

EDULAB

European Youth in Transition to
Education and Labour



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Modelling pathways and data gaps in **GE & VET** & in transition to **labour**

Intersectional **determinants**, **transition types**
and **data policy recommendations**

ECER 2026 Symposium

**GOVERNING EUROPEAN YOUTH TRANSITIONS THROUGH EDUCATION
AND INTO THE LABOUR MARKET**

Early Evidence from the EDU-LAB Horizon Europe Project

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EVAIAG



Intersectional determinants & transitions of pathways in E&T and to labour

80+ intersectional determinants in 4 categories (Selection; Access; Participation; Progress & Completion)

- SelDet type 2: **Applicants' self-determination** (GENERIC)
SelDet 2.4: **Aiming at a high(er) salary on completing study/training**
- ...
- AccDet type 2: **Formal entrance qualification** (GENERIC)
AccDet 2.6: **Master craftsman qualification**
- ...
- AccDet type 4: **Practice measures for access support** (GENERIC)
AccDet 4.8: **Support for applicants with low or no educational qualifications**

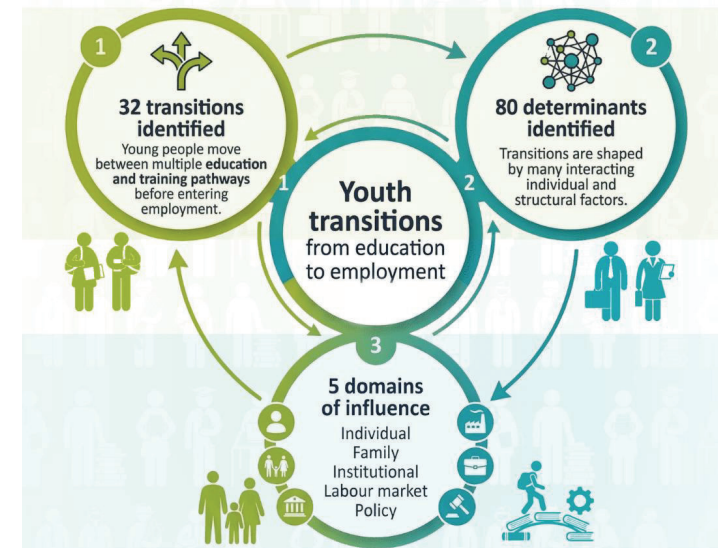
32 transitions

- Transition **from Upper Secondary General Education (USGE) to General Education Bachelor (GEBA)** (GENERIC)
- ...
- Transition **from Master Workbased Learning (MA-WBL) to Doctoral Programme (DOCP)** (probably NOT GENERIC)
- ...
- Transition **to the labour market** (e.g., to permanent/ temporary full-time employment, to permanent/ temporary part-time employment, to unemployment) (GENERIC)
- ...

<https://www.edu-lab-project.eu/wp-content/uploads/2026/01/D1.1-Pathways.pdf>

Why Youth Transitions Are More Complex Than They Seem

Preliminary insights from the EDU-LAB pathways framework



* Source: EDU-LAB Project, Deliverable D1.1 – Conceptual Framework

Intersectional determinants & transitions of pathways in E&T and to labour

GenSelDet type 1: Financial issues (GENERIC)

- GenSelDet 1.1: Low-income family/ conditions
- GenSelDet 1.2: High tuition fees
- GenSelDet 1.3: High cost of living (e.g., housing, transport)
- GenSelDet 1.4: Low pay

GenSelDet type 2: Applicants' self-determination (GENERIC)

- GenSelDet 2.1: Following their own abilities and expected performance
- GenSelDet 2.2: Setting their achievement goals
- GenSelDet 2.3: Building on their prior educational biography
- GenSelDet 2.4: Aiming at a higher salary on completing study/training
- GenSelDet 2.5: Possibility to combine study/training and part-time work
- GenSelDet 2.6: Integrating their family planning
- GenSelDet 2.7: Integrating parents' expectations
- GenSelDet 2.8: Integrating arguments of other stakeholders
- GenSelDet 2.9: Soci(et)al valorisation of E&T pathways

