Two decades of longitudinal research with TREE: lessons (yet to be) learnt

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Outline

> Have a look at TREE in a research context which has changed dramatically over the past two decades

> Explore important insights of research on educational and occupational trajectories based on TREE

> Identify open questions and research gaps that should be addressed in the future

> Outlook on TREE’s near and medium- to long-term future
Data/research situation 20 years ago (general)

- Swiss Household Panel SHP (1999)
- Swiss Centre of Expertise in the Social Sciences FORS (2008)
- German National Education Panel Survey NEPS (2011)
<table>
<thead>
<tr>
<th>Status quo</th>
<th>Gaps / desiderata</th>
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<tbody>
<tr>
<td>Temporal dimension: cross sectional</td>
<td>prospective, longitudinal</td>
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<td>Spatial dimension: cantonal / regional</td>
<td>national</td>
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<tr>
<td>Sampling dimension: particular learners (sub-)groups</td>
<td>Comprehensive age cohort(s)</td>
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<td>Disciplinary dimension: mono-disciplinary, fragmented</td>
<td>Multi-disciplinary</td>
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Windows of opportunity

The Voyager missions which started in the late 1970s were made possible by the "Grand Tour" alignment of Jupiter, Saturn, Uranus and Neptune. A similar alignment will not occur again until the middle of the 22nd century.
TREE: Launch & early phase

Thematic review of the transition from initial education to working life (TIEW), OECD, 1999 (p. 53)

“[T]he opportunity should not be missed to equip Switzerland with a longitudinal survey of transitions at national level […]. Transition pathways to employment are becoming increasingly complex. To understand young people’s decisions and options, and to take them into account in policy decisions, appropriate analytical instruments are needed.”

Switzerland’s 1st time participation in PISA (2000): Sample, literacy test & baseline survey

Initial funding by the Swiss National Research Programme 43 “Education & Employment” (2000-2004)
Further «significant life events» of TREE

- 2008: Funding as a (social science) research infrastructure by the Swiss National Science Foundation (SNF)

- 2011: Data distribution by FORS data archive

- 2014: SNF grants funding for the launch of a second school leavers’ cohort (TREE2)

- 2016: Launch of TREE2 / extension to multi-cohort survey
Multi-cohort panel design (to date)

- **Baseline surveys (literacy tests & interview)**
- **Completed or current survey waves**
- **Planned survey waves**

**Initial sample size: 6,343**

**Initial sample size: 8,429**

**Survey Year**
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009
- 2010
- 2011
- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021
- 2022

**AVERAGE AGE OF COHORT**
- 15
- 20
- 25
- 30
- 35
Guiding principles of survey instrumentation

Both cohorts

> Baseline measure of standardised skills (PISA, AES)
> Detailed (month-by-month) capture of pathways/trajectories (educational, employment & other activities)
> Extensive, multi-dimensional and multi-disciplinary contextualisation of (baseline) skills and pathway data
> Conceptual relevance in theories that relate to our fields of research
> Preference for established measures having proved their value in previous research
> Well-established influence on important outcome dimensions
> Good measurement and/or scale quality
> Widespread use in other relevant surveys of our research fields in order to enhance cross-survey comparability

2nd TREE cohort (TREE2)

> Basically replication design, searching a balance between new instruments and instruments previously used in TREE1, allowing for cohort comparison
Development of TREE data use 2011-2021

Start of data distribution via FORS (data release 2011)

Data Release 2013 (up to wave 8/2010)

Data Release 2016 (up to wave 9/2014)

First TREE2 data release
TREE data use by institution, discipline and type of use
Output (scientific publications)

- third party (left scale)
- TREE team/mixed (left scale)
- % third party (right scale)
**TREE: Life Course Perspective**

**Life Course Cube** of Bernardi, Huinink & Settersten (2019:4)

**TREE:**
Strong (but not exclusive) focus on interdependencies between inner-individual level, individual action and supra-individual opportunity structures in the domains education and work

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*Fig. 1. The Life Course Cube: Time, Domain, and Level Interdependencies.*
What have we learnt? Main Focus

- Research on individual action in the domains of education and work and its interaction with opportunity structures (education, labour market) from adolescence to adulthood

- **Question:**
  How do structural characteristics of the educational system, the labour market and gender impact young people’s life courses at different stages?

- **Assumption:**
  Individual life courses are inherently social: Processes of social inequality are not (only) the result of initial individual differences but of systemic structures (Dannefer 2020)
How does the structure of the educational system and the labour market shape individual life courses?

Main insight
Allocation to lower- and upper-secondary education decisive for educational and occupational attainment
Relationship between skills and lower-secondary track allocation

- Average math skills at end of compulsory school differ between lower-secondary tracks
- However: considerable overlap

Allocation not purely meritocratic and somewhat arbitrary (e.g., Gomensoro & Meyer 2021; Buchmann et al. 2019)

Source: Gomensoro & Meyer 2021:20
Lower-secondary track allocation and transition to upper-secondary education

- Track with basic requirements increases risk of NEET and interim solutions
- Lower chance for FVB and general education
- Youth from tracks with basic requirements are channelled into VET with low requirements and high occup. specificity (Meyer & Sacchi 2020; Buchmann et al. 2019)

Source: Gomensoro & Meyer 2021:21
Heterogeneity of IVET

Training programmes differ regarding:

> Duration (2-4 years)
> Intellectual requirement level

- Proportion of general vs. occupation-specific education;
- Proportion of vocational school vs. time in the firm

Source: Kriesi & Grønning 2021
Consequences of allocation to upper-secondary education

> Transition to IVET rather than general education reduces probability for tertiary-level education (Kriesi & Leemann 2020; Buchmann et al. 2019)

