

1. Discussion Note: Data and information gaps regarding educational pathways and transitions

One of the main goals of WP1 *“Modelling pathways and transitions in GE and PVET and to the labour market”* of the EDU-LAB project is to identify a *“Set of data and information gaps about educational pathways and transitions and intersectional determinants”*. To approach this goal, 20 identified available datasets were tested to what extent they cover 80 identified intersectional determinants and 32 identified transitions that may occur in E&T pathways and to the world of labour.

The 20 datasets investigated were selected according to their pan-European or multi-country focus to ensure alignment with the project’s broad geographical scope. Here are a few examples of datasets: ESJS (European Skills and Jobs Survey); EU-LFS (EU Labour Force Survey); EUROSTUDENT; PISA (Programme for International Student Assessment); TALIS (Teaching and Learning International Survey); VET in Europe; YAE (Youth and Adolescent Education Data).

The intersectional determinants just mentioned are the factors influencing E&T pathways including transitions within these pathways and to and from the world of labour. For better overview, these determinants are organized in the following four groups: General Selection containing determinants referring to procedures of selecting E&T pathways; Access containing determinants referring to issues of accessibility of E&T pathways; Participation containing determinants referring to issues of options to participate in E&T pathways; Progression and Completion containing determinants referring to going through and complete E&T pathways. A few examples of intersectional determinants are: high tuition fees; practice measures for study and career counselling; policy programmes fostering diversity, equity and inclusion; policy programmes supporting NEET applicants for transition to and inclusion in E&T programmes or the labour market; Covid-19 restrictions; limited access to educational resources; lack or low quality of Artificial Intelligence in education; the country’s low level of prosperity in terms of E&T and work.

The identified transitions within pathways and to and from the world of labour describe the larger steps in E&T and work. Again, a few examples will illustrate the nature of transitions in the present context: transition from Upper Secondary General Education (USGE) to General Education Bachelor (GEBA); transition from GEBA to General Education Master (GEMA); transition from GEMA to Doctoral Programme/ Doctorate (DOCP); transition to another country; transition to the labour market (e.g., to permanent/ temporary full-time employment, to permanent/ temporary part-time employment, to unemployment); transition to inactivity with respect to employment and E&T (e.g., definitive drop-out, NEET).

From the analyses of the coverage of intersectional determinants and transitions by datasets, WP1 draws the following main conclusions and may suggest recommendations for education policy action:

- There are no serious deficiencies detectable so far regarding the methodological reliability of the datasets, so no recommendations can be made in this regard.
- The datasets investigated have restricted profiles with respect to the 7 types of secondary analysis (regression analysis; cross-sectional studies; cross-country comparison; trend analysis; panel/ progression studies; panel/ longitudinal progression studies; policy evaluation) (see Figure 1). More specifically, this means that no dataset investigated offers all 7 types of secondary analysis as usability options. For example, all 20 datasets offer regression analysis and cross-country comparison, 11 datasets offer progression studies, 7 datasets offer cross-sectional studies, 4 datasets offer trend analysis, 4 datasets offer policy evaluation, and no dataset offers longitudinal progression studies as methodological options. From this follows that for each dataset it can be recommended to extend it by 3 or 4 types of secondary analysis – if, and this is an important condition which must be checked, the full range of 7 types of secondary analysis is required and appropriate.

