Birth Cohort. Martin Obschonka, a PATHWAYS fellow at the University of Jena, introduces a life span model of entrepreneurial development which served as the conceptual basis for a special issue in the International Journal of Developmental Science. The model integrates biological propensities and ecological opportunities and specifies the ways in which these shape individual characteristics and adaptations in developing entrepreneurial intentions and making the step into an entrepreneurship. Both approaches provide novel insights into the study of entrepreneurship, which has tended to focus on the attributes and resources of entrepreneurs at a fixed point in time, not taking into account a developmental perspective. Both studies provide a better understanding of how early intentions relating to entrepreneurship develop across the life course, and how these processes vary for people with different levels of human capital and other resources.

Please visit our website to find out more about our work and the team: [www.pathwaystoadulthood.org](http://www.pathwaystoadulthood.org)

## In Brief

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# Taking the entrepreneurial plunge!

Kathryn Duckworth  
Institute of Education,  
University of London

## What does it take?

Entrepreneurs are often hailed as forces of innovation and industrial dynamism and increasingly are recognized as important for economic growth and job creation. But what does it take to take the entrepreneurial plunge -- to become self employed and to start a business? This is a question many young people may be increasingly asking themselves when facing a job market characterized by high unemployment, rapid changes, high uncertainty and a growing preference for temporary over permanent work contracts (OECD, 2010). Aiming to answer some of these questions recent work from the PATHWAYS fellowship programme has explored the individual and contextual characteristics that shape entrepreneurial preferences and activity across the life course.

## A developmental-contextual model of entrepreneurship

To date, the field of entrepreneurship research has relied heavily on cross-sectional or retrospective studies in order to establish key characteristics of entrepreneurs and their success. As such, the developmental pathways for this occupational choice are still relatively poorly understood. To gain a better understanding of the pathways leading to entrepreneurship, our research is guided by a life course approach of human development, emphasizing the role of multiple interacting influences and the developmental integration of earlier levels of adjustment into later ones. Using a longitudinal approach, we examined the predictive validity of both early developmental influences and concurrent contextual factors in shaping the emergence of entrepreneurship in the adult life (Schoon & Duckworth, 2012). We used a nationally representative sample of individuals born in Britain in 1970 (the 1970 British Birth Cohort), following the lives of over 6,000 young people from birth to age 34. We examined the role of socio-economic background, parental role models, academic ability, social skills, and self concepts as well as entrepreneurial intention expressed during adolescence and experiences in the labour market as predictors of entrepreneurship by age 34.

Figure 1 gives a diagrammatic depiction of the model. The model specifies two major pathways linking early socialization experiences to later outcomes. First, one pathway focuses on the intergenerational transmission of socio-economic resources. Second, we assess the intergenerational transmission of values and behaviours, linking self-employment among parents (role modelling) to individual capabilities and work preferences of their children and subsequent occupational outcomes. Our results highlight in particular the importance of early social skills and entrepreneurial intentions expressed at age 16 in shaping entrepreneurial pathways in addition and above other individual competences, such as academic ability and general self efficacy. We furthermore find important early socialisation influences and gender differences in the pathways to entrepreneurship.

## The role of individual competences and early social skills

The importance of early social skills in predicting entrepreneurial activity in adulthood has been confirmed in a cross-national study comparing the precursors of entrepreneurial career choice in Germany and the U.K. (Obschonka, Duckworth, Silbereisen & Schoon, 2012). Our finding thus gain strength from replication across different contexts, an approach which is often lacking in the psychological sciences (Yong, 2012). Building on cross-sectional evidence which also pinpoints strong social competencies as key characteristics of entrepreneurs, our research adds a developmental focus to their importance. Given the socially embedded tasks of the entrepreneur, competencies which enable individuals to interact effectively with others are an integral component of any entrepreneurial activity. Similarly, there might be a variety of social competencies that are directly relevant for the entrepreneurial process, for example those related to social perception and impression management, as well as so-called "political skills" (e.g., influencing others through persuasion, manipulation, and negotiation; Ferris, Treadway, Perrew, Brouer, Douglas, & Lux, 2007). Such social competencies do not emerge suddenly, but have a developmental history and the early social competencies investigated in our studies can be understood to represent early stages in the respective competence growth.

