

# Editorial: Longitudinal and Life Course Studies

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**John Bynner** – Editor<sup>1</sup>

Emeritus Professor, Institute of Education, London

**Robert Erikson** – Section Editor

Swedish Institute for Social Research, Stockholm University

**Harvey Goldstein** – Section Editor

Centre for Multi-level Modelling, University of Bristol

**Barbara Maughan** – Section Editor

King's College London Institute of Psychiatry

**Michael Wadsworth** – Section Editor

Emeritus Professor, University College London

**Starting a new journal is like elbowing your way through a crowded room – you know you have a place to get to and a job to do, but if there are so many people already there, are you really needed? There are thousands of journals available to publish papers written by academics across the world. They report research, supply a platform for new ideas, or offer the opportunities for the critical appraisal of other work and book reviews.**

The case for a new journal must rest on the fact that there is currently no other journal supplying an opportunity for dissemination in a particular area of research and theory development – a niche to be filled. The Trustees of Longview reached the conclusion that this was the case in relation to the twin themes of longitudinal research and life course studies. The Nuffield Foundation then agreed to support the development phase of the journal through a three-year grant to Longview.<sup>2</sup> Longitudinal research is founded on a set of principles and procedures directed at yielding insights into possible causal connections among social, biological and developmental phenomena. Life course study reflects the loosening of disciplinary boundaries in the fields particularly of psychology, sociology, economics and history, to reflect the growing recognition that the developmental pathways and transitions through which the human life course is constructed are shaped by multiple influences, including the historical era in which development begins.

A recognition of the effects of social change moves developmental science away from the focus on fixed biological mechanisms in developmental processes towards the changing institutions, social structures and other contexts in which such mechanisms operate. Reports of life course studies will be found in various outlets such as classic books and papers in a variety of academic areas, ranging from health to economics. *But there is no one location devoted exclusively to longitudinal and life course study treated as a field of study in its own right.* Longitudinal research is the vehicle par excellence for mapping the changing human life course within a generation as development and ageing proceed. And through repeated longitudinal studies starting in different historical periods, life course

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<sup>1</sup> Short biographies of all the Editors are included at the end of the Editorial.

<sup>2</sup> Longview ([www.longviewuk.com](http://www.longviewuk.com)) is an independent think-tank based in London, established for the development and promotion of longitudinal research and life course study and improvement of communication among those engaged in and using longitudinal research.

study offers the means of showing how the life course is both shaped and re-shaped through the interactions between changing societal circumstances, and individual and collective agency.

The 'Class of '68', 'The Baby Boomers', and 'Children of the New Century', express the popular aspect of this conception. Everybody knows that there are continuities from one generation to the next, but each generation brings something new to the scenario in helping to shape what the future of society and the lives of individuals in it are going to be like. Life course study thus targets an area of knowledge that, with the advent of ever more large-scale longitudinal studies in countries across the world, is increasingly realising its value to science, policy and practice. At the same time, new developments in measurement, ranging from genotyping to the quality of community life and the growing potential for linkage to large administrative databases, offer opportunities for enhancing and transforming the knowledge base. Such enhancements support the argument for a new vehicle for the dissemination of research findings.

Many of these new developments in longitudinal study raise significant methodological, as well as ethical, challenges, for example:

- Longitudinal research design often involves both national population samples and area studies. How do we best combine their findings?
- Identification of key developmental variables and the way they are measured has shifted over time, so are historical data as valid as data collected now to study current theoretical concerns and policy needs?
- How can drop-out from a longitudinal study (attrition) best be prevented prior to data collection? How is the potential bias resulting from such 'sample attrition' best compensated for by weighting and statistical imputation?
- What ethical principles should govern linkage to a longitudinal data set of personal data supplied for government purposes?

