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The transition to adulthood and pathways out of the parental home: A cross-national analysis

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ABSTRACT

This study uses the second Wave of the Generations and Gender Survey (GGS) to examine young adults' transition to adulthood in eight European countries (Austria, Bulgaria, Czech Republic, France, Georgia, Hungary, Lithuania, and the Netherlands). I use reconstructed life courses from age 18 to 34 (N = 21,696) to simultaneously study key life course trajectories employing multichannel sequence analysis. In doing so, I adopt a comparative framework which specifically addresses cross-national differences in young adults' life course trajectories and cross-national differences in the educational gradient of life course trajectories. The aim of this paper is to provide a holistic picture of young adults' different pathways out of the parental home and their transition to adulthood in contemporary Europe. The main results indicate that young adults' life course trajectories differ by education, country and sex, but also that the educational gradient is highly context-specific across European countries.

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1. Introduction

The transition to adulthood in contemporary Europe has become a well-established research field for family demographers (for a review see e.g., Buchmann & Kriesi, 2011; Pailhé et al., 2014). Socio-economic status and education have been found to be key factors in understanding variation in the transition to adulthood: Young adults growing up in families of higher socioeconomic status or have a high level of education themselves are more likely to pursue and invest in postsecondary education, and to postpone union and family formation, than lower educated young adults, for example (e.g., Furstenberg, 2008; Goldscheider & Goldscheider, 1999; Sobotka, 2008). It is not clear from the previous literature, however, if the relationship between education and young adults' life course trajectories is similar (or even universal) across European countries. A large body of research suggests, in fact, that striking differences across Europe exist with regard to the timing and sequencing of family events (Billari & Liefbroer, 2010; Blossfeld, Klijzing, Mills, & Kurz, 2006; Corijn & Klijzing, 2001; Sobotka & Toulemon, 2008). Little research, so far, has systematically addressed the transition to adulthood in Europe from a cross-national comparative perspective (cf. Lesnard, Cousteaux, Chanvriil, & Le Hay, 2016; Potârcă, Mills, & Lesnard, 2013) and explored how

different country contexts shape young adults' holistic life course trajectories. The large cross-national differences in family-life trajectories – underscoring the importance of the sociocultural, socioeconomic, and institutional context (such as labor markets and welfare systems, for example) for variation in young adults' transition to adulthood (Breen & Buchmann, 2002) – raise the question if the educational gradient in holistic life course trajectories differs across European countries.

In this article, I aim to provide a more comprehensive picture of the transition to adulthood of young adults in Europe, by addressing the following questions: *How do life course trajectories of men and women differ across countries? And how does the educational gradient of life course trajectories differ across European countries?* Using data from the second Wave of the GGS (Vikat et al., 2007) for eight European countries (Austria, Bulgaria, Czech Republic, France, Georgia, Hungary, Lithuania, and the Netherlands), I apply multichannel sequence analysis to simultaneously study a complex set of life-course trajectories for young adults aged 18–34, based on sequences of residential, partnership, parental and employment histories.

This article makes four contributions to the literature on the transition to adulthood in Europe. First, taking a cross-national comparative perspective is particularly relevant, in light of the

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strong regional patterns that have been shown by a series of major comparative studies (see e.g., Billari & Liefbroer, 2010; Corijn & Klijzing, 2001). Differences in young adults' transition to adulthood are also attributable to how culture, social policies, welfare arrangements, and labor markets shape (1) the trajectories of young adults' lives and (2) the association between individual level variables (e.g., education) and the transition to adulthood. The latter point is specifically addressed by examining the cross-national differences in the educational gradient of young adults' life course trajectories among Western and Eastern European countries. If we want to understand the impact specific country contexts (directly or indirectly) have on young adults' life courses, cross-national comparisons are important. Second, by taking a holistic perspective, a perspective that stresses the multidimensionality of the transition to adulthood, a more integral picture of young adults' life courses in Europe can be achieved. Studies that have sought to examine the transition to adulthood more comprehensively and more in line with an underlying life course conceptualization (i.e., from a holistic perspective) are still relatively scarce and such studies typically looked at single countries (Aassve, Billari, & Piccarreta, 2007 for Great Britain; Kleinepiper, Valk, & Van Gaalen, 2015 for Netherlands; Koelet, Valk, Glorieux, Laurijssen, & Willaert, 2015 for Belgium; Robette, 2010 for France; Sironi, Barban, & Impicciatore, 2015 for Italy and the US; but cf. Lesnard et al., 2016 for 20 European countries). Third, including both young men and women – and identifying their main life course trajectories – allows us to gain more insight into how individual characteristics (such as education, for example) can affect the transition to adulthood and how this differs between men and women. This approach is also essential for understanding interdependencies between work and family trajectories. And fourth, this study benefits from data on more recent cohorts – I analyzed data for cohorts born between 1951 and 1978 – and contributes to previous research by updating descriptions of the transition to adulthood in Europe.

2. The transition to adulthood from a life course perspective

A useful approach to understand the transition to adulthood is the life course perspective, which conceptualizes people's lives within the broader context of family, cultural and socio-structural conditions, and historical time (Elder, 1994; Giele & Elder, 1998). The life course perspective proposes that each person experiences a number of transitions or changes in statuses during their lives and that every life course is thus characterized by a sequence and combination of transitions, such as leaving the parental home, starting the first job, finding a partner and becoming a parent. Human agency is an important tenet within this perspective – and from this viewpoint variability in the transition to adulthood relates to individual differences in life course agency. There are also, however, normative patterns or social pathways regarding the timing (e.g., societies may have an informal age norm about the appropriate age to leave the parental home) and sequence of life events and transitions (e.g., education followed by starting employment followed by marriage followed by parenthood) which people tend to follow (Billari & Liefbroer, 2010; Elder, Johnson, & Crosnoe, 2003; Liefbroer & Dykstra, 2000). These social pathways are not only shaped by normative prescriptions but may have also been institutionalized and encoded as formal rules and laws (e.g., compulsory time spent in education). Life course demographers suggest that normative prescriptions such as age norms vary not only across historical time and across societies, but also by gender, race, ethnicity, and social class within a given time and society (e.g., Billari & Liefbroer, 2010). Finally, the life course perspective holds that life course transitions – and in turn the specific long-term pattern of the timing (i.e., *when* different transitions occur),

sequencing and quantum (i.e., *in what order* and *how many* different transitions occur) of life course events – are always embedded in trajectories. Because individuals live their lives in multiple spheres, their lives are made up of multiple, intersecting trajectories – such as educational trajectories, family-life trajectories, and work trajectories (Blossfeld et al., 2006). It is clear from these principles that the life course perspective is holistic in its conceptualization of young adults' lives and their transition to adulthood and family demographers have become increasingly aware of the challenges of incorporating the complexity of in young adults' life courses in empirical research. Billari (2001a, 2001b) was among the first to argue that the transition to adulthood is a result of young adults' agency and strategic life planning, and thus a meaningful composition as a whole. Consequently, this approach looks on the entire life course rather than on single events of the transition to adulthood.

2.1. Diversity in life course trajectories by education

Educational attainment and time spent in education are important determinants of life course trajectories and the transition to adulthood (Blossfeld et al., 2006; Corijn & Klijzing, 2001). Having a high educational attainment implies longer time spent in education and has substantial impact on the timing of union formation and parenthood, because young adults are usually not (fully) economically independent when being in school or studying and rely at least to some extent on their parents' financial support (Piccarreta & Billari, 2007). Educational attainment thus determines not only the swiftness of young adults' entry into the labor market and finding a job, but also the transition to marriage and parenthood. The delay in family formation may not only be due to economic and time constraints, but also to role incompatibilities. Blossfeld and Huinink (1991) have argued that the student role is seen as incompatible with union and family formation because the normative expectations about life course sequencing suggest that it is necessary to finish one's studies and get a job before having family. This relationship may depend on the institutional context, as public policy can provide childcare opportunities and financial support to students that make childbearing more compatible with student status. Among young adults with a higher level of educational attainment cohabitation and marriage are generally more stable and the risk of divorce is considerably lower. Conversely less educated, and somewhat less advantaged, young adults are more likely to cohabit in response to unplanned parenthood, which could lead to later family instability (Furstenberg, 2008). Finally, young adults with a high educational level tend to reach housing autonomy earlier, without directly making the transition to living with a partner (Blaauboer & Mulder, 2010). To summarize, I expect that, overall, young adults with a higher level of education are more likely to adopt life course trajectories characterized by slightly delayed but easy entry into the labor market (due to longer time spent in education), a low prevalence of unemployment, periods of single living or cohabitation before marriage and childbearing (H1).