Intersectional determinants & transitions of pathways in E&T and to labour

AccDet type 1: Availability of the desired GE or PVET programme (COUNTRY- and REGION-SPECIFIC)

- AccDet 1.1: Availability of the desired GE or PVET programme in the region of proximity
- AccDet 1.2: Availability of the desired GE or PVET programme in the overall country

AccDet type 2: Formal entrance qualification (GENERIC)

- AccDet 2.1: Secondary school leaving certificate
- AccDet 2.2: General higher education access qualification/ certificate
- AccDet 2.3: Bachelor's degree
- AccDet 2.4: Master's degree
- AccDet 2.5: Journeyman's certificate
- AccDet 2.6: Master craftsman qualification

Coverage of intersectional determinants & transitions by 20 large-scale datasets



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Selection of 20 datasets for potential secondary data analysis

- Large-scale datasets
- Cross-national focus in EEA
 - AES (Eurostat) – Adult Education Survey
 - ESJS – European Skills and Jobs (ESJ) Survey
 - ESS – European Social Survey
 - EU-LFS – EU Labour Force Survey
 - Eurypedia – National Education Systems
 - EU-SILC – European Union Statistics on Income and Living Conditions
 - EUROGRADUATE – EUROGRADUATE Pilot Survey
 - EUROSTUDENT – European Student Survey
 - GEM – Global Education Monitoring (GEM) Report Core Dataset
 - HLO – Harmonized Learning Outcomes
 - NEPS – National Educational Panel Study (Germany)
 - PIAAC – Programme for the International Assessment of Adult Competencies
 - PIRLS – Progress in International Reading Literacy Study
 - PISA – Programme for International Student Assessment
 - STEP – Skills Toward Employment and Productivity
 - TALIS – Teaching and Learning International Survey
 - TIMSS – Trends in International Mathematics and Science Study
 - UIS – UNESCO Institute for Statistics (UIS) Global Education Database
 - VET in Europe – VET-in-Europe country reports
 - YAE – Youth and Adolescent Education Data

Datasets analysed for

Analytic characteristics

- Time frame & regularity
- Accessibility
- Methodological reliability
- ISCED levels covered
- Geographical spread
- Usability (type of possible data analysis)
- Further information

Coverage of determinants & transitions

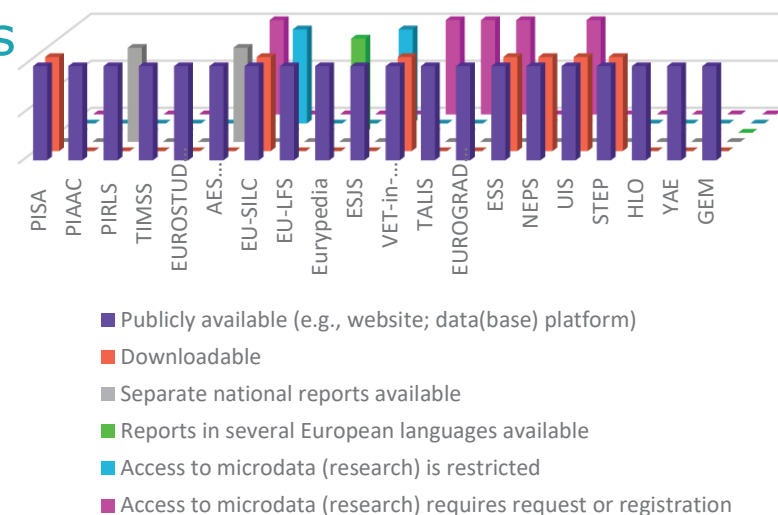
- Coverage of 80 determinants by datasets
- Coverage of 20 selected transitions by datasets
- 100x20 coverage items
- Coverage scope:
 - Yes: A relevant variable or set of variables fully captures the determinant/ transition
 - Partially: Relevant data are present but incomplete, indirect, or limited in scope
 - No: No variables were identified to represent the determinant/ transition