### Structural factors and dispositions

Our developmental approach also takes into account family background, socioeconomic circumstances such as whether the individual's parents were themselves self-employed, as well as other individual characteristics (such as cognitive ability or self esteem). In doing so, we are more confident that the relationship between social competencies and entrepreneurship does not result from familial circumstances or underlying dispositions (e.g., personality), but rather may represent an independent and meaningful long-term effect of early social competencies. This approach also allows us to explore intergenerational associations in entrepreneurial activity confirming other empirical work documenting that entrepreneurs are more likely to come from entrepreneurial backgrounds (role models).

Moreover, preliminary analysis of the 1970 British Cohort Study suggests that social mobility is greater amongst those who are self-employed than those who are employed. That is, self-employed individuals whose parents also worked for themselves are more likely to climb the social ladder than employed individuals from employed backgrounds.

### Gender differences in pathways

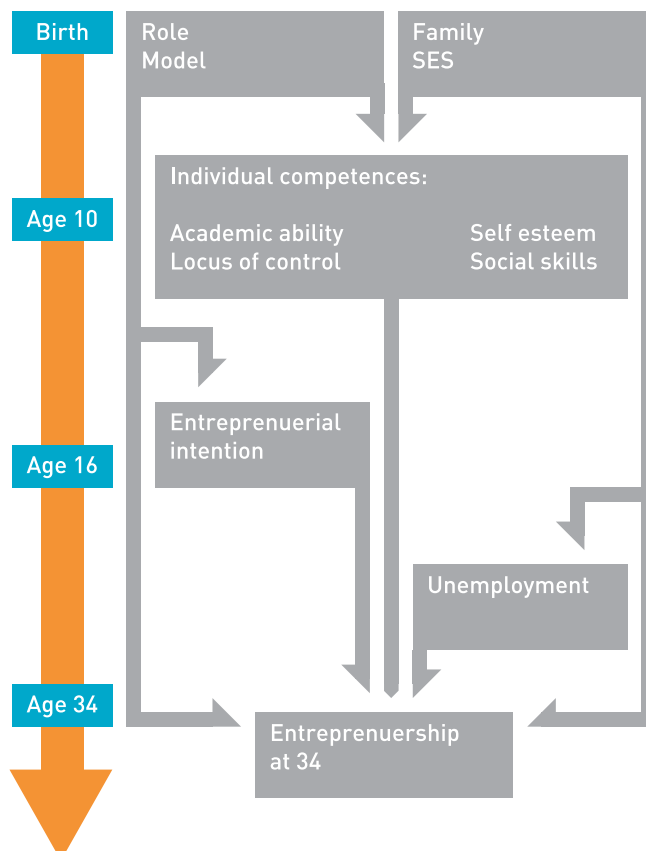
Unlike previous research, we furthermore focussed on the occupational pathways of both men and women and found evidence of gender specific pathways. Men are generally more likely to become entrepreneurs than women. However, while for men becoming an entrepreneur was predicted by having a self-employed father, for women it was predicted by their parents' socio-economic resources (Schoon & Duckworth, 2012).

These findings point to joint influences of both structural factors and individual agency in shaping occupational choice and implementation and demonstrate that, as for other occupational choices, there is heterogeneity in career paths. Focusing on individual characteristics is not sufficient for gaining a better understanding of career development, one also has to take into account the demands from the wider social context, especially where there are persistent social and gender inequalities regarding the realisation of individual potential and interests.

### Conclusion

The step into entrepreneurship is influenced by multiple factors and processes, ranging from parental socio-economic resources, available role models, individual preferences and social skills. These factors are interlinked and shape development through their interactions over time. There are however key ingredients, such as early entrepreneurial intentions and social skills, which manifest early in the life course and which have to be maintained and fostered to enable young people to realise their ambitions and potential.

**Figure 1.**  
Developmental-  
Contextual of  
Entrepreneurship



Source: Schoon & Duckworth, 2012. Special Section in Developmental Psychology

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# Entrepreneurship from a Developmental Science Perspective

Inspired by seminal theorizing (e.g., McClelland, 1961) and recent lifespan research on entrepreneurs (e.g., Schmitt-Rodermund, 2007), there is a renewed interest to investigate the developmental antecedents of entrepreneurial mindsets, behaviours, and success in adulthood. We now know that such antecedents reach back to childhood and adolescence, under the involvement of biologically-based propensities (e.g., genetic make-up, personality), characteristic adaptations (e.g., competence growth, interests, motivational aspects), and ecological opportunities/constraints (e.g., supportive role models).