2.2. Socioeconomic, institutional and normative country context

Significant differences exist across Europe with regard to, for example, the timing and sequencing of family events (Billari & Liefbroer, 2010; Blossfeld et al., 2006; Corijn & Klijzing, 2001; Sobotka & Toulemon, 2008). These differences highlight the relevance of the country context for the transition to adulthood – particularly a country's socioeconomic, institutional and normative settings. The first explanation (*socioeconomic settings*) relates to the way national income and wealth distribution, labor markets and levels of (youth) unemployment facilitate or impede

young adults' life course trajectories. Leaving the parental home, for example, depends on young adults' resources which in turn depend on employment opportunities. Economic uncertainty has also been shown to postpone partnership and family formation, a case in point are the rapid socioeconomic changes in Eastern Europe in the 1990s (e.g., Blossfeld et al., 2006). The second explanation (*institutional settings*) relates to the way educational practices, tax and family laws, welfare and housing policies, as well as child support guidelines are designed, and in turn affect young adults' life course trajectories. As Brzinsky-Fay (2007) has pointed out, it is sometimes difficult to disentangle exactly how institutions affect life course trajectories, but we could think about how institutional settings influence the complexity (i.e., diversity of trajectories) and turbulence (i.e., time spent in life course states and number of changes between different life course states) in life course trajectories. In liberal or social-democratic regimes, for example, comparatively much support is provided to young adults through transfers and family policies and the de-standardization and individualization in life course trajectories are more advanced. Conversely, familistic regimes, where welfare support is very weak, highly fragmented and a reliance of the family as the source of support is observable, show a greater postponement of the transition to adulthood (Esping-Andersen, 1990; Ferrera, 1996). Finally, in post-socialist welfare regimes – and as a result of a very rapid transition the early 1990s – there is a mix of features of the former socialist system of welfare policy (e.g., broad welfare coverage but with low benefits) and reforms inspired by Western countries (e.g., shift from closed to open employment). This seems to have led to partly contradictory trends regarding family development and, by comparison, the most dynamic patterns in the transition to adulthood among younger cohorts (Blossfeld et al., 2006; Sobotka & Toulemon, 2008).

The third explanation considers that differences in the transition to adulthood may derive from the variation in cultural contexts (*normative settings*) that generates diverse behavioral adaptation and timing of events (Vogel, 2002). Normative expectations about timing and organizing their life course, cultural roles of cohabitation and family living, as well as kinship traditions are shared by members of a society, are transmitted from parents to their children, and form the basis upon which the decisions about life course events are made. In countries with strong kinship ties young adults owe their allegiance to kin, and leaving home still is a much more protracted process and there is a smaller proportion of young people living on their own. In countries with weak kinship ties, however, a stronger individualistic culture, placing greater emphasis on individualistic relationships, abounds and young adults leave the parental home at a relatively young age (Reher, 1998). In addition, alternative family forms (such as unmarried cohabitation, non-marital parenthood, lone parenthood etc.) have spread very differently – for example, changes in demographic behavior occurred, later in Southern and Eastern Europe than in Northern and Western Europe (Fokkema & Liefbroer, 2008) – across the countries with different normative settings in Europe.

To summarize, different socioeconomic, institutional and normative settings preserve differences in the transition to adulthood between European countries. But what differences can we expect in young adults' life course trajectories among the eight Western and Eastern European countries (Austria, France, the Netherlands, Bulgaria, Czech Republic, Georgia, Hungary, and Lithuania)? First, I would loosely classify Austria, France, and the Netherlands as (more) social-democratic regimes with weaker kinship ties, where economic uncertainty is smaller; and Bulgaria, Czech Republic, Georgia, Hungary, and Lithuania as (more) familistic regimes with stronger kinship ties, where economic uncertainty is higher. Obviously, these groups are not necessarily

homogenous, but the grouping is fairly consistent with the existing literature (e.g., Iacovou, 2010). Second, I assume that the distribution and of life course trajectories varies across countries. While I expect that all countries will have a share of different life course trajectories, I also expect that young adults in Western European countries (like Austria, France, and the Netherlands) are more likely to exhibit life course trajectories characterized by longer time spent in education, later residential independence and later partnership and family formation, as well as higher shares of cohabitation and single living. Young adults in Eastern European countries (like Bulgaria, Czech Republic, Georgia, Hungary, and Lithuania), however, are more likely to exhibit life course trajectories characterized by early partnership formation (particularly marriage) and childbearing upon leaving the parental home, but not necessarily early home-leaving; slightly later entry into the labor market and longer spells of unemployment (H2).

Furthermore, based on the idea of links between life course events and socioeconomic, institutional and normative settings, I expect that the effect of education is context-specific. This is because countries differ in the degree to which employment and housing insecurities exist and are mitigated by the institutional setting, which in turn affect the returns of education (particularly the value of higher education for job security) for young adults. Kalmijn (2013) showed that the association between education and employment differs across countries: educational differences in employment are relatively small in Northern and Southern Europe, larger in Western European countries, and largest in Eastern Europe. Furthermore, countries differ not in the degree to which “family is done” – specifically how different educational groups are affected by institutional and normative settings in making decisions about (family) life course events. For example, highly educated women are more likely to delay childbearing in conservative welfare regimes, such as Germany and Spain, due to the structural role incomparability between work and family trajectories (Blossfeld et al., 2006). Also, realizing specific and more uncommon life course trajectories (e.g., living independently before partnership) in specific contexts may require extra resources (such as high levels of education) and will thus not equally exhibited by all educational groups. Taken together, education has a different weight across countries (and their specific socioeconomic, institutional and normative settings), which in turn affects how young adults with different levels of education follow life course trajectories.

In Western European countries, the differences in life course trajectories between higher and lower educated young adults are expected to be less evident and fewer—because, on the one hand, disadvantages of a low educational level (e.g., difficult labor market entry and weaker economic prospects) are mitigated by the country context. On the other hand, the normative setting is such that there is a greater acceptability of different family life course trajectories (e.g., living independently before partnership and family formation, childbearing outside of marriage), which in turn reduces the edge a high level of education has (e.g., in terms of human capital and resources) to realize more unconventional life course trajectories. Conversely, the differences in life course trajectories between higher and lower educated young adults are expected to be more evident in Eastern European countries. Here the socioeconomic, institutional, and normative settings are such that young adults with a high level of education are in a better position to realize a greater variety of life course trajectories (H3).

2.3. Diversity in life course trajectories among men and women

Although men's and women's work and educational pathways in the transition to adulthood have become more similar during the last decades, life course trajectories of men and women are still

crucially different: Research results indicate that young men make transitions later than women and that their life course trajectories are more rigidly structured, with fewer discontinuities, than women's—likely due to women being more involved in the family domain. Men's lives are still more firmly rooted in domains outside the family, such as employment (Moen, 2001; Williams & Umberson, 2004). The differences between men and women seem to be related to highly gendered, normative views on the organization of the life course which in turn are reflected in actual behavior. Men and women are expected to fill specific gender roles and the salience, sequencing and age-grading of specific life course events, as well as the transition to adulthood as a whole, are consequently different between men and women. Because of the changes in women's lives over the past several decades—particularly the expansion in higher education, changing of traditional gender roles, and increasing focus on gender equality in Europe—it has generally been assumed that the life course trajectories of men and women tend to converge. The research findings on whether such a convergence indeed takes place are mixed. Examining French data, Morand and Toulemon (2009) demonstrated that men's and women's life course trajectories have started to become more similar, but this may be more attributable to women's educational and employment patterns moving closer to men's, and not because men have become more involved in the family domain. Others showed that differences in the transition to adulthood between men and women are largely owed to the timing of marriage and having children outside the context of marriage (Oesterle, David Hawkins, Hill, & Bailey, 2010; Winkler-Dworak & Toulemon, 2007). It is noteworthy that, while there seems to be at least small homogenizing effects of longer educational participation on men and women's life courses, differences in life course trajectories between men and women are likely to be context-specific, too. Thus, gender differences are likely to exist between all educational groups across countries, but given specific settings may be more pronounced among the medium and lower educated, but not necessarily among the highly educated.