In developing *Longitudinal and Life Course Studies (LLCS)*, the Editors are seeking, not so much definitive answers to these questions, as to stimulate a vibrant dialogue across the scientific disciplines that will enable more effective research to be done. The Editors will be looking, among other things, for papers and short articles that bridge the academic disciplines in bringing multiple perspectives to bear on topics ranging from pre-natal development, to the quality of ageing in an ever extending lifespan. Alongside the substantive focus the journal is also interested in methodological developments that challenge past assumptions, and offer innovative solutions to old and new problems. Papers addressing ethical issues concerned with data collection, data protection and disclosure – especially with respect to data linkage – will also be of interest. We welcome the widest possible range of papers within the broad framework that the journal offers. The range of subjects covered by the journal has been structured, for purposes of Editorial oversight, into four sections: **Developmental and Behavioural Sciences** (*Barbara Maughan*); **Health Sciences** (*Michael Wadsworth*); **Social and Economic Sciences** (*Robert Erikson*); **Statistical Methodology** (*Harvey Goldstein*). Below, the four Section Editors set out their personal perspectives on the kinds of topics their section will address.

### Developmental and Behavioural Sciences

In many ways, developmental studies are at the core of the life course perspective: understanding how and why individuals develop and behave as they do is what life course studies are all about. At times, 'developmental' research has been thought of as

synonymous with the study of children's development, or at best with studies of development in childhood and adolescence. *Longitudinal and Life Course Studies* will of course be delighted to publish papers that focus on these early developmental periods – but we interpret the concept of development in a much broader way. First, we see development as continuing throughout the life course: key developmental changes can and do occur throughout adulthood, as well as in the early years, and we are keen to publish reports of work that tracks such changes whenever they occur, and highlights the influences that prompt them. Second, increasing numbers of longitudinal studies now have data that trace participants from the earliest stages of development, well into the adult years. Results from such studies have proved hugely influential, highlighting both continuities and discontinuities in development, and underscoring the cumulative influence of early conditions and experiences on development much later in life. *Longitudinal and Life Course Studies* is pleased to be among the growing number of journals that particularly welcomes reports that span these different phases of development.

Recent research in the behavioural and developmental sciences highlights many other trends – in particular, the ways in which increasingly sophisticated work within individual disciplines is being complemented by a real burgeoning of interdisciplinary approaches. Although psychological perspectives lie at the heart of much behavioural research, many of the most exciting new developments are stemming from interdisciplinary collaborations of this kind. On the one hand, for example, links with other social science perspectives such as sociology, economics, geography and social ecology are enabling ever-richer explorations of the ways in which proximal and more distal environmental influences interweave to affect development; on the other, collaborations with the biological sciences including genetics, physiology and epidemiology, are allowing us to map the ways in which social experience 'gets under the skin', and both affects, and is affected, by the biological substrate. *Longitudinal and Life Course Studies* is especially keen to provide an outlet for reports that view development from multiple perspectives, and highlight both the new insights and the new challenges that this entails.

Finally, as outlined earlier, the life course approach pays particular attention to the ways in which changing social conditions influence individual trajectories of development. For longitudinal researchers – often steeped in detailed knowledge derived from an individual cohort study – comparisons with other cohorts, whether across time or place, raise fascinating possibilities. Do taken-for-granted risk or protective factors, work in similar ways in different samples studied in different periods? Do our assumptions about the links between environmental influences and developmental outcomes hold when environments are subject to radical change? Have levels of well-being or less favourable developmental outcomes changed across the generations – and if they have, what has prompted those changes? To date, we know extraordinarily little about the answers to those questions, yet they are crucial ones in an era of rapid social change. Once again, *Longitudinal and Life Course Studies* is especially keen to promote cohort comparative studies, and to provide a forum where investigators can share findings in this rapidly expanding area of developmental research.

### Health Sciences

Expansion over the last decade in longitudinal and life course health studies has been considerable. Concepts that require longitudinal and life course data are rapidly developing, and studies, both old and new, which collect data for investigation of life course processes throughout the life cycle from the earliest time of life through adolescence and mature adulthood to old age, have flourished. Fundamental to this expansion are new concepts of development and ageing that integrate physical, genetic and psychological influences, and implicate environmental and behavioural influences and their interaction with genetic endowment in the activation and deactivation of genetic effects.