> Lack of tertiary-level education leads to lower wages (Gomensoro et al. 2017)

> IVET programmes with low requirements/high specificity hamper:
- transition to baccalaureate school (Meyer & Sacchi 2020; Trede et al. 2020; Buchmann et al. 2019)
- transition to professional education and UAS (Meyer & Sacchi 2020; Sander & Kriesi 2021; Buchmann et al. 2019)

**IVET training programme and vocational baccalaureate** (see Trede et al. 2020; Meyer 2018):
- 240 different training occupations
- 15 training occupations supply ¾ of all vocational baccalaureate holders (8 training occupations supply ¾ of all FVB1 holders)
Consequences of allocation to upper-secondary education

IVET programmes with large proportions of general education foster occupational upward mobility in the early career (Grønning 2021; Kriesi & Grønning 2021).
Summary: Cumulative (dis-)advantages of structural allocation (e.g., Dannefer 2020; DiPrete & Eirich 2006)

- Main message: an individual’s allocation in the social system impacts life trajectories **independently of individual characteristics** (Dannefer 2020; Heckhausen & Buchmann 2019)

- Tracking and labelling strengthens interindividual differences by triggering developmental path dependencies, thus affecting:
  - individual performance
  - development of aspirations, motivation, self-esteem, self-efficacy
  - development of abilities and skills (human capital)

- Allocation within the (educational) system triggers institutionalised path dependencies by determining objective opportunities for further education, further learning and career options (e.g., Heckhausen & Buchmann 2019; Stinebrickner et al. 2019)

- Track allocation affects signalling value of credentials: Queuing disadvantage and crowding out of individuals with lower-status credentials (e.g., Meyer & Sacchi 2020)
Transition to upper-secondary education triggers gendered careers due to developmental and institutionalised path dependencies.
Gendered choices of occupations/fields of study

Entry into IVET (%), 2019

Entry into academic universities (%), 2019

Source: FSO, own calculations
Consequences of gendered choices

> Female-dominated occupations (on average) pay lower wages, have lower status and offer less opportunities for mobility (Schwiter et al. 2014; Bertschy et al. 2015; Combet & Oesch 2020)

> Occupationally segmented labour market with tight link to educational system → early choices costly to correct, strong institutionalised path-dependency (e.g., Kriesi & Imdorf 2019; Heckhausen & Buchmann 2019; Heiniger & Imdorf 2018; Imdorf et al. 2014)

> However: Apart from occupational choice, little differences in educational and occupational outcomes between men and women before family formation (Combet & Oesch 2020)!

What happens during the early career?
Early Career: Mechanisms of gender inequality

- Female- and male-dominated occupations are linked with traditional gender roles and facilitate gendered patterns of paid and unpaid work (part-time opportunities, wage levels) (Bertschy et al. 2014; Schwiter et al. 2014; Baumgarten et al. 2016)

- Atypical occupational choices: Reversal due to anticipated difficulties in reconciling work with gendered family obligations (Schwiter et al. 2014)

- Different career «choices» due to anticipation of traditional gender roles and perception of structural constraints (Kanji & Hupka-Brunner 2015; Schwiter et al. 2014; Baumgarten et al. 2017)

- Cultural ideals of motherhood, coupled with perceived structural constraints, lead to weakend career orientation and strongly reduced working hours of women (Baumgarten et al. 2017)
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«Wenn man weiss, man erwartet ein Kind, (...), kann man nicht mehr auf dem Bau arbeiten. Also (....), steht man vor einer grossen Entscheidung. Und dann muss man dann entscheiden, wie weiter, also eben, genau so weiter gehen, wenn Kinder da sind, kann es nicht. Weil ist nicht möglich. (...) eben vielleicht dann irgendwie noch Teilzeit was machen, vielleicht im Lager oder irgendwie im Büro oder irgendswas. (Schwiter et al. 2014:419)»

Summary on gender inequalities

> Gender inequalities accumulate over time

> Complex interplay of intra- and supraindividual factors trigger gendered choices and allocation in education and the labour market (socialisation processes, gatekeeping)

> Early allocation (training occupation/field of study) and subsequent «institutionalised path dependency» (Heckhausen & Buchmann 2019) strengthen gendered career decisions

> Perception of life course as an individual project masks role of institutional and societal constraints (Baumgartner et al. 2016; 2017)
Outlook

> Future research should focus on cohort comparisons
> To what extent and regarding which dimensions do the life courses of the two cohorts differ?
> What role do changes of the educational system in the early years of 2000 play in explaining cohort differences?
> How do societal changes in attitudes and values (e.g., gender equity, individualisation, work values etc.) impact adolescents’ lifes?
> Do system and societal changes affect dominant processes of social inequality?
Outlook

TREE1
- Data preparation & publication of completed wave 10/ cohort age 35
- Further survey waves at 5-year intervals (next waves t11 & t12: 2024/25 and 2029/30)

TREE2
- Data preparation & publication of completed waves 3-5
- 5 further survey waves until 2030/ cohort age 30

- baseline surveys (literacy tests & interview)
- completed or current survey waves
- planned survey waves
TREE2 «Lego» design

- Qualitative studies
- Experimental studies
- Sub-samples
- Particular topical foci
- Linkage with register data
- Further/other studies
The end of (youth) panel survey research as we know it?
Next cohort(s): TREE3?

> Launch at which interval from previous cohorts?
> At which cohort age?
> Drawing on what kind of baseline survey? (PISA, national LSA, other?)
> New survey designs needed in light of deteriorating panel attrition and increasing cost:
> A priori combination of survey and register data or big data?
Thank you for your attention!

www.tree.unibe.ch