Gender differences in the timing of marriage and combining of marriage and parenting responsibilities are likely to have important implications for men's and women's transitions to adulthood, but only few studies of multidimensional pathways to adulthood have examined differences between men and women (e.g., Fussell, Gauthier, & Evans, 2007; Robette, 2010). These studies have left an incomplete understanding of how contemporary young men's and women's transitions to adulthood differ across Europe. Because of the gendered differences in the transition to adulthood, I expect that women differ from men particularly in their involvement in higher education and participation in paid employment outside the home, and in the combination with partnership and family formation (H4).

2.4. Cohort differences in the transition to adulthood

Life course research has shown that the transition to adulthood has changed considerably between birth cohorts from the 1960s onwards in most European countries (e.g., Billari & Liefbroer, 2010; Blossfeld et al., 2006; Breen & Buchmann, 2002; Corijn & Klijzing, 2001; Elzinga & Liefbroer, 2007; Settersten, Furstenberg, & Rumbaut, 2005): the life trajectories of young adults have become de-institutionalized, de-standardized, and generally more diverse. Put differently, there is a now a higher complexity and wider variety in young adults' life course trajectories because the sequencing, quantum, and timing of life course events have adapted to structural (e.g., the expansion of (higher) education) and cultural changes (e.g., life course events are less strongly linked to normative age deadlines) (Blossfeld et al., 2006; Brueckner &

Mayer, 2005). Notably, these general changes in the transition to adulthood in Europe have not resulted in a convergence of young adults' life course trajectories, despite successive shifts in the level of education. A different educational composition across cohorts and countries may very well be driving differences in young adults' transition to adulthood—because higher expansion has not expanded equally with some countries consequently lagging behind in the diffusion of more uncommon or innovative life course trajectories (Billari & Liefbroer, 2010). Yet, there is no indication that such composition effects completely override the influence of education on the transition to adulthood, the educational gradient, or the country-context as a whole. My main interest does not lie with assessing change in young adults' life course trajectories over cohorts, but with analyzing differences and across educational groups. Because cohort is an important variable, however, it will be included as a control.

3. Data and sample selection

The data for this study come from the second Wave of the Generations and Gender Survey (GGS), an internationally comparable and harmonized set of survey data (United Nations, 2005). A particular advantage of the GGS data for the purpose of this analysis is that they include a broad range of Western and Eastern European countries which allows studying contemporary Europe and that it contains retrospective histories of the transition out of the parental home, the partnership and childbearing histories, and the occupational careers of both men and women, making it possible to construct their life course trajectories. Each national survey has a sample size of about 10,000 individuals aged from 18 to 79 years of the non-institutionalized resident population in each participating country. For this paper, I selected eight Eastern and Western European countries: Austria (N=2382) Bulgaria (N=3805), Czech Republic (N=1187), France (N=2798), Georgia (N=3553), Hungary (N=4032), Lithuania (N=921), and the Netherlands (N=3018).¹ The eight samples were pooled into one dataset (N=21,696) to enable statistical comparison between countries.

3.1. Measuring the Life Course Trajectories

In order to study trajectories that cover most of young adulthood, I selected respondents who were between 35 and 55 years old at the date of interview (i.e., 2006–2013) and reconstructed their life courses (i.e., leaving the parental home, being in a partnership, having a child, and having a job) between the ages 18 and 34. More specifically, I created a complete *monthly*² sequence between the ages of 18 and 34 for each respondent, leading to a trajectory of 204 consecutive statuses, which served as the input for the subsequent sequence analysis. In order to simultaneously analyze different life course domains, I applied multichannel sequence analysis (Pollock, 2007; Gauthier, Widmer, Bucher, & Notredame, 2010), in which I distinguished between (1) events related to the *family domain* and (2) events related to the *working domain*. This modeling strategy is particularly satisfying vis-à-vis the multidimensionality of young adults' life course

¹ I excluded Germany from the analysis because of the poor re-interview rate and the unreliability of the partnership and fertility histories, and consequent underreporting of first births (For a detailed analysis of the German GGS data see also Kreyenfeld, Hornung, & Kubisch, 2013; Ruckdeschel, Sauer, & Naderi, 2016).

² The month of birth of the respondents is not available due to data protection. Therefore, a uniformly distributed random variable was used to create this variable. Similarly, if monthly information was missing for any life course events, it was imputed with a uniformly distributed random variable. The imputed values were corrected for negative durations.

Table 1

Average duration in each life course state by cluster (years).

Clusters	%	Family domain						Working domain					
		Single in the parental home	Single	Single + child	Cohabiting	Cohabiting + child	Married in the parental home	Married in the parental home + child	Married	Married + child	Student	Inactive	Employment
ModInd	28.3	3.08	0.30	0.29	2.90	0.15	0.97	0.28	1.63	7.39	2.12	0.07	14.82
LateHL	20.2	7.25	0.87	1.35	1.27	0.07	1.72	1.61	2.50	0.35	1.49	0.16	15.35
LateInd	15.3	2.54	0.00	0.00	13.19	0.17	0.53	0.09	0.26	0.22	3.15	0.06	13.78
TradTrans	13.9	1.24	0.24	0.13	0.75	0.03	0.16	0.04	0.93	13.48	0.54	0.32	16.14
CohJob	10.9	2.53	0.00	0.05	3.48	10.31	0.00	0.45	0.00	0.17	1.78	0.23	14.99
CohEd	6.6	4.44	0.37	0.35	3.53	1.08	0.66	0.34	2.26	3.98	15.91	0.08	1.00
SlowIn	4.8	3.09	0.41	0.36	2.28	1.70	0.35	0.66	1.39	6.77	0.11	14.04	2.85

Own calculations.

Source: GGS Wave 2 (2006–2013).

trajectories, as well as established in research practice (e.g., Madero-Cabib & Fasang, 2016; McMunn et al., 2015).

In the family domain, I included the following dimensions: *residential* (living in or outside the parental home), *partnership* (being single, cohabiting, or married),³ and *parental* (not having a child or having a child). These dimensions theoretically lead to 12 ($2 \times 3 \times 2$) cross-combinations of different family states. For the empirical analysis, however, I collapsed those cross-combinations of different family states that were only observed infrequently in the sample (below 1.05%), meaning that only 9 of the possible states were considered. See Table A1 in the Appendix A for details. In the working domain, I distinguished between being a student, inactive, and being in employment.⁴ Note that distinguishing between more states, for example number of children in the parental dimension, complicates the analysis as each additional distinction introduces another sequence state, but I am also mainly interested in first transitions (e.g., the first birth) and do not consider their possible reversibility.

Because the data are pooled from multiple countries, I use sampling weights in this analysis (particularly in the computation of transitions rates and cluster analysis) in order to correct for imperfections in the sample that might otherwise lead to bias. More specifically, I use weights that are adjusted for sex and country. Using these adjusted sampling weights is particularly suitable for making comparisons between men and women across the different countries in the sample.

3.2. Measures

To study country and social differentials in life course trajectories, I included a number of characteristics: country, educational level, and cohort. *Country*. Eight dummy variables were constructed with France as the reference category. *Educational level*. Education was categorized following the International Standard Classification of Education (ISCED). I differentiated between three educational levels and created three dummy variables which range between: low (ISCED levels 0, 1 and 2), medium (ISCED 3 and 4) and high (ISCED 5 and 6). *Cohort*. I included three recent birth cohorts: 1951–1959 (cohort 1), 1960–1969 (cohort 2), and 1970–1978 (cohort 3). *Sex*. Two dummy variables were constructed with women as the reference category.

³ Young adults who were not in a cohabiting relationship or marriage were considered as single. Thus, the category single includes other relationship forms such as living apart together.

⁴ Note that for simplicity (1) respondents are defined as working if they are in part-time or full-time employment, paid job training or in paid self-employment and (2) the category inactive comprises of all other activities related to the labor market.