Sort of **Glass Bead Game** (*Das Glasperlenspiel*, Hermann Hesse): „fictional, highly intellectual activity, futuristic setting (25th century), players use symbolic signs, music, and mathematics to connect seemingly unrelated fields of human knowledge“

Analysis of dataset coverage: results

Accessibility of 20 datasets analysed

- **65% of the datasets are not downloadable** (PIAAC, PIRLS, TIMMS, EUROSTUDENT, AES (Eurostat), EU-LFS, Eurypedia, ESJS, VET-in-Europe, TALIS, EUROGRADUATE, HLO, YAE, GEM)
- **65% do not offer microdata access** (PISA, PIAAC, PIRLS, TIMMS, EUROSTUDENT, EU-LFS, Eurypedia, ESS, UIS, STEP, HLO, YAE, GEM)
- **90% do not offer separate national reports**
- **95% do not offer reports in several European national languages**
- **Coverage of access determinants** AccDet 3.1, 3.2 and 3.3 (AccDet type 3: Content-related entrance qualification (GENERIC))
 - **Language, MINT, digital and AI literacies not well covered**



Access determinant	Have it	Missing from (of 20)
Language literacy test	Eurypedia, GEM, HLO, NEPS, PIAAC, STEP, UIS, YAE	12
MINT literacy test	GEM, HLO, NEPS, PIAAC, STEP, TIMSS, YAE	13
Digitalisation and AI literacy test	PIAAC	19

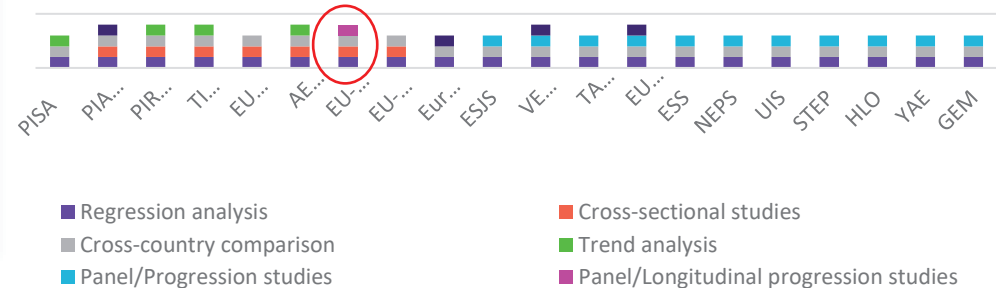
Data policy recommendation:

- *Improve access to datasets including microdata access*
- *Include language, MINT and AI literacies in dataset construction where reasonable and needed*

Analysis of dataset coverage: results

- **Analytical capability** of 20 datasets analysed is **uneven**
 - **All datasets allow** for **regression analysis** and **cross-country comparison**
 - **Only one dataset (EU-SILC) tracks young people longitudinally** (useful for education-to-work and socioeconomic transitions but is not an education-specific panel; covers all 27 European Union member states, plus several non-EU European countries including Iceland, Norway, Switzerland, Türkiye, and Western Balkan nations like Albania, Kosovo, Montenegro, North Macedonia, and Serbia)
- **Limited cross-country educational longitudinal microdata for EEA**
 - **TIMSS-L** – *TIMSS 2023 Longitudinal Study International Results* <https://timss2023.org/longitudinal/> one-year learning gains; **nine countries** (Slovenia, Korea, Italy, Sweden, Georgia, Montenegro, Kosovo, North Macedonia, Jordan)
 - **CILS4EU** – Children of Immigrants Longitudinal Survey in **Four European Countries** (Germany, England, the Netherlands, Sweden)

