



# Special education students in transition to further education: A four-year register-based follow-up study in Finland



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## ABSTRACT

This study examines the transition of special education students into upper secondary education in Finland. The national register-based school-level dataset comprises three compulsory school-leaving cohorts of 2004, 2006 and 2009 including all students and schools providing lower secondary education. Special education students (Tier 3) are divided into four different groups based on their curriculum adjustments. The school-level effect of special education provision is evaluated with statistical models exploiting the panel nature of the data. The results show that there are significant differences in participation in upper secondary education between the groups with different levels of individualizations. After controlling for the school-level time-constant factors, the share of special education students with milder learning difficulties and individualized curriculum does not affect the share of students continuing and graduating from upper secondary education. The provision of special education has been, therefore, an effective way to improve students' opportunities for further education.

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## 1. Introduction

In many western countries the number of students in need of some kind of special education has steadily increased during the last decade, starting in the late 1990s (e.g., Graham & Jahnukainen, 2011; Richardson & Powell, 2011). Along with the need also the supply of special education has increased so that more and more students with milder learning disabilities and problems receive additional support. This is also the case in Finland, where the increase has focused particularly on the last years of compulsory education: in 2001 the share of grade 9 students in full-time special education (Tier 3) was 6.5% and nine years later in 2010 it was almost 11% (National Audit Office of Finland, 2013).

There are several reasons behind this development. In the Finnish case, the compulsory school system is based on the clearly articulated policy of providing education for all, i.e. equal access to education regardless of the background of the student. In recent decades, also the school resources being made available for arranging the more expensive special education have been on the rise. However, one main reason for this growth is that since 1998 the full-time special educational needs became a fully inclusive feature in the regular classroom. Therefore, this option is often currently covering also students with milder

difficulties related to learning and behavioral issues, who were not previously eligible for getting full-time placement (Graham & Jahnukainen, 2011). One symptom of this is that currently the most used category for full-time special education is a dump group “other reasons” without labels for any traditional disability groups. The increase has occurred mostly in the area of non-normative disabilities as shown elsewhere (e.g., Richardson & Powell, 2011). At the same time the resources for special education, measured by the number of special teacher positions, has also increased (National Audit Office of Finland, 2013).

When comparing the special education systems of Germany and the United States, Powell (2006) concluded that special education students have a risk of becoming less educated; indeed, they drop out more often from post-secondary education and the labor market than their peers in general education. However, despite the growing number of special education students, large-scale research on the educational careers of former special education students and the effects of special education is quite limited both internationally and in Finland. Lack of research in the Finnish case is somewhat surprising, since one of the main general objectives of the Finnish 9-year-long compulsory education is to develop students' readiness and the basic skills needed for further education.<sup>1</sup> In particular, during the lower secondary level the career counseling

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<sup>1</sup> One main reason for the lack of research and follow-up information about the transition to upper secondary is, that in Finnish school system the upper secondary participation is voluntary – although generally expected. For this administrative reason, the compulsory education statistics and upper secondary statistics are gathered and reported separately.

and the preparation for entering upper secondary education and the labor market play an important role. The focus of special education is to support those students with additional needs in reaching the goals of compulsory education and also to serve in the prevention of educational exclusion and of dropping out of education altogether. These tasks are defined in the National Core Curriculum for Basic Education (Finnish National Board of Education, 2004).

Using other than nationally representative samples, the relationship between some special educational groups and educational career and employment has been investigated both in international (e.g., Kvalsund & Bele, 2010; McLaughlin, Speirs, & Shenassa, 2014; Murray, Goldstein, Nourse, & Edgar, 2000; Newman, Wagner, Cameto, & Knokey, 2009) and in Finnish (e.g., Hakkarainen, Holopainen, & Savolainen, 2013a, 2013b; Karppinen, 2007) studies. These studies have demonstrated that the students with special educational needs are less likely to participate in postsecondary schooling, graduate from postsecondary programs, and attain a high level of education as an adult than are their peers without special educational needs. There is also both direct and indirect evidence through school achievement that learning and behavioral difficulties affect, on the one hand, the transition to upper secondary education (Hakkarainen et al., 2013b) and, on the other hand, affect the dropout rate in upper secondary education (Hakkarainen et al., 2013a; Karppinen, 2007). The results of several smaller-scale interview studies also confirm these kinds of findings (Jahnukainen, 1999; Jahnukainen & Järvinen, 2005; Niemi, Mietola, & Helakorpi, 2010). There is also a clear difference in selection between the academic and vocational upper secondary schooling: both the full-time special education students (Tier 3) and the students having attended part-time special education (Tier 2) more typically continue their studies in vocational education instead of general upper secondary education than do the students without special educational needs (Lappalainen & Hotulainen, 2012; Niemi et al., 2010). In addition, the difficulties in education continue during the post-school life-course when the former special education students tend more often to have difficulties in entering the labor market than their counterparts (e.g., Jahnukainen, 2007; Kivirauma & Jahnukainen, 2001; Lappalainen & Hotulainen, 2007).