3.3. Analytical methods

The analytical design of this study uses three analytical methods: (1) multichannel sequence analysis, (2) cluster analysis, and (3) multinomial logistic regression. First, young adults' multiple life course trajectories are described via Optimal Matching (OM), a dissimilarity measure adapted to sequence data. Dissimilarity between two sequences is defined as the least weighted number of transformations that are necessary to make them identical. Each of the three kinds of transformations used in OM (insertion, deletion and substitution) is given a cost and the total minimum cost to match two sequences is used as a measure of their dissimilarity (Abbott & Tsay, 2000). There is no definitive rule how to best define the transformation costs ex ante, which is why I follow the common research practice to use data-driven transformation costs (Aassve et al., 2007; Billari & Piccarreta, 2005). In this way, the transformation costs are inversely proportional to the estimated probability of transition between the two states. This means that the transformation costs are higher if there are fewer transitions between states. The *indel* (insertion and deletion) costs were set to 1, which is comparatively low, but allows focusing more on the order of specific life course events rather than their length. Note that a single dissimilarity matrix is computed for both of the domains (channels) by locally aligning distinct life course trajectories simultaneously and then summing up the distances in the family and work domain.

Second, the final dissimilarity matrix obtained via OM is further used in a hierarchical cluster analysis to create distinct groups of life course trajectories. In order to create groups of life course trajectories, I apply hierarchical agglomerative clustering, using the Ward algorithm.⁵ The final number of clusters is based on a dendrogram (see also Fig. A1 in the Appendix A) and on quality measures for cluster solutions. choose a seven-cluster typology which is reasonably stable and identifies structures that do not seem to be a statistical artefact.

Third, the seven identified clusters become categories of the outcome variable in multinomial logistic regression models. The cluster of reference is the one with a fairly traditional life course trajectory – Cluster 4 – where young adults leave the parental home early and enter employment, and start partnership and family formation early. As explanatory variables in the model, I include birth cohort and sex, and the key variables of country and education. I also interact education with country and birth cohort to test educational gradients across countries and the change in these gradients over time.

⁵ All calculations were made using the “TraMineR” and “WeightedCluster” packages in R (Gabadinho, Ritschard, Mueller, & Studer, 2011; Studer, 2013).

Table 2
Medoid sequence of the clusters of pathways to adulthood (average ages).

Clusters	Family domain					Working domain		
	Residential trajectory	Partnership trajectory			Parental trajectory	Occupational trajectory		
	Leaving home	Single	Cohabiting	Married	First child	Student	Inactive	Employment
ModInd	21.5	18–24	–	25	26	18–19	–	20–34
LateHL	–	–	–	–	–	18	–	19–34
LateInd	20	18–30	31	–	–	20	–	21–34
TradTrans	20	18–19	–	20	21	–	–	18–34
CohJob	20	18–34	–	–	23	18	–	19–34
CohEd	25	18–24	–	25	27	18–34	–	–
SlowIn	20	18–19	20	–	20	–	18–34	–

Own calculations.

Source: GGS Wave 2 (2006–2013).

4. Results

4.1. Sequence and cluster analysis results

The multidimensional sequence analysis examined if there are similar trajectories in the transition to adulthood among young adults from eight European countries, taking into account their residential, partnership, parental, and employment trajectories. Tables 1 and 2 provide a first description of the seven different clusters based on the average time spent in each family and work state and the medoid sequences.⁶ In addition, Table 3 shows the cluster distribution by country, sex and education. The Appendix A provides information of the seven different clusters (Fig. A2).

The seven clusters represent the following life course typologies: (1) *Modern and Independent 'ModInd'*. This is the largest cluster in the sample (28.3%). Young adults in this cluster start employment early, but stay with their parents longer (until their early twenties) before they leave the parental home. They do not necessarily move out to marry—they also stay single or cohabit. The medoid sequence represents a young adult who marries at age 25 and has the first child at a year later. (2) *Late Home Leavers 'LateHL'* (20.2%). This cluster is composed of young adults who continue to live in the parental home for a relatively long time (on average until age 25). The medoid sequence represents a young adult who starts working at age 19, does neither cohabit or marry and stays childless in the parental home until age 35. Generally, many young adults will have left the parental home eventually by age 35 and be married (19.4%) or married and had a child (15.3%). It is noteworthy, however, that around a quarter of young adults in this cluster live together with spouse and child in the parental home. (3) *Late Transitions and Independence 'LateInd'* (15.3%). The transition to adulthood for this cluster is slightly delayed, not so much with respect to leaving the parental home and employment career, but particularly with respect to partnership and family formation. By age 35, more than two thirds of all young adults in this cluster are cohabiting and about 18% will have had a first child. Interestingly, young adults in this cluster generally more often cohabit with a partner than their counterparts in the other clusters and childbearing also frequently occurs outside of marriage. (4) *Traditional Transitions 'TradTrans'* (13.9%). Young adults in this group follow a more traditional pattern, e.g., young adults complete their education, start working, marry and then relatively soon have a first child. The medoid sequence represents a young adult who starts working at 18 (while still living in the parental

home), leaves the parental home at age 20 to marry, before having a child almost a year later. Almost all young adults in this cluster experience both marriage and parenthood. (5) *Cohabiting with a Job 'CohJob'* (10.9%). Young adults generally stay briefly in education and enter the labor market comparatively early, around age 19. They leave their parents shortly after (at age 20), but they usually do not do it to marry. The medoid sequence represents a young adult, who leaves the parental home at 20, and as a single has a child at age 23. By age 35 the majority of the young adults in this cluster (about 81%) are cohabiting and have had a first child. (6) *Cohabiting with education 'CohEd'* (6.6%). This cluster identifies young adults who leave the parental home at a somewhat lower pace (in their early twenties) and start their couple and family formation rather slowly, too. This delay in the transition to adulthood could arguably be due to young adults waiting until they complete education, and they finish later than others. At age 35, only 38.3% of all young adults in this cluster had taken up employment. (7) *Slow Transitions with Inactivity 'SlowIn'* (4.8%). The young adults in this cluster exit education early, but they leave the parental home at a somewhat slower pace (at age 21 on average and at age 35 11.7% still live with their parents) and rarely enter the labor market. They stay inactive for long periods in their life course, only after age 30 more and more young adults start working. At age 35, 41.5% of all young adults in this cluster were working. If they leave the parental home, the young adults in this cluster, they find a partner, marry, and have children early.

Table 3 gives some first indications to differential cluster distribution between (1) educational groups, (2) countries, and (3) men and women. First, young adults with a high level of education are more prevalent in clusters postponing family formation and residential independence ('ModInd', 'LateHL', and 'LateInd'). For them, a long period of educational enrolment seems to be associated with a late entry into partnership and parenthood. A late exit from the parental home, however, also concerns about 42.3% young adults with a low level of education. Second, the two clusters 'CohEd' and 'SlowIn' are generally more prevalent in the Eastern European countries; but the cluster 'CohEd', where young adults remain single longer, due in part to longer time spent in education, and where cohabitation is more of an alternative to marriage, is also prevalent in the Netherlands. Overall, young adults from Western European countries and Lithuania are much more concentrated in the clusters 'ModInd', 'LateHL', and 'LateInd' – between 70% and 75.6%. Third, men are more likely to be classified as 'ModInd' (32.4% vs 25.2%) or 'LateHL' (25% vs 16.8%). Not quite unexpectedly, women's share in the 'TradTrans' and 'CohJob' clusters is higher than that of men – underlining the different timing of partnership and family formation. While women also mainly belong to clusters with complete employment careers, 14.2% have patterns that tend to favor family rather than work

⁶ A medoid sequence is a sequence with the minimum distance from all of the other sequences in that cluster. As such it represents a life course trajectory of a typical individual in a given cluster.

Table 3

Characteristics of the clusters of pathways to adulthood and cluster distribution by country, sex, and education.

Cluster	Total	%	Country (%)								Men (%)	Women (%)	Level of education (%)		
			AT	FR	NL	BG	CZ	HU	GE	LT			Low	Medium	High
ModInd	6131	28.3	26.6	31.5	28.3	29.5	25.9	22.7	27.8	38.9	32.4	25.2	21.9	28.3	33.9
LateHL	4392	20.2	27.2	19.3	15.7	17.6	24.9	25.4	17.7	12.1	25.0	16.8	20.4	21.6	17.8
LateInd	3311	15.3	21.8	21.7	24.0	7.5	11.1	9.8	13.3	19.0	18.6	12.8	8.9	13.7	23.8
TradTrans	3023	13.9	7.0	7.1	3.7	29.0	15.7	12.6	17.5	13.7	9.1	17.5	23.6	13.8	5.4
CohJob	2366	10.9	8.9	17.0	9.7	10.9	18.3	10.0	6.1	14.4	7.2	13.6	12.4	10.8	9.8
CohEd	1424	6.6	3.3	1.6	14.6	0.9	3.4	13.0	7.1	0.8	5.5	7.4	2.5	7.5	8.7
SlowIn	1049	4.8	2.2	1.8	4.0	4.5	0.8	6.5	10.5	1.2	2.2	6.8	10.3	4.4	0.7
Total	21,696	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Own calculations.