Type of secondary analysis	Datasets covering it (of 20)
Regression analysis	20
Cross-country comparison	20
Panel/ progression studies	11
Cross sectional studies	7
Trend analysis	4
Policy evaluation	4
Longitudinal progression studies	1



Data policy recommendation: *Establish longitudinal cross-country dataset(s) for a relevant number of EEA countries*

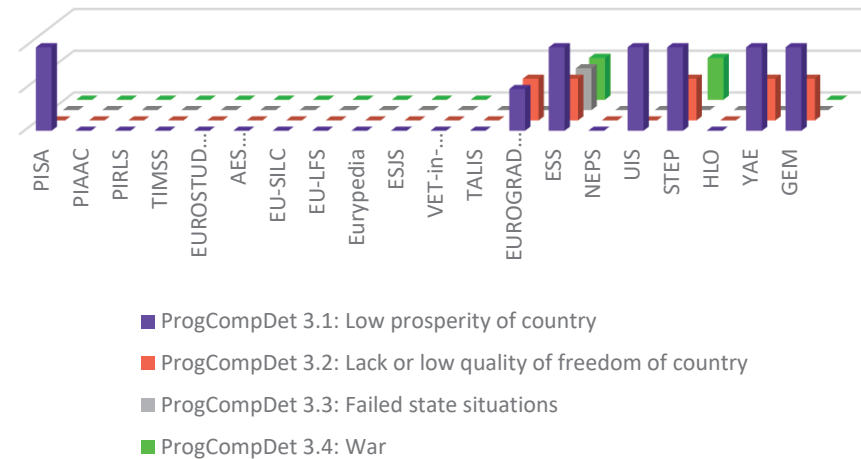
Profiles of 20 datasets with respect to types of secondary analysis they offer: each coloured bar for a certain dataset shows which types of secondary analysis are possible with the dataset

Analysis of dataset coverage: results

■ Coverage of progression & completion determinants

ProgCompDet 3.1–3.4 (ProgCompDet type 3: Progression and completion delay, or discontinuation because of socio-political and economic deficiencies (COUNTRY- and REGION-SPECIFIC)) by 20 datasets analysed

- **65% do not cover** ProgCompDet 3.1 “Country’s low level of prosperity in terms of E&T and work”
- **75% do not cover** ProgCompDet 3.2 “Lack or low quality of freedom of country”
- **95% do not cover** ProgCompDet 3.3 “Failed state situations”
- **90% do not cover** ProgCompDet 3.4 “War”



Data policy recommendation: *Include ProgCompDet 3.1–3.4 in existing or new datasets*

Summary on “data gaps”:

- No deep data gaps
- A few moderate data policy recommendations + request for longitudinal data
- Further clarification of availability of relevant data only on the basis of case-to-case analysis, not the least because further parameters are in the play – e.g.: Where is the focus/area of interest of data analysis? Which ISCED level(s)? Which time period? Which analysis method? Which countries? ...

Modelling pathways and transitions in E&T and labour (EDU-LAB WP1 **NEXT STEPS**): research questions and hypotheses

General guiding ideas

EDU-LAB is interested in

- ***How works the selection of/ access to/ sustained participation in/ progression and completion in/ transitions to E&T programmes and contractually regulated employment?***
- Focusing on **EDU-LAB partner countries** first
 - Characteristic for EDU-LAB; different geographical regions; different E&T and economic systems, demographic situations and labour market conditions
 - Intrinsic interest of partners
 - Easier access to and better knowledge of E&T systems and the world of labour in their countries, including related policies