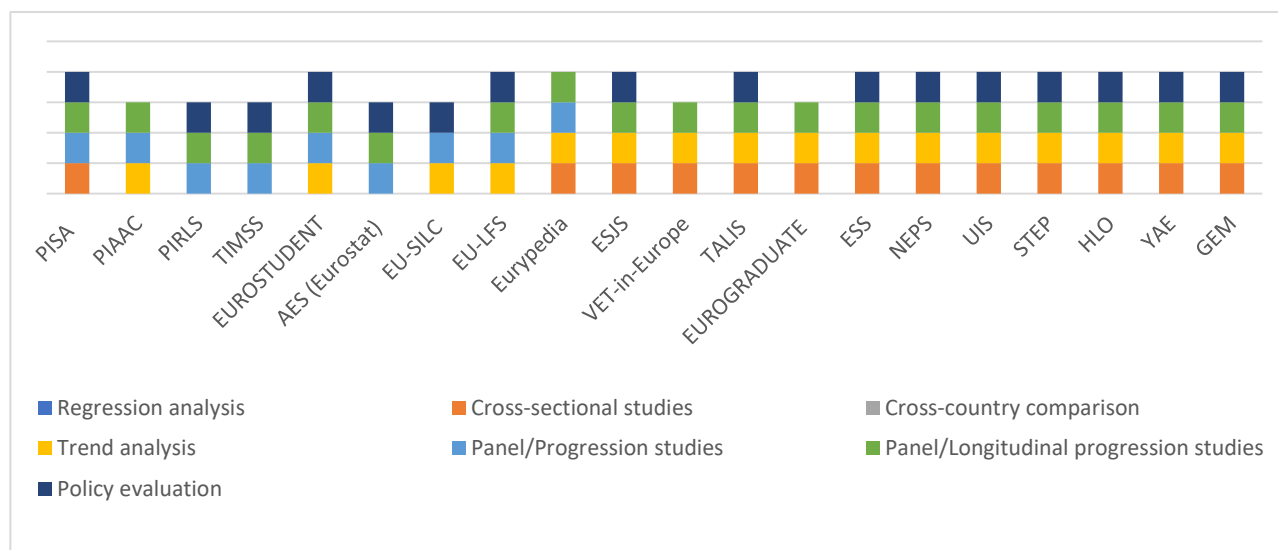


Figure 1: Profiles of datasets with respect to 7 types of secondary analysis

- As 65% of datasets investigated are not downloadable and 65% do not offer access to microdata for research, it can be recommended that the accessibility of certain datasets should be improved.
- Several “dataset gaps” are identified for determinants of Access, i.e., some datasets investigated do not sufficiently cover various Access determinants. A few examples of corresponding recommendations for supplementing certain datasets to fill these “dataset gaps” with respect to intersectional determinants of Access read:
 - Under Access determinant type 3 (Content-related entrance qualification)
 - One might supplement PISA¹ and/or PIRLS² and/or TIMSS³ and/or EUROSTUDENT⁴ and/or AES⁵ and/or EU-SILC⁶ and/or EU-LFS⁷ and/or ESJS⁸ and/or VET-in-Europe and/or TALIS⁹ and/or EUROGRADUATE¹⁰ and/or ESS¹¹ to cover AccDet 3.1 (Language literacy tests) (see Figure 2)
 - One might supplement PISA and/or PIRLS and/or EUROSTUDENT and/or AES and/or EU-SILC and/or EU-LFS and/or Eurypedia¹² and/or ESJS and/or VET-in-Europe and/or

¹ Programme for International Student Assessment

² Progress in International Reading Literacy Study

³ Trends in International Mathematics and Science Study

⁴ European Student Survey

⁵ Adult Education Survey

⁶ European Union Statistics on Income and Living Conditions

⁷ EU Labour Force Survey

⁸ European Skills and Jobs Survey

⁹ Teaching and Learning International Survey

¹⁰ EUROGRADUATE Pilot Survey

¹¹ European Social Survey

¹² Eurypedia - 38 educations systems in Europe

TALIS and/or EUROGRADUATE and/or ESS and/or UIS¹³ to cover AccDet 3.2 (MINT literacy tests) (see Figure 2)

- One might supplement PISA and/or PIRLS and/or TIMSS and/or EUROSTUDENT and/or AES and/or EU-SILC and/or EU-LFS and/or Eurypedia and/or ESJS and/or VET-in-Europe and/or TALIS and/or EUROGRADUATE and/or ESS and/or NEPS¹⁴ and/or UIS and/or STEP¹⁵ and/or HLO¹⁶ and/or YAE¹⁷ and/or GEM¹⁸ to cover AccDet 3.3 (Digitalisation and AI literacy tests) (see Figure 2)