Note: AT = Austria, FR = France, NL = Netherlands, HU = Hungary, CZ = Czech Republic, LT = Lithuania, BG = Bulgaria, GE = Georgia.

Source: GGS Wave 2 (2006–2013).

(‘CohEd’ and ‘SlowIn’). The results of the respective chi-square tests are significant, which means that according to this procedure the life course trajectories differ in terms of the variables education ($\chi^2(12) = 2050.1$, $p < .000$), country ($\chi^2(42) = 3548.9$, $p < .000$), and sex ($\chi^2(6) = 1102.2$, $p < .000$).

4.2. Multivariate results

In order to test if the seven clusters are significantly associated with a young adults’ level of education, I estimated multinomial logistic regressions with the cluster *Traditional Transitions* ‘TradTrans’ as the reference category and added education, country, sex, and cohort as independent variables. (Table A2 in the Appendix A reports the results of the first multinomial logistic regression model). As expected in H1, the transition to adulthood depends on education: young adults with a higher level of education are more likely to belong to the clusters ‘ModInd’, ‘LateHL’, and ‘LateInd’, in which leaving the parental home and the subsequent family formation are strongly postponed. We can tentatively say that as educational level increases, a delay emerges in independence and family formation patterns. There is also a positive educational gradient for belonging to the cluster ‘CohJob’. Life course trajectories also depend on the country (as expected in H2): the results indicate that the more modern life course trajectories like ‘ModInd’, ‘LateHL’, and ‘LateInd’ – with a later exit from the parental home, longer time staying single and cohabitation being more common – are generally more likely to occur in Western European countries than in Eastern European countries. Young adults in Austria and the Netherlands, however, also have a higher likelihood to belong to the clusters ‘CohEd’ and ‘SlowIn’ – the latter two cluster are also much more likely to be followed in Hungary and Georgia, respectively. Finally, the life course trajectories of men and women show clear differences (H4): Men are much more likely to follow a path of late home leaving, longer stays in education (‘LateHL’ and ‘LateInd’), as well as slightly delayed partnership and family formation (‘ModInd’). Men also have, on average, a lower likelihood to be in a cluster linked to inactivity (‘SlowIn’).

To test, if the association between education and life course trajectories differs across countries (H3), I introduced the interaction effects to the model. Tables 4 and 5 show the predicted probability of being in one of the seven clusters by education, country, and cohort separately for men and women. The evidence for H3 is, overall, mixed: the educational effect is positive for the cluster ‘ModInd’ (for both men and women) in the Eastern European countries, whereas Austria, Netherlands, and France (but here only for men) exhibit not only less strong differences between educational groups but even a slight “reversal” of the educational gradient. There are no significant educational differences for the cluster ‘TradTrans’ between European countries,

although the negative gradient is stronger in the Eastern European countries (and particularly among women) as expected. For the cluster ‘LateHL’ the educational gradient is negative for most of the Eastern European countries (except Georgia and Bulgaria), whereas the differences between educational groups in the Western European are less strong (for both men and women and particularly among the younger cohorts). The educational gradient for the ‘CohEd’ cluster is also positive in Austria and Hungary (for both men and women), but among the other countries there is a mix of positive, negative, and U-shaped gradients. For this cluster the educational gradient is thus inconsistent—at least with respect to expected differences between Western and Eastern European countries. For the cluster ‘LateInd’ the differences in the educational gradient among countries mainly play out among men (Tables 4 and 5). There are no significant cross-national differences in the (positive) educational gradient among women for the cluster ‘LateInd’; we can see, however, that the positive educational gradient is particularly strong among men in the Netherlands (and to a lesser extent in the other Western European countries and Lithuania), but not in the Czech Republic and Hungary. The cluster ‘CohJob’ shows a mix of different educational gradients for men and women across countries and few common patterns. For men in the Czech Republic and Hungary the negative educational gradient is stronger than for their counterparts in Austria and the Netherlands— but not for men in France. Finally, the cluster ‘SlowIn’ also shows no clear cross-national differences in the (negative) educational gradient among Western and Eastern European countries (for both men and women).

5. Discussion

I set out to provide a more comprehensive picture of the transition to adulthood in Europe by examining how young adults’ holistic life course trajectories differ across countries and also how the educational gradient of life course trajectories differs across countries. While some studies have systematically addressed the transition to adulthood in Europe from a cross-national comparative perspective and based on nationally representative samples (Sironi et al., 2015; Lesnard et al., 2016), no study has examined if the educational gradient in holistic life course trajectories differs across European countries.

The results of this study indicate that the country does not only (1) directly shape the transition to adulthood but also (2) differently affects the association between education and young adults’ life course trajectories. First, the more modern life course trajectories like ‘ModInd’, ‘LateHL’, and ‘LateInd’ – with a typical later exit from the parental home, longer time staying single and cohabitation being more common – are generally more likely to

Table 4

Predicted probability of being in each cluster, by country, cohort and education (Men).

		ModInd			LateHL			LateInd			TradTrans		
		1950-59	1960-69	1970-78	1950-59	1960-69	1970-78	1950-59	1960-69	1970-78	1950-59	1960-69	1970-78
Austria	Low	0.20	0.26	0.24	0.36	0.33	0.36	0.23	0.21	0.18	0.08	0.08	0.08
	Medium	0.29	0.34	0.32	0.27	0.30	0.37	0.31	0.23	0.21	0.04	0.05	0.03
	High	0.29	0.30	0.28	0.20	0.23	0.25	0.33	0.37	0.39	0.00	0.01	0.00
France	Low	0.24	0.30	0.29	0.27	0.24	0.27	0.22	0.19	0.17	0.08	0.08	0.09
	Medium	0.33	0.39	0.37	0.22	0.24	0.30	0.27	0.19	0.18	0.04	0.05	0.04
	High	0.37	0.36	0.35	0.15	0.17	0.19	0.36	0.37	0.40	0.01	0.01	0.01
Netherlands	Low	0.32	0.39	0.36	0.21	0.19	0.20	0.15	0.13	0.11	0.05	0.05	0.05
	Medium	0.29	0.41	0.38	0.16	0.21	0.25	0.25	0.22	0.19	0.01	0.02	0.01
	High	0.24	0.26	0.24	0.15	0.18	0.19	0.38	0.44	0.46	0.00	0.00	0.00
Bulgaria	Low	0.27	0.32	0.31	0.26	0.23	0.25	0.11	0.09	0.08	0.24	0.23	0.24
	Medium	0.34	0.37	0.37	0.25	0.25	0.32	0.15	0.10	0.09	0.18	0.20	0.14
	High	0.55	0.54	0.54	0.18	0.20	0.23	0.11	0.12	0.13	0.06	0.07	0.05
Czech Republic	Low	0.17	0.21	0.20	0.40	0.37	0.41	0.20	0.18	0.16	0.04	0.04	0.04
	Medium	0.27	0.30	0.29	0.29	0.30	0.38	0.16	0.11	0.10	0.11	0.13	0.09
	High	0.43	0.45	0.44	0.20	0.23	0.26	0.16	0.17	0.19	0.02	0.03	0.02
Georgia	Low	0.16	0.20	0.18	0.24	0.22	0.22	0.05	0.05	0.04	0.19	0.20	0.18
	Medium	0.29	0.37	0.35	0.18	0.21	0.26	0.18	0.14	0.13	0.12	0.15	0.10
	High	0.35	0.37	0.35	0.23	0.26	0.30	0.20	0.22	0.24	0.05	0.06	0.04
Hungary	Low	0.13	0.16	0.15	0.48	0.46	0.48	0.13	0.12	0.10	0.08	0.08	0.08
	Medium	0.23	0.30	0.28	0.27	0.32	0.38	0.14	0.11	0.10	0.08	0.11	0.07
	High	0.33	0.39	0.37	0.18	0.24	0.27	0.12	0.16	0.17	0.03	0.04	0.03
Lithuania	Low	0.29	0.35	0.34	0.24	0.22	0.24	0.23	0.20	0.18	0.14	0.13	0.14
	Medium	0.38	0.44	0.44	0.13	0.14	0.18	0.28	0.20	0.19	0.09	0.11	0.08
	High	0.53	0.51	0.51	0.11	0.11	0.13	0.26	0.27	0.30	0.02	0.02	0.01