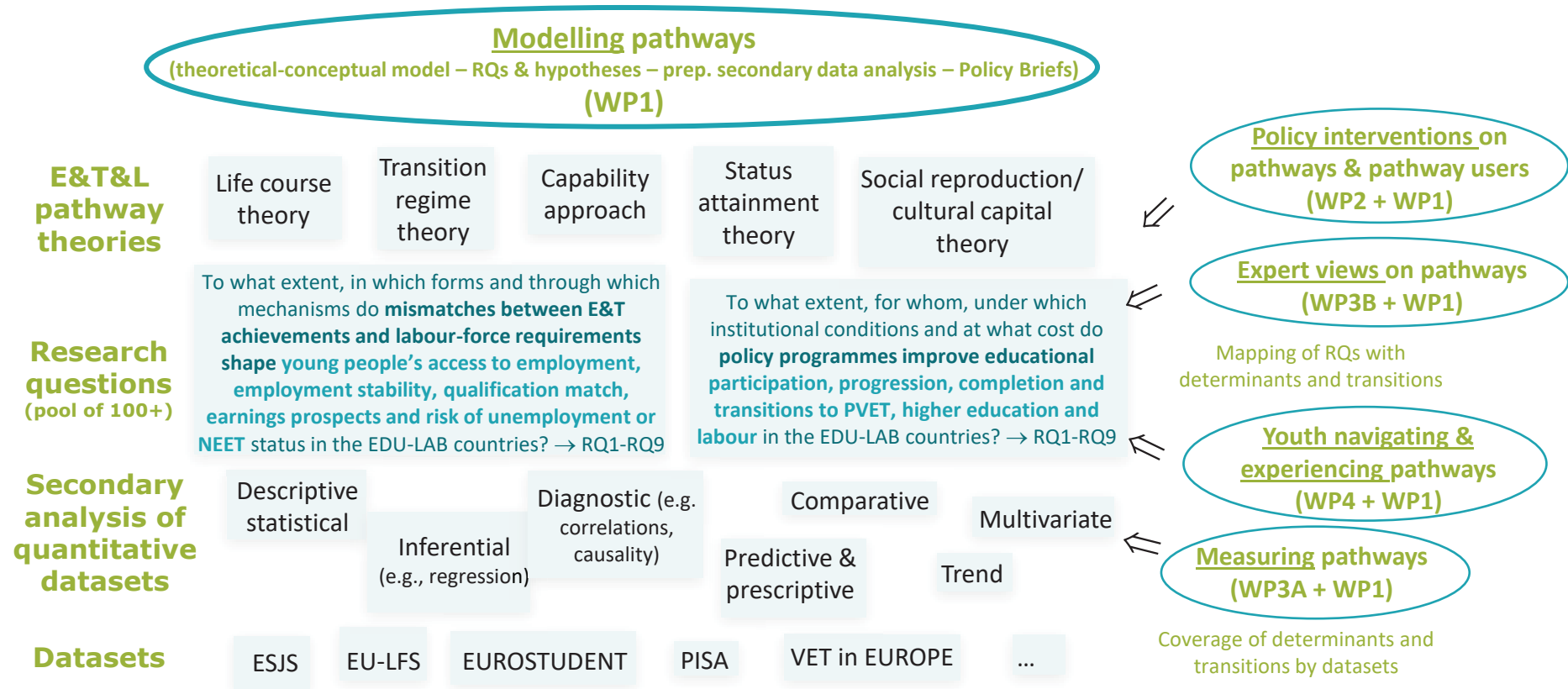
Focusing on current, pressing issues

- ***Socioeconomic status inequalities***: High-SES students are more likely to enter academic tracks, lower-SES students' vocational paths
- ***Mismatch between E&T achievements and labour force requirements***
- ***AI and digitalization inequalities***: reshape education and work, raising concerns about privacy, ethics, and new skill demands
- ***Teacher shortages***: About 47% of OECD secondary principals report staff shortages (likely to worsen with aging populations)
- ***Well-being and mental health as a structural issue***: Student mental health increasingly seen as a structural (not just individual) challenge for HE
- ***School Gate inequality***: Achievement gaps often emerge in early childhood, making early intervention central to research on tracking and disadvantage
- ***Longitudinal data on transitions***: Long-term data needed to show how social origin shapes placement in vocational or academic tracks
- ***Vocational-academic divide***: Examine why this divide persists and what it means for employability across countries

(García & Weiss, 2017; OECD, 2024; OECD, 2025a; Olczyk *et al.*, 2025; ...)