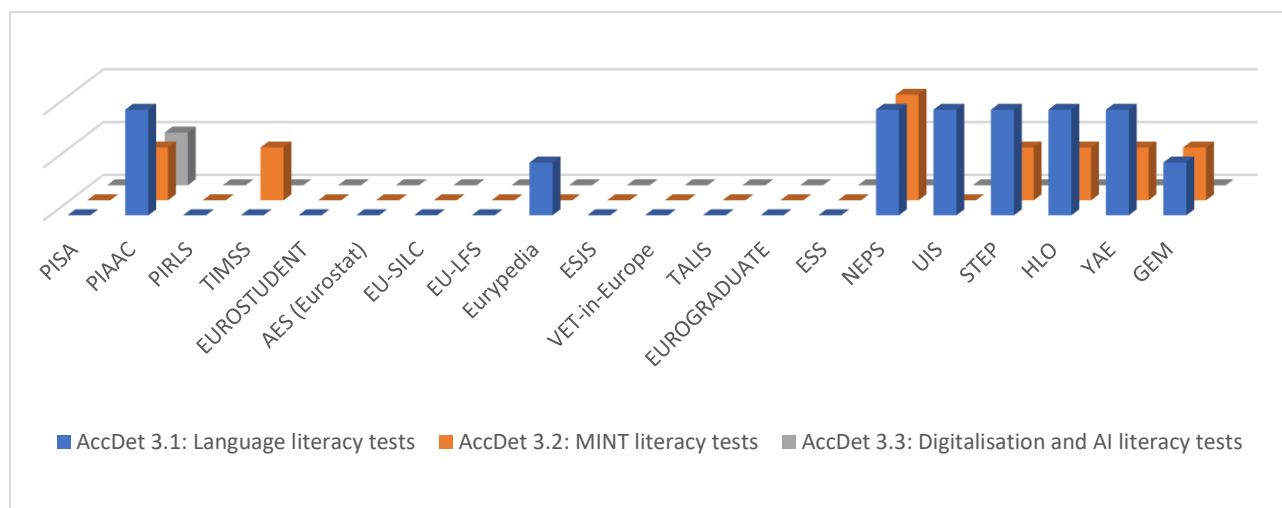


Figure 2: Datasets’ coverage of Access determinants – AccDet type 3: Content-related entrance qualification (GENERIC) (smaller bars = partial coverage; larger bars = full coverage)

- Under Access determinant type 4 (Practice measures and policy programmes for access support)
 - One might supplement PISA and/or PIAAC¹⁹ and/or PIRLS and/or TIMSS and/or EUROSTUDENT and/or AES and/or EU-SILC and/or EU-LFS and/or VET-in-Europe and/or TALIS and/or EUROGRADUATE and/or STEP and/or HLO and/or YAE to cover AccDet 4.2 (Fostering information and education in democracy and universal human rights)
 - One might supplement PIRLS and/or ESJS to cover AccDet 4.6 (Fostering diversity, equity and inclusion)
 - One might supplement PISA and/or PIAAC and/or PIRLS and/or TIMSS and/or EU-LFS and/or ESJS and/or EUROGRADUATE and/or ESS and/or UIS and/or STEP and/or HLO and/or YAE to cover AccDet 4.7 (Support for applicants with disabilities or chronic medical conditions)

¹³ NESCO Institute for Statistics Global Education Database

¹⁴ National Educational Panel Study

¹⁵ Skills Toward Employment and Productivity

¹⁶ Harmonized Learning Outcomes

¹⁷ Youth and Adolescent Education Data

¹⁸ Global Education Monitoring Report Core Dataset

¹⁹ Programme for the International Assessment of Adult Competencies

- One might supplement PISA and/or PIRLS and/or TIMSS and/or EU-SILC and/or ESJS and/or TALIS and/or EUROGRADUATE and/or ESS and/or UIS and/or HLO and/or YAE and/or GEM to cover AccDet 4.8 (Support for applicants with low or no educational qualifications)
- One might supplement PISA and/or PIRLS and/or TIMSS and/or EU-LFS and/or ESJS and/or TALIS and/or EUROGRADUATE to cover AccDet 4.9 (Support for applicants with low socioeconomic status)
- One might supplement PISA and/or PIRLS and/or TIMSS and/or EUROSTUDENT and/or Eurypedia and/or ESJS and/or TALIS and/or EUROGRADUATE and/or ESS and/or UIS and/or HLO and/or GEM to cover AccDet 4.10 (Support for NEET applicants for transition to and inclusion in E&T programmes or the labour market)