		CohJob			CohEd			SlowIn		
		1950-59	1960-69	1970-78	1950-59	1960-69	1970-78	1950-59	1960-69	1970-78
Austria	Low	0.06	0.06	0.06	0.00	0.00	0.01	0.06	0.06	0.07
	Medium	0.05	0.06	0.05	0.04	0.01	0.02	0.00	0.00	0.00
	High	0.04	0.04	0.02	0.14	0.05	0.05	0.01	0.00	0.00
France	Low	0.15	0.15	0.14	0.02	0.02	0.02	0.02	0.02	0.03
	Medium	0.11	0.12	0.10	0.01	0.00	0.00	0.01	0.00	0.01
	High	0.08	0.08	0.04	0.03	0.01	0.01	0.00	0.00	0.00
Netherlands	Low	0.08	0.07	0.07	0.12	0.10	0.14	0.06	0.06	0.07
	Medium	0.05	0.06	0.05	0.22	0.08	0.10	0.01	0.01	0.01
	High	0.05	0.06	0.03	0.17	0.06	0.07	0.00	0.00	0.00
Bulgaria	Low	0.09	0.08	0.08	0.01	0.01	0.01	0.03	0.03	0.04
	Medium	0.08	0.08	0.07	0.01	0.00	0.00	0.00	0.00	0.00
	High	0.07	0.07	0.03	0.03	0.01	0.01	0.00	0.00	0.00
Czech Republic	Low	0.16	0.16	0.15	0.01	0.01	0.01	0.02	0.02	0.03
	Medium	0.13	0.13	0.11	0.04	0.01	0.02	0.00	0.00	0.00
	High	0.09	0.10	0.05	0.09	0.03	0.04	0.00	0.00	0.00
Georgia	Low	0.04	0.04	0.03	0.02	0.01	0.02	0.30	0.29	0.33
	Medium	0.04	0.05	0.04	0.12	0.04	0.05	0.07	0.04	0.07
	High	0.05	0.05	0.03	0.11	0.04	0.04	0.01	0.00	0.00
Hungary	Low	0.09	0.09	0.08	0.01	0.01	0.01	0.08	0.08	0.10
	Medium	0.06	0.07	0.06	0.20	0.07	0.08	0.02	0.02	0.02
	High	0.06	0.07	0.04	0.26	0.10	0.12	0.02	0.01	0.01
Lithuania	Low	0.07	0.07	0.07	0.01	0.01	0.01	0.03	0.02	0.03
	Medium	0.10	0.11	0.10	0.01	0.00	0.01	0.00	0.00	0.00
	High	0.08	0.08	0.04	0.01	0.00	0.00	0.00	0.00	0.00

Note: Based on multinomial logistic regression models with interactions of education and country, education and cohort, controlling for sex. Bold figures indicate differences between educational levels that are significant at the .10 level. Dark gray cells indicate a positive educational gradient; light gray indicates a negative educational gradient.

Source: GGS Wave 2 (2006 - 2013). Own calculations.

occur in Western European countries than in Eastern European countries. Conversely, the more traditional life course trajectories like 'TradTrans' and those characterized by late home-leaving, late labor market entry or even inactivity like 'CohEd' and 'SlowIn' are more common among Eastern European countries. This is consistent with the limited prior comparative European work on holistic life course trajectories (Lesnard et al., 2016) and likely reflects the differential adoption of more modern life course trajectories – with Western European countries as forerunners and Eastern European countries lagging behind – along with the persistence of family norms and strong normative settings in

Eastern Europe (e.g., Liefbroer & Billari, 2010; Fokkema & Liefbroer, 2008; Reher, 1998). Second, the relationship between education and young adults' life course trajectories differs across countries. There is evidence for a stronger positive educational gradient for the clusters 'ModInd', 'CohEd' and 'LateInd' – but not for all countries, or as in the case of the cluster 'LateInd' only for men. The negative gradient for the clusters 'LateHL' and 'TradTrans' is stronger in the Eastern European countries than in the Western European countries – but the educational differences are not in the expected direction for the cluster 'LateHL' (possibly due to the considerably higher levels of multigenerational coresidence

Table 5
Predicted probability of being in each cluster, by country, cohort and education (Men).

		ModInd			LateHL			LateInd			TradTrans		
		1950-59	1960-69	1970-78	1950-59	1960-69	1970-78	1950-59	1960-69	1970-78	1950-59	1960-69	1970-78
Austria	Low	0.14	0.18	0.17	0.23	0.21	0.22	0.14	0.12	0.10	0.18	0.18	0.18
	Medium	0.25	0.30	0.29	0.21	0.23	0.30	0.23	0.17	0.16	0.10	0.13	0.09
	High	0.25	0.29	0.28	0.16	0.20	0.23	0.25	0.30	0.32	0.01	0.02	0.01
France	Low	0.17	0.21	0.20	0.17	0.15	0.16	0.13	0.11	0.10	0.18	0.18	0.18
	Medium	0.27	0.31	0.31	0.16	0.17	0.22	0.18	0.13	0.12	0.11	0.13	0.09
	High	0.34	0.34	0.35	0.12	0.14	0.17	0.27	0.29	0.34	0.02	0.02	0.02
Netherlands	Low	0.21	0.26	0.23	0.13	0.11	0.12	0.08	0.07	0.06	0.11	0.11	0.10
	Medium	0.23	0.35	0.33	0.11	0.16	0.19	0.17	0.16	0.14	0.03	0.05	0.04
	High	0.21	0.25	0.24	0.11	0.15	0.17	0.27	0.35	0.38	0.01	0.01	0.01
Bulgaria	Low	0.15	0.19	0.18	0.13	0.12	0.13	0.05	0.05	0.04	0.43	0.43	0.43
	Medium	0.24	0.25	0.27	0.15	0.15	0.21	0.09	0.06	0.06	0.38	0.41	0.33
	High	0.45	0.44	0.48	0.13	0.15	0.18	0.08	0.08	0.10	0.15	0.17	0.14
Czech Republic	Low	0.12	0.15	0.15	0.26	0.24	0.26	0.12	0.11	0.10	0.10	0.10	0.10
	Medium	0.19	0.21	0.22	0.18	0.19	0.26	0.10	0.07	0.07	0.24	0.28	0.21
	High	0.35	0.38	0.40	0.14	0.17	0.21	0.11	0.12	0.15	0.06	0.07	0.06
Georgia	Low	0.06	0.08	0.07	0.08	0.08	0.08	0.02	0.02	0.01	0.24	0.24	0.22
	Medium	0.18	0.24	0.23	0.10	0.12	0.15	0.09	0.08	0.07	0.22	0.31	0.21
	High	0.28	0.31	0.32	0.16	0.20	0.24	0.14	0.16	0.18	0.12	0.15	0.11
Hungary	Low	0.08	0.10	0.09	0.28	0.26	0.27	0.07	0.07	0.05	0.15	0.16	0.15
	Medium	0.16	0.22	0.21	0.16	0.20	0.26	0.08	0.07	0.06	0.17	0.24	0.16
	High	0.24	0.31	0.31	0.12	0.17	0.20	0.07	0.10	0.12	0.07	0.10	0.07
Lithuania	Low	0.20	0.24	0.23	0.15	0.14	0.15	0.13	0.12	0.10	0.29	0.29	0.29
	Medium	0.29	0.32	0.35	0.09	0.09	0.13	0.18	0.12	0.12	0.22	0.25	0.20
	High	0.47	0.46	0.49	0.08	0.09	0.11	0.20	0.21	0.24	0.05	0.05	0.04