Martin Obschonka  
University of Jena

## A New Integrative Model of Entrepreneurial Development

Promising findings have inspired new theorizing about developmental aspects of entrepreneurship. What are the factors involved in the development of an entrepreneurial mindset across childhood, adolescence, and adulthood? How do these factors interact over time? How (early) can we promote entrepreneurial development? To provide an integrative framework that give some answers to these questions and that connects the new research findings with each other, Obschonka and Silbereisen (2012) recently introduced a Life Span Model of Entrepreneurial Development (see Figure 1) that applies a Developmental Science Perspective to entrepreneurship.

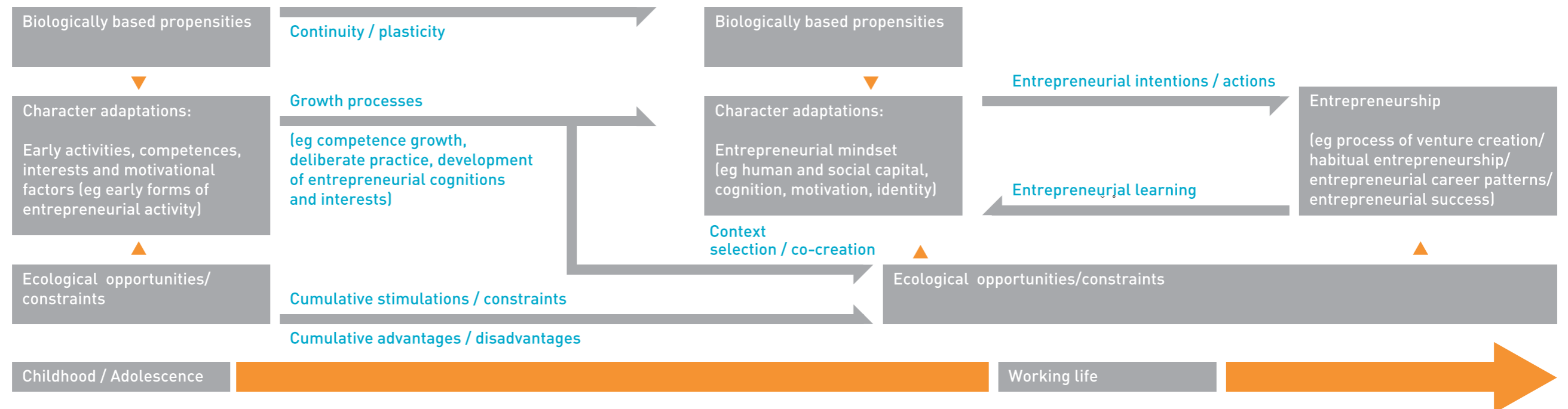
This perspective understands entrepreneurial development as a complex system involving biological, psychosocial, behavioural, and contextual factors that interact, and as a lifelong process characterized by the orchestration of gains and losses. In their model, Obschonka and Silbereisen define a person's entrepreneurial development as those successive and systematic changes, occurring across a person's life course, that make an (successful) entrepreneurial career more likely. The model is based on more general research in vocational development across the life span, which emphasizes (a) the importance of the formative years, (b) plasticity in vocational development, (c) human agency, and (d) the relevance of the changing ecology in which vocational development over the life span takes place. It is further based on the recent research on entrepreneurial development, which indicates the relevance of a developmental-contextual perspective on entrepreneurship, with a special focus on (1) the formative years, (2) life-stage appropriate development and developmental tasks, and (3) the interplay between biological, psychosocial, behavioural, and contextual factors.