Modelling & explaining pathways in E&T and labour

(EDU-LAB WP1 **NEXT STEPS**)

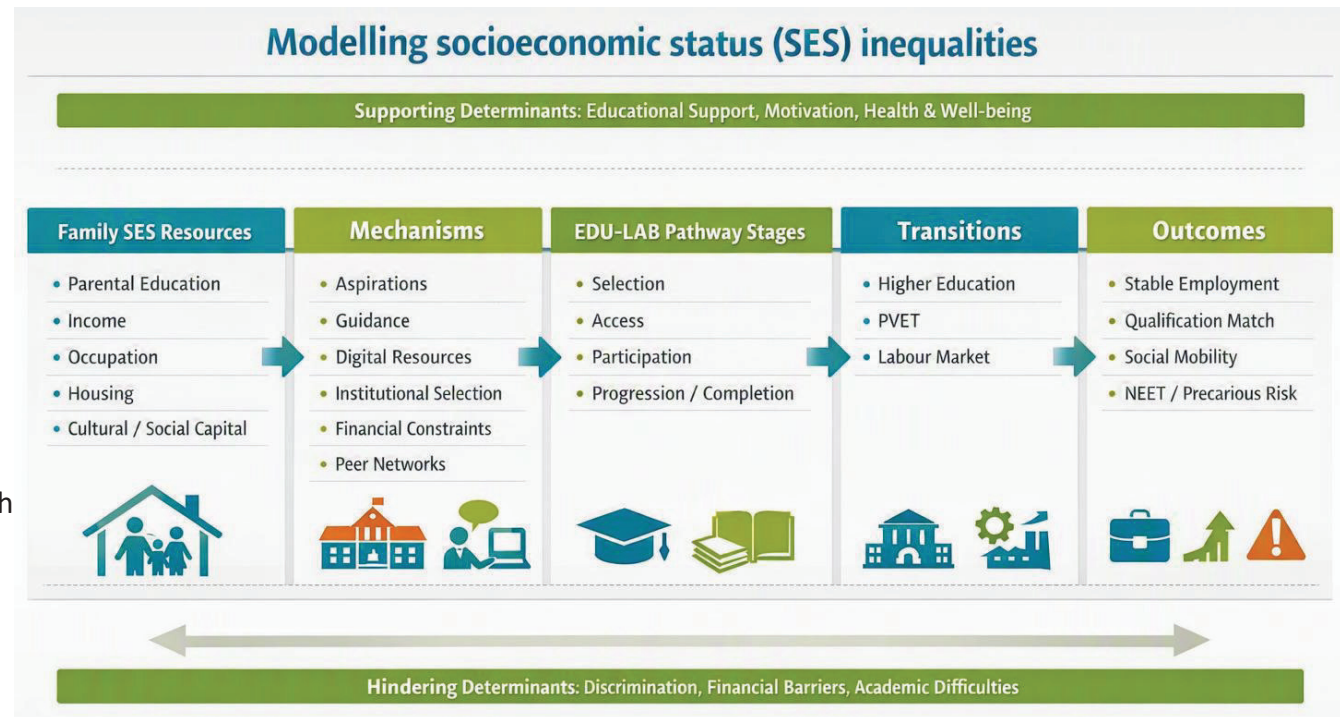


Modelling & explaining pathways in E&T and labour

(EDU-LAB WP1 **NEXT STEPS**)

To what extent and through which mechanisms does **socioeconomic status influence young people's educational and training pathways, transitions to higher education and PVET, and subsequent labour-market outcomes** in the EDU-LAB countries? → RQ1-RQ5

- Modelling school gate inequalities
- Modelling socioeconomic status (SES) inequalities
- Modelling mismatch between E&T achievements and labour force requirements
- Modelling digital competences and AI inequalities
- Modelling well-being and mental health issues/ inequalities
- Modelling effectiveness and efficiency of policy programmes