		CohJob			CohEd			SlowIn		
		1950-59	1960-69	1970-78	1950-59	1960-69	1970-78	1950-59	1960-69	1970-78
Austria	Low	0.11	0.11	0.10	0.01	0.01	0.01	0.19	0.19	0.23
	Medium	0.12	0.14	0.12	0.07	0.02	0.03	0.02	0.01	0.02
	High	0.09	0.10	0.05	0.22	0.08	0.10	0.02	0.01	0.01
France	Low	0.27	0.26	0.25	0.02	0.02	0.03	0.07	0.07	0.08
	Medium	0.24	0.25	0.22	0.02	0.00	0.01	0.03	0.01	0.03
	High	0.19	0.19	0.11	0.05	0.02	0.02	0.01	0.00	0.00
Netherlands	Low	0.13	0.13	0.11	0.15	0.13	0.16	0.19	0.18	0.21
	Medium	0.10	0.14	0.11	0.32	0.12	0.15	0.03	0.02	0.04
	High	0.11	0.14	0.07	0.26	0.10	0.12	0.02	0.01	0.01
Bulgaria	Low	0.13	0.13	0.12	0.01	0.01	0.01	0.09	0.08	0.10
	Medium	0.14	0.13	0.13	0.02	0.00	0.01	0.00	0.00	0.00
	High	0.14	0.14	0.08	0.04	0.01	0.02	0.01	0.00	0.00
Czech Republic	Low	0.31	0.30	0.29	0.01	0.01	0.01	0.08	0.08	0.10
	Medium	0.23	0.24	0.22	0.05	0.01	0.02	0.01	0.00	0.01
	High	0.20	0.21	0.12	0.14	0.05	0.06	0.01	0.00	0.00
Georgia	Low	0.04	0.04	0.03	0.01	0.01	0.01	0.54	0.53	0.58
	Medium	0.06	0.08	0.07	0.13	0.04	0.06	0.21	0.13	0.22
	High	0.10	0.11	0.06	0.16	0.06	0.07	0.04	0.01	0.01
Hungary	Low	0.15	0.14	0.13	0.01	0.01	0.02	0.25	0.25	0.29
	Medium	0.10	0.13	0.11	0.25	0.09	0.11	0.08	0.05	0.09
	High	0.11	0.15	0.08	0.34	0.15	0.19	0.05	0.02	0.02
Lithuania	Low	0.13	0.13	0.12	0.01	0.01	0.01	0.08	0.08	0.10
	Medium	0.20	0.20	0.19	0.02	0.01	0.01	0.01	0.00	0.01
	High	0.18	0.18	0.10	0.02	0.01	0.01	0.01	0.00	0.00

Note: Based on multinomial logistic regression models with interactions of education and country, education and cohort, controlling for sex. Bold figures indicate differences between educational levels that are significant at the .10 level. Dark gray cells indicate a positive educational gradient; light gray indicates a negative educational gradient.

Source: GGS Wave 2 (2006 - 2013). Own calculations.

among Eastern European young adults in this cluster) or do not reach statistical significance for the cluster 'TradTrans'. For the clusters 'CohJob' and 'SlowIn' no clear cross-national differences in the educational gradient among Western and Eastern European countries are discernible. And finally, for the cluster 'LateInd' the differences in the educational gradient among men are stronger in the Western European countries and Lithuania—possibly due to the considerably higher levels of cohabitation among young adults in this cluster. Thus, the results are only partly in line with my expectations: I posited that the educational gradient would generally be less evident and strong in Western European

countries, and more evident in Eastern European countries. Nevertheless, much of these cautionary findings underline that socioeconomic, institutional and normative settings generally shape the influence of young adult's education on holistic life course trajectories. Research on the context-specificity of the educational gradient so far has been typically more focused on women's partnership or family trajectories (e.g., Kalmijn, 2013).

A large body of the theoretical and empirical literature links cross-national differences in the transition to adulthood to socioeconomic, institutional and normative settings – and possibly an amalgam thereof – among broader regions in Europe (e.g.,

Blossfeld et al., 2006; Corijn & Klijzing, 2001; Esping-Andersen, 1990; Reher, 1998; Vogel, 2002). The findings in this study, however, also underscore variation between countries in broad country groupings – a case in point is the higher likelihood of belonging to the clusters ‘CohEd’ and ‘SlowIn’ in Austria and the Netherlands, but also in Hungary and Georgia. Similarly, the different Eastern European countries also exhibit notable variation in life course trajectories among themselves. Thus, further research on the cross-national differences in the educational gradient (1) with larger European data sets and (2) specific country-level variables reflecting socioeconomic, institutional and normative settings. This way future research could more decisively explain differences in the transition to adulthood in Europe.

Another conclusion to be drawn from the analysis is that young adults’ individual characteristics are also important for understanding differences in the transition to adulthood. First, highly educated young adults are more likely to follow life course trajectories with late labor market entry and independence, where cohabitation is included, marriage and childbearing are postponed (such as the clusters ‘ModInd’, ‘LateHL’, ‘LateInd’, or ‘CohJob’). This is in line with previous research showing a positive association between education and a delay in independence and family formation patterns on the transition to adulthood (e.g., Corijn & Klijzing, 2001; Sobotka & Toulemon, 2008). Second, there are also clear differences in life course trajectories between men and women. Men are much more likely to follow a path of late home leaving, longer stays in education (such as the clusters ‘LateHL’ and ‘LateInd’), as well as slightly delayed partnership and family formation. Conversely, young women tend to follow more family oriented trajectories and trajectories linked to inactivity (such as the cluster ‘SlowIn’). Compared to men they also tend to be less concentrated to specific life course trajectories, and their transition to adulthood thus seems, overall, to be more diverse. Specifically, for women a higher educational level not only delays life course transitions but also facilitates the experience of a variety of different life course trajectories. These findings add to previous research on the transition to adulthood (Billari & Liefbroer, 2010; Potârncă, Mills, & Lesnard, 2013; Robette, 2010) by including both young men and women from the cohorts born between 1951 and 1978, and from Western and Eastern European countries. Moreover – and despite the fact that gender is in itself a driver of differences in life course trajectories – the findings also point to differences between men and women in the educational gradients. Further

comparative research is needed to clarify the intersection of gender and education for young adults’ life course trajectories in Europe.

An important strength of the study lies in (1) paying particular attention to the role of education – and its different effect across countries – in shaping young adults’ life course trajectories and in (2) describing and examining the transition to adulthood in eight Western and Eastern European countries (Austria, Bulgaria, Czech Republic, France, Georgia, Hungary, Lithuania, and the Netherlands) by drawing on both a holistic and a comparative perspective. In this way, this study has addressed an important gap in the research literature—so far studies that examine the transition to adulthood more comprehensively (i.e., from a holistic perspective) and make broader cross-national comparisons are rare (cf. Lesnard et al., 2016; Sironi et al., 2015). Yet, some limitations about the data and methods must be noted, too. First, sequence analysis as a method to identify and extract typical clusters of life course trajectories is sensitive to substitution cost specifications and may produce clusters not supported by the data. Compared to other methods (e.g., latent class modeling) it is less computationally intensive and does not need to be model-based. Second, the analysis is mainly descriptive in nature and can neither (1) establish a causal relationship between education and life course trajectories nor (2) disentangle a possible reverse causality between education and employment and education trajectories. Nevertheless, this study has shown the usefulness of combining a holistic and comparative approach in studying the transition to adulthood, because it sheds more light on how lives of young adults from different parts in Europe evolve in this important period of life.

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Appendix A.

Table A1–A3 and Figs. A1 and A2.

Table A1

Percentage distribution of the observed states (between age 18 and 34).

Channel	Label	%
Family		
Single in the parental home	Single in the parental home	21.27
Single in the parental home + child	<i>Single + child</i>	1.02
Single	Single	23.03
Single + child	Single + child	7.01
Cohabiting in the parental home	<i>Married in the parental home</i>	0.71
Cohabiting in the parental home + child	<i>Married in the parental home + child</i>	0.25
Cohabiting	Cohabiting	4.62
Cohabiting + child	Cohabiting + child	3.11
Married in the parental home	Married in the parental home	1.29
Married in the parental home + child	Married in the parental home + child	2.22
Married	Married	7.95
Married + child	Married + child	27.52
Work		
Student	Student	15.89
Inactive	Inactive	4.79
Employed	Employed	79.32

Own calculations.

Note: Single parents (i.e., single + child; single in the parental home + child) comprise of young adults who do not necessarily co-reside with their child. There are presumably differences between men and women in this category thus.