Specifically, the model understands entrepreneurship as a developmental outcome in that it describes the effect of biologically based propensities (e.g., genetic make-up, temperament, broad personality traits) and ecological opportunities and constraints (e.g., stimulating early environments such as promotive early role models, parenting, and peer interactions in the formative years, or promotive external business conditions or role models in the occupational career) on the development of an entrepreneurial mindset across childhood, adolescence, and adulthood. A central part in the model is early characteristic adaptations in childhood/adolescence as precursor of an entrepreneurial mindset in adulthood, and through which biologically based propensities and ecological conditions exert an effect (Obschonka, Silbereisen, & Schmitt-Rodermund, 2011).

These early adaptations are "characteristic" because they are in part the expression of biologically-based propensities (they reflect the "character" of the individual). They are "adaptations" because they develop from interactions with the environment (they are adaptations to the environment). Examples of such early characteristic adaptations are age-appropriate early "entrepreneurial" competencies (e.g., leadership, invention, and commercial skills, Schmitt-Rodermund, 2007) and motivational aspects (e.g., self-efficacy beliefs, self-esteem, values, goals, aspirations, and expectancies).

Consistent with talent research, such early characteristics and achievements in turn build the developmental basis for the formation of an entrepreneurial mindset (e.g., via competence growth and deliberate practice). Such a mindset is also influenced by biologically based propensities and ecological conditions that are present in adulthood (e.g., adult personality make-up; availability of role models), but these biological and ecological factors reach back to the formative years as well. For example, biological factors show stability but also certain degrees of plasticity across the life span, e.g., in personality development or with respect to epigenetic processes such as differential gene expression.

Figure 1. Life Span Model of Entrepreneurial Development (Obschonka & Silbereisen, 2012).



The ecological opportunity structure also shows some stability and continuity across time, for example in terms of financial background in the family of origin and related cumulative (dis)advantage over the life course.

One salient question in contemporary entrepreneurship research is whether entrepreneurs are born or made (e.g., whether one can identify an “entrepreneurial gene”). In this regard, the model offers a new perspective that integrates nature and nurture in entrepreneurial development.

It understands entrepreneurship as developmental outcome and it assumes that both matter: nature and nurture. It is the age-graded developmental interplay of nature and nurture as well as the person’s own choices and agency that together drive entrepreneurial development. Hence, a developmental perspective is needed when trying to understand the effect of biological, biopsychosocial, and contextual factors underlying entrepreneurial behaviour. Because the model highlights the importance of the early formative years (e.g., early critical and sensitive phases of skill growth in childhood and adolescence), it underscores the reasonableness of implementing entrepreneurship education programs very early instead of solely focusing on measures targeting the adult mind (e.g., in vocational training and education or higher education in business schools).

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## Author profile: Martin Obschonka

Martin Obschonka is Post-Doctoral Research Fellow based at the Center for Applied Developmental Science, University of Jena, Germany working with Professor Rainer K. Silbereisen.



He began his PATHWAYS Fellowship in January 2011 following completion of his PhD in Psychology. In his dissertation he examined developmental pathways towards successful entrepreneurship in adulthood, with a special focus on early developmental precursors in adolescence (e.g., early entrepreneurial competencies), the personality structure, and stimulating contexts (e.g., parenting style, role models).

Martin's post-doctoral work within the PATHWAYS programme extended his PhD work and continued to explore developmental aspects of entrepreneurship and possible precursors in adolescence.

Informed by a developmental-contextual perspective that bases on a modern understanding of developmental science, after which human development is characterized by transactions at and between all levels of human development (biological, neural, behavioural, and contextual levels), he is working on both the theoretical advancement and empirical studies to deduce practical implications (e.g., concerning early promotion of entrepreneurial mindsets). Martin conducted several cross-national comparison studies (e.g., using datasets from the U.S., the UK, and Germany) in order to test the cultural validity of theories and to replicate findings in different contexts.

During his post-doctoral studies Martin has also been interested in social and economic change and human development. Together with Rainer K. Silbereisen, he wrote articles on the positive side of the current macro-trends (e.g., increasing learning opportunities, more self-determination), using large-scaled datasets from Germany and Poland. Focusing on these two countries, he also conducted a cross-national comparison study to look at patterns of new everyday demands arising from social and economic change.

## Author profile: Kathryn Duckworth

Kathryn Duckworth is a Post-Doctoral Research Fellow based at the Institute of Education, University of London working with Professor Ingrid Schoon. She began her PATHWAYS Fellowship in April 2011 following completion of her PhD in Education and Social Policy.