Modelling & explaining pathways in E&T and labour

(EDU-LAB WP1 **NEXT STEPS**)

Secondary data analysis: procedural options and exemplary implementation

Hypothesis	Possible datasets	Dependent variables	Independent variables	Controls / moderators	Statistical methods
H1 – Pathway selection	PISA, NEPS, EU-LFS ad hoc modules, national school-leaver surveys, administrative transition data where available	Choice of academic, vocational, general, PVET or labour-market-oriented pathway; intended further education; track placement	Parental education, parental occupation, household resources, ESCS or composite SES index, books at home, learning resources	Prior achievement, gender, migration background, language spoken at home, region, school type, country, urban/rural location	Descriptive cross-tabulations, logistic regression, multinomial logistic regression, multilevel modelling, decomposition analysis
H2 – Access	EUROSTUDENT, NEPS, PISA, national admission datasets, higher education administrative data, EU-SILC where income background is relevant	Access to selective or high-status programmes; enrolment in higher education; access to quality PVET; admission success; programme prestige	Parental education, income or income proxy, parental occupational status, financial constraints, information access, guidance use	Prior achievement, entrance qualification, field of study, institutional selectivity, country, region, school type, welfare support	Binary or ordered logistic regression, multinomial regression, propensity score matching where feasible, multilevel models
H3 – Participation and persistence	EUROSTUDENT, NEPS, PIAAC, national student surveys, administrative enrolment records, EU-LFS for work-study status	Interrupted participation, delayed progression, dropout intention, actual dropout, study intensity, work-study combination, attendance continuity	SES indicators, financial pressure, paid work intensity, learning resources, housing situation, guidance use, perceived support	Age, gender, migration background, field, study mode, institution type, health or well-being indicators where available, country	Logistic regression, event-history analysis, survival models, mediation analysis, multilevel models, panel fixed-effects models where data allow

Modelling & explaining pathways in E&T and labour

(EDU-LAB WP1 **NEXT STEPS**)

Hypothesis	Possible datasets	Dependent variables	Independent variables	Controls / moderators	Statistical methods
H4 – Completion	NEPS, EUROSTUDENT if completion proxies are available, EUROGRADUATE retrospectively, national administrative completion data, OECD/Eurostat indicators	Completion, non-completion, time-to-degree, delayed completion, qualification level attained, highest completed ISCED level	SES indicators, prior achievement, accumulated study conditions, employment during study, financial constraints, institutional support	Field, programme type, part-time/full-time status, age, gender, migration background, institution type, country and cohort	Logistic regression, Cox proportional hazards models, discrete-time event-history models, mediation analysis, multilevel models
H5 – Labour-market transition quality	EU-LFS, EUROGRADUATE, PIAAC, NEPS-ADIAB where accessible, national graduate tracking data, administrative employment records	Employment status, stable employment, temporary or precarious employment, unemployment, NEET status, income proxy, qualification match, occupational status	SES indicators, parental education and occupation, qualification level, field of study, prior work experience, social networks where available	Gender, migration background, region, sector, occupation, country, labour-market conditions, field of study, work experience	Logistic and multinomial regression, linear regression for earnings proxies, ordered logistic regression for occupational status, multilevel modelling, sequence analysis
H6 – Cumulative advantage	NEPS, NEPS-ADIAB, national longitudinal datasets, repeated PISA-linked trend indicators, administrative longitudinal data where available	Accumulated pathway advantage or disadvantage; number of successful transitions; timing of transitions; pathway stability; final attainment and employment state	Initial SES, early achievement, early pathway choice, access to support, prior transition success or failure	Cohort, gender, migration background, country or region, school type, institutional tracking, policy support	Sequence analysis, event-history analysis, growth-curve models, Markov/state-transition models, structural equation modelling, causal mediation analysis

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