Source: GGS Wave 2 (2006–2013).

Table A2

Multinomial logistic regression (main effects).

M1: Base outcome: TradTrans	ModInd		CohJob		LateHL		LateInd		SlowIn		CohEd	
	b	se	b	se	b	se	b	se	b	se	b	se
Intercept	0.30**	0.10	0.66***	0.11	0.26*	0.10	−0.07	0.11	−0.33	0.17	−2.16***	0.19
Country (ref= France)												
Austria	−0.01	0.12	−0.53***	0.14	0.40**	0.12	0.19	0.13	0.63**	0.23	1.07***	0.22
Netherlands	0.58***	0.13	0.07	0.14	0.50***	0.14	0.73***	0.13	1.42***	0.21	2.85***	0.20
Bulgaria	−1.18***	0.10	−1.78***	0.11	−1.47***	0.10	−2.23***	0.11	−0.99***	0.18	−1.46***	0.24
Czech Republic	−0.97***	0.13	−0.65***	0.13	−0.50***	0.13	−1.38***	0.14	−1.25***	0.38	−0.09	0.24
Georgia	−1.21***	0.10	−1.97***	0.12	−1.07***	0.10	−1.57***	0.11	1.63***	0.18	0.39*	0.18
Hungary	−0.91***	0.10	−1.08***	0.11	−0.30**	0.10	−1.34***	0.11	0.94***	0.18	1.47***	0.18
Lithuania	−0.49***	0.13	−0.83***	0.15	−1.17***	0.16	−0.83***	0.15	−0.84*	0.36	−1.49***	0.42
Education (ref= Low)												
Medium	0.62***	0.07	0.08	0.08	0.08	0.07	0.48***	0.08	−1.54***	0.10	1.02***	0.12
High	1.90***	0.08	1.07***	0.09	1.15***	0.08	2.21***	0.09	−2.28***	0.19	2.33***	0.12
Sex (ref= Women)												
Men	1.12***	0.05	0.17**	0.06	1.23***	0.05	1.31***	0.06	−0.43***	0.09	0.53***	0.07
Cohort (ref: 1950–1959)												
1960–1969	−0.01	0.06	−0.10	0.07	−0.10	0.06	−0.25***	0.06	−0.53***	0.08	−1.15***	0.08
1970–1978	0.18*	0.07	−0.14	0.09	0.32***	0.08	−0.03	0.08	0.03	0.11	−0.70***	0.10

Own calculations. Unweighted N = 21,696. −2LL = 71182.14; Nagelkerke R² = 0.281; AIC = 71338.14.

†p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001.

Source: GGS Wave 2 (2006–2013).

Table A3

Multinomial logistic regression (main effects and interactions).

M2: Base outcome: TradTrans	ModInd		CohJob		LateHL		LateInd		SlowIn		CohEd	
	b	se	b	se	b	se	b	se	b	se	b	se
Intercept	−0.09	0.15	0.40**	0.15	−0.09	0.15	−0.36*	0.17	−0.94***	0.22	−2.11***	0.33
Country (ref: France)												
Austria	−0.15	0.27	−0.90**	0.31	0.32	0.26	0.07	0.30	1.01**	0.32	−1.29	0.94
Netherlands	0.74***	0.20	−0.23	0.22	0.22	0.22	0.09	0.23	1.48***	0.27	2.38***	0.35
Bulgaria	−0.94***	0.15	−1.57***	0.16	−1.09***	0.16	−1.75***	0.17	−0.65**	0.23	−1.97***	0.39
Czech Republic	0.32	0.44	0.77†	0.41	1.09**	0.41	0.62	0.45	0.76	0.55	−0.32	1.16
Georgia	−1.25***	0.33	−2.24***	0.47	−0.95**	0.32	−2.29***	0.55	1.76***	0.30	−0.94	0.80
Hungary	−0.55**	0.21	−0.46*	0.21	0.69***	0.19	−0.41	0.23	1.44***	0.25	−0.33	0.47
Lithuania	−0.30	0.27	−1.18***	0.34	−0.57†	0.29	−0.43	0.31	−0.30	0.44	−1.57	1.05
Education (ref: Low)												
Medium	1.02***	0.19	0.41*	0.20	0.51*	0.20	0.90***	0.21	−0.42	0.35	0.24	0.48
High	2.94***	0.33	1.89***	0.35	1.95***	0.34	3.00***	0.34	0.13	0.72	3.05***	0.50
Sex (ref: Women)												
Men	1.14***	0.05	0.19**	0.06	1.25***	0.05	1.31***	0.06	−0.39***	0.09	0.54***	0.07
Cohort (ref: 1950–1959)												
1960–1969	0.22*	0.10	−0.04	0.11	−0.09	0.10	−0.12	0.12	−0.04	0.12	−0.14	0.20
1970–1978	0.15	0.14	−0.11	0.16	−0.02	0.14	−0.26	0.18	0.16	0.17	0.19	0.33
Country * Education (Ref: France, Low)												
Austria * Medium education	0.11	0.31	0.28	0.36	−0.03	0.31	0.18	0.34	−1.56**	0.50	2.79**	1.02
Austria * High education	0.34	0.59	0.61	0.63	0.39	0.59	0.30	0.60	0.43	1.04	3.24**	1.11
Netherlands * Medium education	0.22	0.29	0.47	0.31	0.54†	0.30	0.95**	0.32	−0.24	0.46	1.70**	0.52
Netherlands * High education	−0.28	0.50	0.64	0.52	0.62	0.51	0.85†	0.51	0.12	0.87	0.21	0.62
Bulgaria * Medium education	−0.47†	0.27	−0.26	0.33	−0.25	0.29	−0.27	0.36	−5.01	6.04	0.63	1.05
Bulgaria * High education	−0.85*	0.34	−0.85*	0.36	−0.93**	0.35	−1.60***	0.36	−0.92	0.85	−0.36	0.59
Czech Republic * Medium education	−1.50**	0.46	−1.63***	0.44	−1.79***	0.44	−2.09***	0.48	−2.93***	0.82	0.66	1.23
Czech Republic * High education	−1.37*	0.62	−1.84**	0.63	−2.05***	0.62	−2.66***	0.65	−2.08	1.66	0.24	1.28
Georgia * Medium education	0.12	0.35	0.19	0.50	−0.28	0.35	0.90	0.57	−0.47	0.40	2.28**	0.88
Georgia * High education	−0.75†	0.45	−0.27	0.58	−0.60	0.45	−0.23	0.63	−2.07**	0.78	0.28	0.89
Hungary * Medium education	−0.44†	0.25	−0.82**	0.25	−1.14***	0.23	−0.86**	0.27	−0.85*	0.38	2.60***	0.59
Hungary * High education	−1.02**	0.38	−1.27**	0.39	−1.96***	0.38	−2.11***	0.40	−0.90	0.76	1.03†	0.61
Lithuania * Medium education	−0.35	0.32	0.27	0.39	−0.76*	0.36	−0.33	0.36	−1.49†	0.83	1.02	1.20
Lithuania * High education	−0.21	0.51	0.28	0.57	−0.67	0.56	−0.76	0.54	−0.77	1.45	−0.44	1.34
Cohort * Education (Ref: 1950–1959, Low)												
1960–1969 * Medium education	−0.27*	0.13	−0.08	0.15	−0.04	0.13	−0.40**	0.15	−0.74***	0.18	−1.28***	0.23
1960–1969 * High education	−0.34†	0.18	−0.07	0.20	0.07	0.19	0.06	0.20	−1.23***	0.36	−1.10***	0.27
1970–1978 * Medium education	0.13	0.17	0.19	0.20	0.49**	0.17	0.03	0.22	−0.04	0.23	−0.96**	0.36
1970–1978 * High education	0.01	0.23	−0.33	0.28	0.46†	0.24	0.61*	0.27	−1.17*	0.48	−0.91*	0.39

Own calculations. Unweighted N = 21,696. −2LL = 70620.72; Nagelkerke R² = 0.304; AIC = 70992.72.

† p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001.

Source: GGS Wave 2 (2006–2013).

Fig. A1. Dendrogram plot.

Note: Based on a hierarchical cluster analysis. The red rectangles indicate where the tree was cut to create 7 clusters.

Fig. A2. Clusters of life course trajectories—7 cluster solution.

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