Investigation of these new concepts has become possible largely because measurement has become more accurate, and better developed for use in large scale studies. These improvements range from measures of the physical environment (from nutrition to atmospheric pollution and their effects on the health of individuals) and of biological function and integrity (from blood flow to brain and sensory function, and skeletal health), to genetic measures that can be taken from easily collected biological samples. Ideas about what can be measured and what is important for health have been expanded across a wide spectrum in the psychological and social sciences, from temperament, memory and individual well-being to social cohesion.

Increasing ingenuity in the search for opportunities to research these concepts has made it possible to study significant impacts on health across the life course of individuals, and on inter-generational differences in health. Among the most striking examples are the study of the population that experienced the siege of Leningrad, the study of recovery in children who had been in Romanian orphanages, and the study of Swedish harvests and their association with inter-generational longevity. Furthermore, new longitudinal research is concerned with the effects of national upheaval and insecurity on population health and survival. These studies should now be extended to investigate the cohort effects of national disasters and wars on the mental as well as the physical health of individuals. Social change and differences between and within nations and societies (for example economic, opportunity and life style changes as well as change in the physical environment) offer quasi-experimental opportunities for life course research.

Renewed investment is now being made in several countries in the resource of long-established longitudinal studies that began in early life or in middle life, so that they can make unique contributions to the longitudinal study of processes of ageing in the individual. Investment in new longitudinal studies of early life in a number of countries will help reveal the role of genetics in developmental processes. The large scale and scope of these new and renewed investigations, and the data they offer for comparisons of life course processes at different historical times, provide important opportunities for social scientists and human biologists.

*Longitudinal and Life Course Studies* intends to stimulate new thinking and new research, and seeks original reports of findings and ideas from across the wide spectrum of health science research, in particular reports of new interdisciplinary work.

### Social and Economic Sciences

The individual life course starts in the family of origin and develops through a series of events and decisions with regard to education, family and jobs. In recent decades we have witnessed large changes in these respects. Women have become more active in the labour market, young people opt for more education but have recently met with difficulties in getting jobs, and partnerships are more easily formed and more often dissolved than before. What life trajectories do people typically experience today and how, more precisely, have life courses changed in the post-war period? Which individual outcomes, in terms of class positions, health, economic conditions, and family circumstances, do different trajectories lead to and how has recent societal change influenced individual life chances?

Individual welfare is determined in a process where individual action is structured by societal institutions. In the present-day world, five such institutions make up the basic context within which individuals act – *family, school, labour market, work organisations and welfare state*. Which choices people make and how these choices are constrained, are strongly influenced by the class position of the family of origin and by the gender system, as well as by the individual's position in the social structure.

Two related processes influence social change. One is the aggregation of individual life trajectories; the other is the succession of generations. For instance, the decrease in the number of housewives came about through both these processes: first by an increase in labour force participation among former housewives, i.e. by intra-cohort change, and second because progressively fewer young women became housewives compared to the

number that retired and died, i.e. by cohort replacement. A change in people's conditions and scope for action will affect their behaviour and this will modify the institutions, whereby the change may become reinforced.

Institutional change influences the likelihood of particular events and the opportunity sets for individuals. The choice between education and getting a job becomes different when both the school system and job markets change. The economy of households changes when more goods and services must be bought in the market, two family incomes become standard and some welfare provisions and income transfers emerge while others disappear. These changes may turn out as even more critical for the individual when family membership becomes more volatile and single-parent families become more common. In all these and other respects we know that changes have occurred, but we know fairly little about how they interact and what precise consequences they have for the individual's life course and level of living. In particular we know much too little about how changes in individual behaviour depend upon alterations in institutional structures. The connection between education and work is thus no longer a question of simple consecutive developments; for many people, spells of education and of gainful employment alternate. This process is also closely related to family dynamics, notably for women.

We expect to receive contributions from research touching on issues like these in *Longitudinal and Life Course Studies*.

### Statistical Methodology

The analysis of longitudinal data on individuals faces some special problems that may require more complex forms of analysis than many cross-sectional datasets.