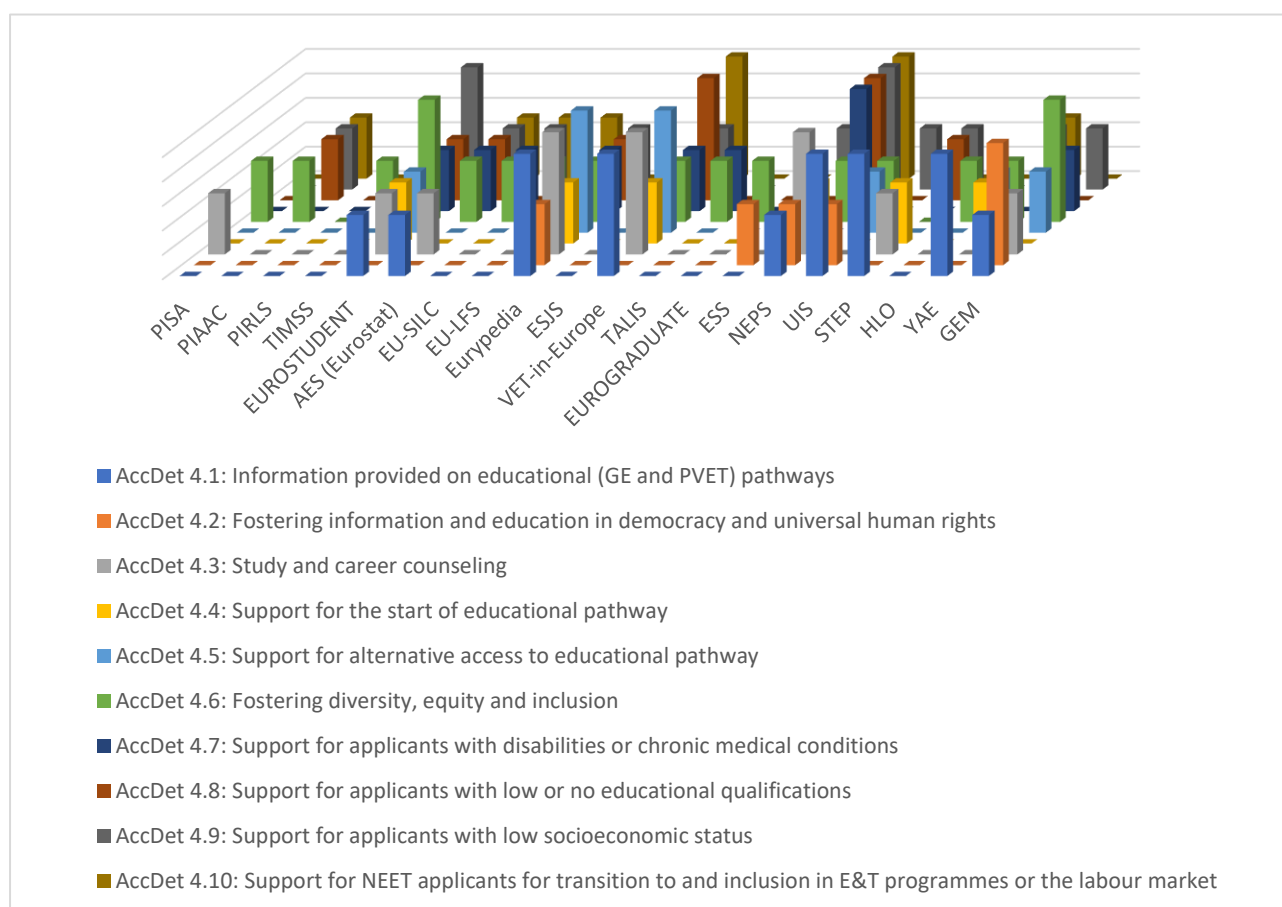


Figure 3: Datasets’ coverage of Access determinants – AccDet type 4: Practice measures for access support (GENERIC) (smaller bars = partial coverage; larger bars = full coverage)