Another question related to special education is if it benefits the students receiving it. This is especially the case with students with mild disabilities. Despite the increasing resources in special education, studies on the effects of special education are still quite limited in number. This is partly related to the challenges in creating a reliable research design separating the effects of special education from the effects of selection. There are some recent studies from United States, England and Israel done in the field of economics, that mostly rely on quasi-experimental design and large register-based data. Their results are contradictory. Some studies show positive effects of special support on school achievement (Hanushek, Kain, & Rivkin, 2002; Lavy & Schlosser, 2005) and behavior in classroom settings (Morgan, Frisco, Farkas, & Hibel, 2010). However, a majority of the studies cannot confirm these results, or there have been even slightly negative findings (Crawford & Vignoles, 2010; Keslair, Maurin, & McNally, 2012; Morgan et al., 2010). One study, investigating so-called spillover-effect, concluded that additional special educational support did not increase the mean performance-level of the whole age-group (Keslair et al., 2012). One study from Norway reported a positive connection between the increase of special educational resources and the increase of the mean performance level at whole age-group level (Iversen, Bonesronning, & Pettersen, 2013). It is possible that there are contextual factors related to the school system level which may be related to the educational level and status of special educators as well as to the general level of the public school system (see Jahnukainen, 2011).

In contrast to the previous studies, the purpose of our study is to investigate the educational career of students with special educational needs as part of the whole compulsory leaving age cohorts in selected years in Finland. In addition, instead of student achievement, we

concentrate on following the progress of special education students in upper secondary education after completing compulsory education. We first describe the participation rate in and graduation from upper secondary education during the four consecutive years after compulsory schooling using register-based school-level data from three compulsory school leaving cohorts of 2004, 2006, and 2009.<sup>2</sup>

Second, we study the relation between the provision of special education and studies at the upper secondary level after compulsory schooling by estimating the effect of share of special education students in the school on the share of students continuing and completing their studies at the upper secondary level. More precisely, with special education students we refer to four different categories of special education students based on the individualization of their compulsory school curriculum during the lower secondary schooling. These categories also provide a measure of the intensity of special education. The share of special education students in the 9th grade gradually increased between 2004 and 2009. The growth was mainly due to the increase in number of students with no or partially individualized curriculum, i.e. students with milder disabilities. In our models, we try to capture the effect of this expansion with the interaction terms between the different cohorts and the share of special education students in each group. We also have information on parents' socio-economic status and resources of schools in our models. In our analysis, we take advantage of the panel nature of our data by estimating panel data models with school fixed effects removing all time-constant variation between schools that is not controlled for with the explanatory variables. This setting partly solves the problem of unobservables and provides more accurate estimates than traditional ordinary least squares.

Although the coefficients of interest do not have any causal interpretation, they describe the effects of special education, which might be direct or indirect. When a student is placed in full-time special education and the curriculum is individualized there are several ways how it might affect the student itself and also other students. If the placement is done without increasing the resources of the school and classroom, the extra support needed for this student is taken from the resources directed to other students and it is therefore out of the general learning resources. This might have an effect on other students' schooling. However, it is also possible that the additional support given for a low-performing student will enhance indirectly the performance of the whole age group, if the additional support guarantees the study peace and improves the classroom management despite the reduced time for the other students. In case of additional resources directed to special education students in terms of special education teacher, group size is reduced and additional attention to special education students should benefit the whole age group (see e.g., Friesen, Hickey, & Krauth, 2010; Iversen et al., 2013).

## 2. Special education during Finnish compulsory schooling

Following the Nordic social democratic model, Finnish education policy has been based on the idea that everybody needs to have equal access to educate him- or herself to the highest possible level without cost. This principle was strengthened when the former parallel school system (two graded streams after grade 4) was replaced by united comprehensive schooling (grades 1–9) by the Comprehensive School Act of 1970 (Jahnukainen, 2014).

During the gradual shift to comprehensive schooling, the model of 'part-time special education'<sup>3</sup> was created to meet the growing diversity of comprehensive school population. Before that the main provision for students with special educational needs was based on separate special schools and self-contained special classes. The aim of the part-time provision model was to offer support and prevention to students without

<sup>2</sup> The cohort of 2009 is followed-up only for the first year.

<sup>3</sup> Special Education Needs Coordinator (SENco) is the closest equivalent in some other school systems (Takala, Pirttimaa, & Törmänen, 2009).

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