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## Educational Fields of Study and European Labor Markets

### Introduction to a Special Issue

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In the past few decades, the educational careers of individuals in Western societies have changed in many respects. One prominent development is obviously the increased participation rates at secondary and tertiary levels, and relatedly, increased average length of schooling (e.g. Meyer et al., 1977; Schofer and Meyer, 2005). Another important element is the increased diffuseness of the transition from school to work, which turned from a single event for most people to a process including longer spells of combinations of school, non-employment, and work (Blossfeld et al., 2005). Yet another development is the increased need of the labor force to continuously update skills to remain 'employable', leading to calls for lifelong learning. Each of these trends has received considerable attention in social research, and are high on the agenda of policy-makers as well.

One important development that is related to these profound changes in educational careers has, however, received less attention, which concerns the changes in the *skills composition* of the workforce, in particular with regard to the different *fields of study* that people are educated in. Given the tremendous increase in enrolment in tertiary and upper secondary levels, an increasing share of the workforce comes to the labor market with clearly defined skills that go beyond general education. In the Netherlands, for example, between birth cohorts born in the early 1920s and the late 1960s the percentage of the population that is educated in specialized fields of study (i.e. outside general education) has risen from 60 to 80 percent for men, and from less than 40 to 80 percent for women (Van de Werfhorst et al., 2001). Clearly, this development has important implications for standard economic labor market theories that attribute the acquisition of general skills to the educational system, and specific skills to work experience. No longer can it be maintained that education-based skills are generic by definition; they can be specialized too.

The increased educational specialization of the workforce calls for a thorough understanding of how educational fields of study shape working careers of individuals. Moreover, it is relevant to understand whether and why the impact of educational fields of study varies across countries, and how such potential country variations can be explained. This special issue of the *International Journal of Comparative Sociology* aims at answering these questions. Given the novelty of this topic, our focus of this collection of research articles is on a wide variety of issues related to labor markets, including earnings and status attainment, gender segregation on the labor market, temporary contracts, students' joint involvements in studying and working, and intergenerational social mobility.

Each of the articles of this special issue employs comparative analysis. Some compare many countries, others only two; but in every article countries are compared to illustrate the relevance of national institutional structures for the processes studied.

The first article by David Reimer, Clemens Noelke and Aleksander Kucel gives a broad overview of the impacts of educational fields of study on two general labor market outcomes in 21 European countries: the chance to become unemployed and the attained occupational status. Studying unemployment and status attainment at the same time is important, as fields of study that lead to high levels of occupation are not necessarily the same fields that reduce the chance to become unemployed. The humanities appear, for example, to be related to relatively high levels of unemployment, while the occupational status of those who are enrolled in employment is relatively high. On the other hand, the field of health and welfare is related to low unemployment levels, but to lower occupational status too. Their cross-national comparison furthermore indicated that field of study effects increased in strength with tertiary educational expansion.

The second article, by Emer Smyth and Stephanie Steinmetz, studies gender segregation across educational fields and occupational industries in 17 European countries. This is a relevant issue because gender inequality at university attendance has disappeared, or even turned to the advantage of women. Yet, their segregation on the labor market is far more persistent. It is important to know whether occupational segregation is fully explained by segregation in educational fields, or that occupational segregation partly prevails after holding constant for educational segregation. This article studies this issue.

The third article by Johannes Giesecke and Steffen Schindler examines the relationship between educational fields of study and temporary labor contracts in Germany and the United Kingdom. Their main focus was on the country difference in the variation in temporary employment across fields of study. In Germany the field differences in temporary employment are larger than in the UK, where temporary contracts are more common for the whole labor force. The results furthermore indicate that existing field of study differences are to a significant extent (but not completely) explained by differences across industries. Other explanations for field differences were examined, such as the impact of

social class, and the specificity of the occupational destinations related to fields. These did not explain field differences in temporary contracts very well.

The fourth article by Luis Ortiz and Aleksander Kucel investigates the variation across fields in the extent to which graduates enter employment at lower levels than they were qualified for, using German and Spanish data. 'Overschooling' is an important phenomenon in graduate labor markets. The massive ('worldwide') educational expansion (Schofer and Meyer, 2005) has led to an increasing share of graduates that can not find jobs at their level, and enter lower-level jobs (Groot and Maassen van den Brink, 2000; Wolbers et al., 2001). This has potentially serious repercussions not only for those graduates, but maybe even more for people of lower levels of schooling. Employing an innovative measurement of overschooling, Ortiz and Kucel show that there are significant variations across fields in the likelihood to be overschooled.