- No evidence for needed amendments or extensions of the datasets investigated is given
 - With respect to determinants of Participation
 - With respect to Progression and Completion determinants of type 1 (Progression and completion delay because of deficiencies of learning and teaching processes)
 - With respect to Progression and Completion determinants of type 2 (Progression and completion delay because of deficiencies of learning and teaching resources)
 - With respect to Progression and Completion determinants of type 5 (Progression and completion delay because of pandemics)
 - With respect to Progression and Completion determinants of type 6 (Practice measures for progression and completion support)

- Several “dataset gaps” are identified for determinants of Progression and Completion, i.e., some datasets investigated do not sufficiently cover various Progression and Completion determinants. A few examples of corresponding recommendations for supplementing certain datasets to fill these “dataset gaps” with respect to intersectional determinants of Progression and Completion read:
 - Under Progression and Completion determinants of type 3 (Progression and completion delay because of socio-political and economic deficiencies)
 - One might supplement PIAAC and/or PIRLS and/or TIMSS and/or EUROSTUDENT and/or AES and/or EU-SILC and/or EU-LFS and/or Eurypedia and/or ESJS and/or VET-in-Europe and/or TALIS and/or NEPS and/or HLO to cover ProgCompDet 3.1 (Country’s low level of prosperity in terms of E&T and work) (see Figure 4a, 4b)
 - One might supplement PISA and/or PIAAC and/or PIRLS and/or TIMSS and/or EUROSTUDENT and/or AES and/or EU-SILC and/or EU-LFS and/or Eurypedia and/or ESJS and/or VET-in-Europe and/or TALIS and/or NEPS and/or UIS and/or HLO to cover ProgCompDet 3.2 (Lack or low quality of freedom of country) (see Figure 4a, 4b)
 - One might supplement PISA and/or PIAAC and/or PIRLS and/or TIMSS and/or EUROSTUDENT and/or AES and/or EU-SILC and/or EU-LFS and/or Eurypedia and/or ESJS and/or VET-in-Europe and/or TALIS and/or EUROGRADUATE and/or NEPS and/or UIS and/or STEP and/or HLO and/or YAE and/or GEM to cover ProgCompDet 3.3 (Failed state situation) (see Figure 4a, 4b)
 - One might supplement PISA and/or PIAAC and/or PIRLS and/or TIMSS and/or EUROSTUDENT and/or AES and/or EU-SILC and/or EU-LFS and/or Eurypedia and/or ESJS and/or VET-in-Europe and/or TALIS and/or EUROGRADUATE and/or NEPS and/or UIS and/or HLO and/or YAE and/or GEM to cover ProgCompDet 3.4 (War) (see Figure 4a, 4b)