The first set of issues arises from the fact that repeat measurements are made on individuals, so that many kinds of statistical modelling that are used, need to recognise this particular 'hierarchical structure'. The second issue is that of attrition, where individuals selectively become missing, possibly to return, and where in particular the propensity to be missing cannot be assumed random.

Where we have 'repeated measurements data' and where these repeated measurements are related to other variables that may change over time, as in growth studies, there is a substantial literature on how to construct appropriate statistical models. In other contexts we may be measuring 'time to an event' as in event history analysis or survival analysis, and again there is a large literature on how to handle such data. An alternative that is often used when there are a small number of fixed 'occasions' or 'sweeps' is to form a series of conditional analyses where variables at later occasions form responses with earlier occasion variables as predictors. One of the problems with such formulations is where dropout or attrition occurs and this introduces the next issue.

When an individual drops out of a study, their subsequent measurements (unless they return) are unavailable. If such individuals are simply dropped from an analysis then this is not only inefficient, it may also lead to biases if the reasons for dropout are non-random, or at least cannot be explained in terms of previous measurements. The issues here involve weighting adjustments and imputation, in order to try to deal with the problems, and imputation techniques are discussed in the paper by Goldstein in this issue.

Of course, there are further issues such as those of measurement errors, which pertain to cross-sectional as well as longitudinal studies. Procedures for handling these have become increasingly sophisticated as have other procedures such as those to handle latent variable models. The journal welcomes the use of such procedures where appropriate, but because of its general readership, their description and interpretation needs to be made very clear as well as the justification for their use.

The journal is also open to papers that seek to introduce novel methodology in this area, possibly used elsewhere and which may not be familiar to readers of the journal. All papers submitted will be scrutinised for their methodological soundness and, where necessary, authors will be offered positive suggestions for employing appropriate techniques.

### Quality

The four sections of the journal's extensive subject range, define very broadly the journal's content areas. Papers will be welcomed in these areas and spanning them in more wide-ranging interdisciplinary enquiries. Apart from *relevance*, the overriding principle governing their acceptance for publication is *quality*, as assured in accordance with the standards of peer review. A large editorial board has been established comprising leading experts from across the world in the academic areas and disciplines to which the journal relates. These colleagues will provide reviews of the bulk of the papers submitted to the journal, though other experts will also be drawn into the review process as required. The means of ensuring that the review matches the needs of the papers submitted will be achieved through an editorial structure which comprises the Executive Editor, plus the four Section Editors assisted by members of the Editorial Board who will share with them the choice of reviewers. The final decision about the paper will be the responsibility of the Executive Editor on the basis of the recommendation of the Section Editor (or Editors in the case of papers involving more than one Section Editor).

The word limit (maximum of 7,000 words excluding tables, Figures and bibliography) is more generous than is usual especially in health journals. The loosening of the word length is particularly valuable for reporting multidisciplinary studies and reviews and will widen the appeal of the journal to authors who sometimes find good papers difficult to place.

### Accessibility

The second major principle governing *Longitudinal and Life Course Studies* is accessibility achieved through the web-based publication of *LLCS* using the Open Journal System (OJS) through which 1,400 learned journals are currently disseminated. Electronic publication provides quick turnaround from submission of the paper to its on-line availability as a publication. By offering the journal on open access, any paper, or the whole issue of the journal in which it features, can be downloaded at no cost to the reader. In addition, unlike many commercially published journals, *LLCS* will make no charge to authors whose papers are published. By this means the Editors aim to establish the journal as the platform of choice for longitudinal and life course research findings. The newly qualified young researcher, the leading academic who has built his or her career in longitudinal research, the researcher with little access to resources but strong commitment to longitudinal and life course study across the developed and developing world – between them define the community of scholars that the journal will serve.

In addition, the journal will also attempt to develop a readership among policy makers and other decision makers who have an interest in understanding the significance of the messages and findings of longitudinal research and its practical applications.

We therefore look forward to developing a stimulating and exciting new publication, in which there will be continuing and enhanced engagement, for an ever-growing community of scholars and decision makers, in longitudinal research and life course study.