The fifth article by Merike Darmody, Emer Smyth and Martin Unger studies full time higher education students' workload by looking at the combination of time spent on study and work-related activities in Ireland and Austria. Their findings illustrate that study time (attending lectures and independent study) varies much more across fields of study in Ireland than in Austria. In Ireland, study time is the lowest in the humanities; students taking this subject spend ten hours per week less on study compared to students in the health-related disciplines, and six to seven hours less than people in the engineering and science fields. In Austria the sciences and engineering also stand out as time-consuming programs, but the differences are around two hours per week. Interestingly, the various pressures on the time budget have substitutive effects. Not only does self-study time decrease with increasing lecturing time, but also with increasing working hours in side jobs.

With the sixth article by Marie Duru-Bellat, Annick Kieffer and David Reimer the focus changes to social selection into fields of study. Their article is more general about social selection into different forms of higher education, such as selection into selective elite institutions, type of tertiary training (vocational or academic), and the field of study. This is an interesting combination of outcomes, as it places choices for fields of study in the broader context of non-vertical choices and the impact of the educational institutional structure.

Lastly, the article by Michelle Jackson, Ruud Luijkx, Reinhard Pollak, Louis-Andre Vallet and Herman Van de Werfhorst, investigates the role of educational field of study for intergenerational social class mobility for four countries (the Netherlands, France, Germany and UK). Their results indicated that looking at educational fields of study in addition to level of schooling does little to improve our insights in the standard mobility process. That is, if field of study is added to standard models of class mobility, with largely hierarchical indicators of parents' and children's social class, the 'direct effect' of class origin on class destination is not diminished relative to a model that only controls for children's level of education. This unchanged association between social class origin and social class

destination can be understood by considering the association between origin and field of study attainment, and then the association between field of study attainment and destination. In short, children of higher social class origins do not choose those fields that provide better opportunities to achieve higher social class destinations. While this article suggests that field of study does not add a great deal to conventional mobility models, the authors would argue that it is important to recognize that field of study may still have an important explanatory role in social stratification research. The first article in this issue (Reimer et al.), for example, shows us that there is significant variation across educational fields in occupational status and unemployment in many European countries.

Although we do not have enough space for a full synthesis of all findings, it is relevant to see whether there are fields of study that give good opportunities on the whole range of outcomes, including occupational attainment and (matching) employment, or whether the picture is more complicated. A conclusion along this latter line is perhaps best justified by the empirical analyses in the articles. It is hard, if not impossible, to tell which fields give good opportunities across the board. Most strikingly this is the case with the humanities, often a field that stands out as providing limited opportunities. This may be justified by looking at the relatively high unemployment rates, and high likelihood of being overschooled, of people educated in the humanities (and lower earnings: Van de Werfhorst, 2004). Yet, if we examine the working population and look at occupational status, the humanities often do rather well. The opposite pattern is found with regard to engineering and the hard sciences; a relatively high probability of (matching) employment is combined with limited advantage in terms of occupational status. Presumably an important explanation for these findings must be sought at the demand side of the labor market – there may not be sufficient jobs for humanities graduates, and once they find a job at their level it is often a job with high status. Arguably, it seems to be the case that *entry* into employment is enhanced by types of training where specific, concrete skills are acquired, whereas the allocation to particular jobs is much more complex, where control of access (such as implied by credentialism theories; Brown, 1995; Collins, 1979) benefits those with more academic forms of education. Such explanations are of course tentative, and should be investigated further.

It is with great pleasure that we present our findings to the academic community, and we hope that this special issue will contribute to a developing field by systematizing the relevance of horizontal educational differentiations for issues of inequality, labor market processes, and gender segregation for a great number of European countries. This special issue is the product of a research team that is part of a research network funded by the sixth framework program of the European Union, called Economic Change, Quality of Life, and Social Cohesion (EQUALSOC). It is through the EQUALSOC funds that the project leading to this special issue could develop; and we hope that this product is illustrative of what the EU tries to achieve with their programs.

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