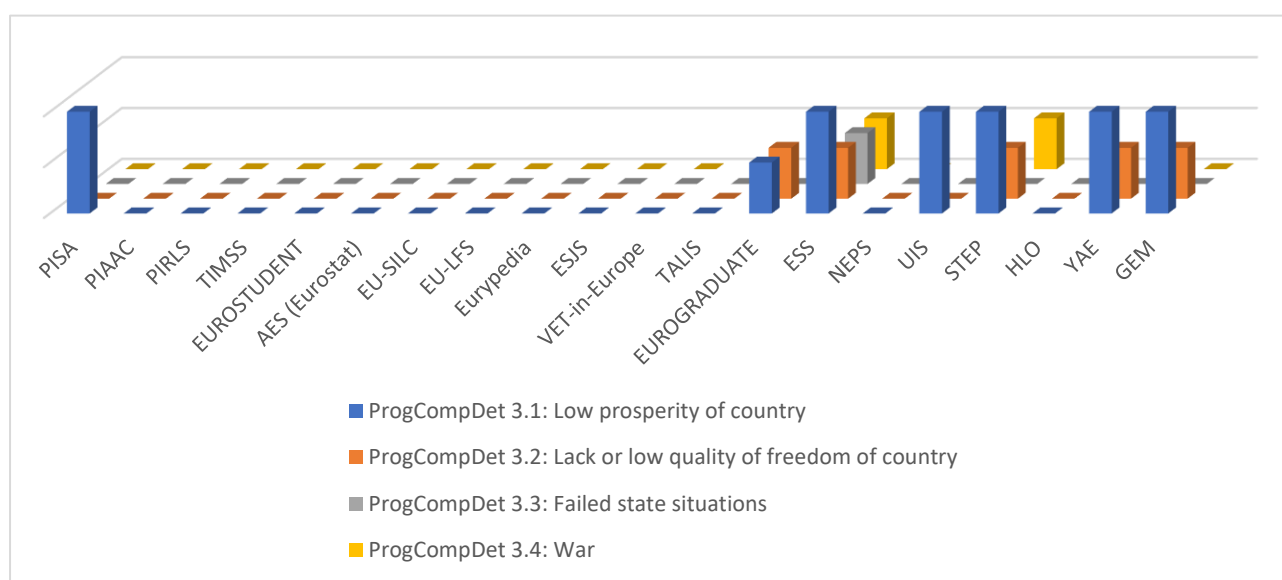


Figure 4a: Datasets’ coverage of Progression and Completion determinants – ProgCompDet type 3: Progression and completion delay, or discontinuation because of socio-political and economic deficiencies (COUNTRY- and REGION-SPECIFIC) (smaller bars = partial coverage; larger bars = full coverage)

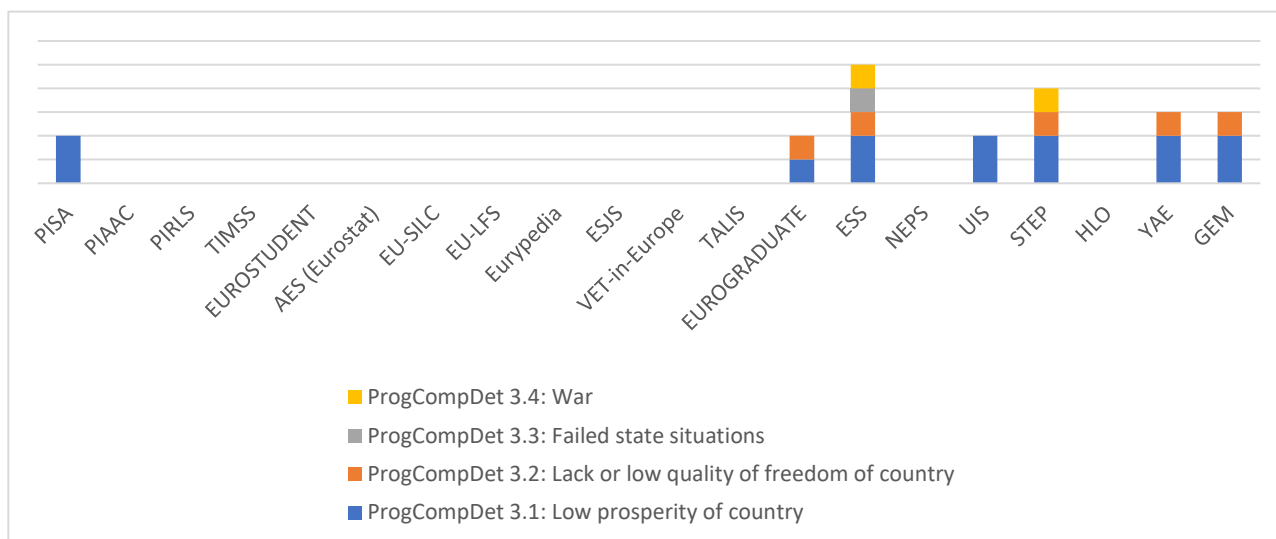


Figure 4b: Datasets’ coverage of Progression and Completion determinants – ProgCompDet type 3: Progression and completion delay, or discontinuation because of socio-political and economic deficiencies (COUNTRY- and REGION-SPECIFIC) (smaller bars = partial coverage; larger bars = full coverage; same data as Figure 4a)