The first issue begins the process with a wide-ranging set of papers, spanning the journal's four sections. Alongside papers reporting research findings, future issues will contain overviews of new longitudinal studies and particular topics such as design options in longitudinal studies and analytic strategies for longitudinal data. Special issues devoted to substantive and methodological topics are also planned.

The journal will also provide a platform for continuing updates in all areas ranging from brief articles on particular studies to news items on the latest data collection. Contributions from around the world will therefore be most welcome. Book reviews will follow in due course.

### First Issue

The first issue of the journal demonstrates the disciplinary range and diversity which is central to its mission. There are papers spanning the health sciences, the social sciences and statistics. They encompass different age periods, cohorts and national contexts, displaying the scope of enquiry that is at the heart of the life course perspective. They constitute contributions to knowledge both within disciplines and across disciplines and all have significant policy as well as scientific implications.

The topics covered comprise:

- 'connectedness' within black American communities in North America
- night time bladder control over the age period 4-9 years
- family communications during adolescence and the attainment of financial independence in early adulthood
- obesity as measured by the body mass index (BMI), comparing measures in childhood across cohorts to test the hypothesis that obesity is increasing
- the impact on children's development of employment after child bearing
- handling attrition in longitudinal data using multiple imputation methods

These are just the first examples of what we are confident will be a rich body of life course literature developed through the journal.

### Conclusion

*Longitudinal and Life Course Studies* will fill a major gap in the literature on longitudinal and life course studies. The latest research findings will be made available and a platform for debate provided. The latest news will keep readers up to date about the development of the whole field internationally. OJS publication and our chosen policy of making no charges to read or contribute material, also offers the attractions of free access to researchers and policymakers across the world. We are looking forward to the whole community's support through submission of top quality papers to ensure the journal's success. We also look forward to your feedback about *LLCS* and its contents.

### Biographies

**John Bynner** is Emeritus Professor of Social Sciences in Education at the London Institute of Education and Director of Longview. Until retirement in 2004 he was Director of the Centre for Longitudinal Studies (with responsibility for the 1958 and 1970 birth cohort studies) the Wider Benefits of Learning Research Centre, and was the first Director of the National Research and Development Centre for Adult Literacy & Numeracy. His main research interests lie in economic, social and political socialisation and functioning across the life course.

**Robert Erikson** is professor of sociology at the Swedish Institute for Social Research, Stockholm University. His research interests concern social stratification, education, family, and health, especially the study of individual change over the life course and how it can be understood with regard to individual and structural conditions. He is a fellow of the Royal Swedish Academy of Sciences, the British Academy, Academia Europaea and honorary fellow of Nuffield College, Oxford.

**Harvey Goldstein** was formerly Professor of Statistical Methods at the Institute of Education from 1997-2005; he is currently Professor of Social Statistics at the University of Bristol, and a Longview Trustee. He has two main research interests: the first is the use of statistical modelling techniques in the construction and analysis of educational tests with a particular interest in institutional and international comparisons: the second is in the methodology of multilevel modelling. He has been a member of the Council of the Royal Statistical Society, and chair of its Educational Strategy Group. He has been a member of the Council of the Royal Statistical Society, and chair of its Educational Strategy Group and is a fellow of the British Academy.

**Barbara Maughan** is Professor of Developmental Epidemiology at King's College London Institute of Psychiatry, and a member of the Medical Research Council's External Scientific Staff. Her research interests centre on continuities and discontinuities in emotional and behavioural difficulties across the life course, and on the effects of social change on individual development.

**Michael Wadsworth** is Emeritus Professor at the Dept of Epidemiology & Public Health at University College London Medical School, and a Longview Trustee. Until 2007 he directed the Medical Research Council's National Survey of Health & Development, the first of the British national cohorts studied since birth, which in this case was in 1946; that study continues now in the MRC Unit for Lifelong Health & Ageing. His research interests are concerned with continuities and discontinuities of physical health throughout the life course, and period and cohort effects of the social and economic environment on health.