Her research explores the educational and occupational choices made by young people during the transition to adulthood and across the life span. She also engages in cross-country comparisons of the developmental precursors underpinning some of the key pathways to adulthood. Kathryn's research continues to maintain strong links to policy and she has carried out several small pieces of consultancy work across her areas of expertise for various Government departments. Kathryn's interests lie in exploring the different types of transitions made by individuals as they move out of compulsory schooling and into adult life, and, taking a longitudinal perspective, investigating the precursors, consequences and

the contextual constraints that may influence such development. She is principally concerned with understanding the psychological and social processes associated with educational and occupational planning and implementation.

Her post-doctoral work continues to extend the work of her PhD which examined the relative importance of different individual competencies and their implications for later outcomes. She is now exploring in more detail development during adolescence and the relative importance of adolescence compared to earlier developmental periods in shaping the transition to adulthood.

She is particularly interested in variation amongst certain sub-groups of the population, most notably those who follow alternative or unexpected pathways. This is reflected in her current research priorities which seek to explore (i) the development of entrepreneurship; and (ii) the transitions made (and outcomes realised) by young people not in education, employment or training (the NEET group). Her interest in these groups is further influenced by the current set of constrained economic and labour market circumstances facing today's cohort of young people. In addition, much of Kathryn's work examines intergenerational associations, the transmission of advantage and social mobility.



# Special Issue on Entrepreneurial Development

The model of entrepreneurial development (page 4&5 of this issue) served as the conceptual basis of a recent Special Issue on developmental and biological aspects of entrepreneurship, published in the *International Journal of Development Science* (Obschonka & Silbereisen, 2012).

Probably for the first time, this Special Issue brought together renowned researchers from different fields such as economics (Scott Shane, Case Western Reserve University; Michael Fritsch, University of Jena), developmental psychology (William Damon, Stanford University; Richard Lerner, Tufts University), social psychology (Ingrid Schoon, IOE, University of London), occupational psychology (Michael Frese, National University of Singapore), and sociology (Barbara Schneider, Michigan State University) to study the development of an entrepreneurial mindset. Topics covered in the Special Issue range from genetic effects, early precursors

in childhood and adolescence, youth entrepreneurship, school motivation of budding entrepreneurs, entrepreneurial career patterns, and the role of the macro-context in entrepreneurial development. Results were mainly derived from long-term longitudinal surveys from various countries. For example, the article by PATHWAYS members Martin Obschonka, Kathryn Duckworth, Rainer K. Silbereisen, and Ingrid Schoon analyzes data from the British Cohort Study and the German Thuringian Founder Study to explore the role of early social competencies in childhood and adolescence as predictors of entrepreneurial behaviour and success in young adulthood.

The research findings presented in the Special Issue as well as the Life Span Model of Entrepreneurial Development have important implications for theory development and the world of practice, particularly for entrepreneurship education.

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# Special Section on Educational and Occupational Career Planning

Deciding on, and then taking steps to implement, one's preferred occupational trajectory has always been a central task for young people. Career development has now become an ongoing task throughout the life span, as increasing numbers of individuals change careers over the course of their lifetime for a variety of reasons. Yet there have been surprisingly few developmental studies of the psychological and social processes and dynamics associated with educational and occupational planning and implementation.

A special section in the *Journal of Developmental Psychology*, edited by PATHWAYS members Jacquelynne S. Eccles and Ingrid Schoon has now addressed theoretical and empirical gaps in the literature. The special section focused in particular on studies that relate individual-level psychological processes underlying educational and occupational planning and behaviours to more macro-historical, socio-cultural, and economic processes — in other words articles

that address both agency and structure as key conjoint influences on individual and group differences in educational and occupational trajectories, with a special attention to social inequalities in trajectories. The special section has been an excellent opportunity for PATHWAYS fellows to showcase their work, including articles from Julia Dietrich, Phil Parker, Katariina Salmela-Aro, Angela Chow, Yi-Miau Tsai, Ulrich Trautwein, Ming-Te Wang, Lara Perez-Felkner,

Barbara Schneider, Julie Ashby, Rainer K. Silbereisen, and Martin Tomasik. It also includes the article by Schoon and Duckworth featured in this issue of the PATHFINDER.

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