- Under Progression and Completion determinants of type 4 (Progression and completion delay because of dis-satisfaction)
 - One might supplement PISA and/or PIAAC and/or PIRLS and/or TIMSS and/or AES and/or EU-SILC and/or Eurypedia and/or TALIS and/or UIS and/or HLO and/or YAE and/or GEM to cover ProgCompDet 4.1 (Dis-satisfaction with pathway)
 - One might supplement PISA and/or PIAAC and/or PIRLS and/or TIMSS and/or EUROSTUDENT and/or AES and/or EU-SILC and/or EU-LFS and/or Eurypedia and/or ESJS and/or TALIS and/or ESS and/or NEPS and/or UIS and/or HLO to cover ProgCompDet 4.2 (Lack of employment vacancies)

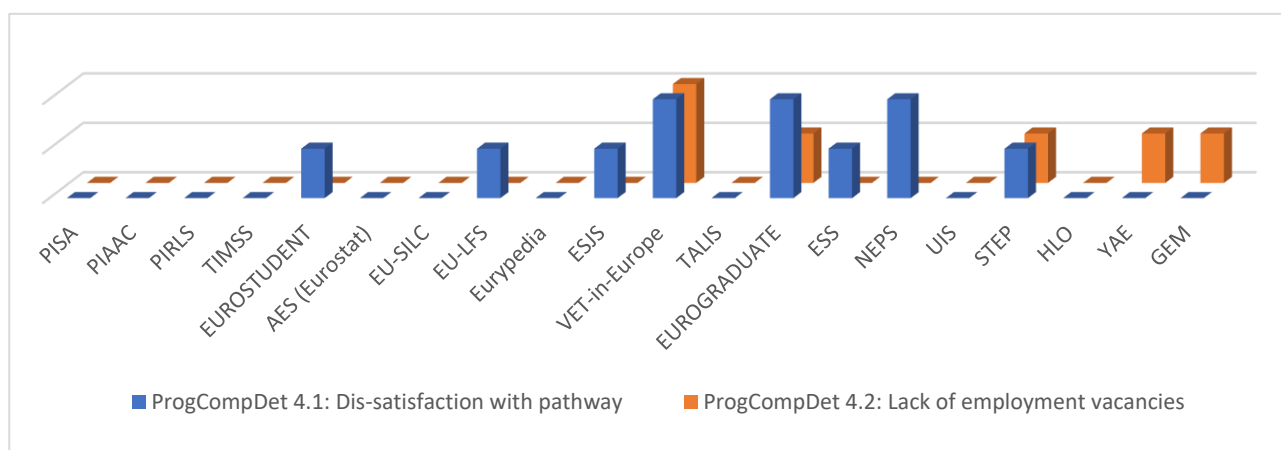


Figure 5: Datasets’ coverage of Progression and Completion determinants – ProgCompDet type 4: Progression and completion delay, or discontinuation because of dis-satisfaction (GENERIC) (smaller bars = partial coverage; larger bars = full coverage)

- It is shown that transitions within complex E&T systems (e.g., Germany), which are 24 in number, are not well covered by the 20 datasets investigated. Outstanding to the contrary is here VET-in-Europe which covers 12 out of these 24 transitions. As a “representative” model of E&T systems in the EEA is not currently available, deeper analysis is needed before recommendations can be given.
- It is shown that the coverage of transitions to, within and from the labour market is generally better than that of transitions within E&T systems, with Eurypedia and NEPS, for example, covering 7 out of 8 of these transitions. Accordingly, it may be recommended to supplement some other datasets to cover these transitions.
- From the overall analysis of transitions a priority list of 8 transitions can be suggested for secondary analysis. For each of these transitions, usable datasets and applicable types as well as topics of secondary analysis and research questions are suggested.

With all these suggestions and recommendations, it should be noted that changes or additions to datasets should only be made after a comprehensive review to determine whether the already available datasets are sufficient for the specific purposes of secondary data analysis and explanation.