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## Short-term and medium-term effects of grade retention in secondary school on academic achievement and psychosocial outcome variables



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#### ABSTRACT

The objective of this paper was to examine how grade retention in secondary school would affect students' academic achievement and psychosocial adjustment. Moreover, we investigated short-term and medium-term effects of grade retention on students' outcomes. Propensity score matching was used to select a control group of promoted students who were similar to the retained students on a variety of characteristics. Furthermore, we used a type of comparison by which the outcome variables of the retained and promoted students were compared at different times while the grade and age-cohort were held equal between groups. We found three major results. With respect to school marks as an indicator of students' academic achievement, this study showed that retaining students resulted in short-term benefits for the retained students but that the matched promoted students performed equally well in the medium-term. The results of standardized achievement tests additionally indicated that the students who were retained did not differ significantly from the students who were promoted. Regarding psychosocial outcomes, students differed only in self-concept (favouring the promoted students) but not in other ratings.

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#### 1. Introduction

When students fail to demonstrate sufficient grade-level achievements, grade retention is one solution that is commonly applied. In this case, students are retained at their current grade level for one additional school year. This practice is often justified as necessary if not desirable in order to maintain grade-level standards and the accountability of students (Reynolds, 1992, p. 101). In addition to students' achievements (which could be represented by scores from standardized achievement tests as well as by school marks) as being predictors of grade retention, several other factors have been found being related to the probability that a student is retained in grade, e.g., the gender of the student (Meisels & Liaw, 1993), the student's ethnicity (Byrd & Weitzman, 1994), the socioeconomic status of the student (Guèvremont, Roos, & Brownell, 2007), and even the student's school track (Klapproth & Schaltz, 2014). In Europe, retention rates differ quite largely between countries, with one of the highest retention rates documented in Luxembourg. In Luxembourg, about 20% of the students have already repeated a grade level by the third grade of primary school, and more than 40% have repeated a grade level by the ninth

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grade of secondary school (Martin, Ugen, Fischbach, Muller, & Brunner, 2012).

Despite the frequency with which schools use grade retention as an educational intervention to help poor achievers, ample empirical evidence collected over the past 50 years or so suggests that grade retention rarely exerts benefits for the students, mostly has no effect, and often has even a negative impact on several school-related behaviours such as academic achievement or psychosocial adjustment (e.g., Hattie, 2009; Holmes, 1989).

However, little is known about the effects of grade retention in secondary school. Therefore, the present study empirically investigated the effects of grade retention on secondary-school students' outcomes in Luxembourg. Furthermore, and in contrast to many previous studies, the present work is based on a longitudinal database that enabled us to carefully match students with and without grade retention on a large number of cognitive, socio-demographic, and affective-emotional variables measured prior to the retention year and measured as outcome variables. This renders the results of the present study particularly meaningful. Moreover, we used a type of comparison by which the outcome variables of the retained and promoted students were compared at different times while the grade and age-cohort were held equal between groups. Given that retention rates in Luxembourg are among the highest in the world (Levy & Wallossek, 2012), the study data

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stem from an educational system that should be particularly well prepared to exploit the potential benefits of grade retention.

#### 1.1. Effects of grade retention on students' academic achievement

Most comparisons between retained and promoted students can be classified as either (a) "same age, different grades" comparisons, or (b) "same grade, different ages" comparisons (cf. Ehmke, Drechsel, & Carstensen, 2008). In the "same age, different grades" approach, retained and promoted students are (on average) the same age. Because the time at which the outcomes are measured is the same for both groups of students, the grades are necessarily different, with retained students being taught in a lower grade than promoted students. With the "same grade, different ages" approach, retained and promoted students are also compared on outcome variables obtained at the same time, but students in the two groups are not the same age, with retained students being (on average 1 year) older than promoted students.

Many educators believe that children or teenagers who do not reach the academic and behavioural norms set by schools simply need more time in order to develop the degree of maturity needed for the next grade (e. g., Grant & Richardson, 1998). They expect that the adequate stage of development will eventually be reached by most of the children during the repeated year. Moreover, grade retention is assumed to help homogenizing of academic achievement in the classroom (despite raising the heterogeneity of age). One argument often stated is that when low-achieving students are retained in grade, the academic status of children in a classroom becomes more homogeneous and thus makes it easier for the teachers to adequately deliver instructions (Byrnes, 1989; Ehmke, Drechsel, & Carstensen, 2010).

Moreover, since retained students experience instruction that they already know, they may perform better in this situation than they did before.

Contrary to many educators' beliefs, Holmes (1989) reported in a meta-analysis of 63 controlled studies (with both same-age and same-grade comparisons) that 54 studies revealed negative effects of grade retention on achievement variables measured in the subsequent grade. The remaining studies showed positive effects of grade retention on achievements in the short-term, but these diminished over time and eventually disappeared in later grades.

Jimerson (2001) conducted a meta-analysis of grade-retention studies focusing on studies published in the 1990s, again referring to both types of comparisons. Jimerson reported that 47% of the analyses entailing academic achievement variables as outcomes favoured the matched promoted students, 5% favoured the retained students, and 48% indicated no significant differences between retained and promoted students.

Similar results were found by Hattie (2009) in a synthesis of more than 800 meta-analyses on achievement. In the final ranking of the different factors of influence on student achievement, grade retention was ranked in position 136 out of the 138 factors that were considered, and thus, the overall effect of grade retention was negative.

Studies addressing effects of grade retention on academic achievement conducted after these meta-analyses have revealed similar results when using same-grade comparisons (e.g., Chen, Liu, Zhang, Shi, & Rozelle, 2010; Ehmke et al., 2008).

## 1.2. Differential effects of grade retention on specific academic achievement domains

In their meta-analysis, Holmes and Matthews (1984) showed that in each of the subareas of students' outcomes they considered, grade retention produced negative effects on average. However, the effects differed in size between subareas, with the largest effects obtained for reading and the smallest for mathematics. Results obtained in Jimerson's (2001) meta-analysis pointed in a similar direction by showing that the negative effects of grade retention were larger in reading

than in mathematics. These findings might be related to different socio-demographic backgrounds of promoted versus non-promoted students, such as the language spoken at home or immigration background.

According to Gleason, Kwok, and Hughes (2007), retained students scored significantly lower than promoted students on test scores in both reading and mathematics when students of the same age were compared. However, in same-grade comparisons, the retained students were superior to the promoted students on both scores, with a larger difference in mathematics than reading.

One assumption that might account for the finding that after grade retention achievements in mathematics were not as negatively affected as achievements in languages, or even show some improvement compared to languages, is that mathematics is a typical academic subject, which is almost exclusively learned at school, whereas language is partly learned outside school in families and peer groups. Thus, repeating one grade might give a greater relative advantage in mathematics than in languages.

#### 1.3. Effects of grade retention on psychosocial outcome variables

Reasons for positive effects of grade retention on students' outcomes are often ascribed to a greater maturity of the retained children in comparison to similarly low achieving but promoted children (cf. Wu, West, & Hughes, 2010). Since the retained children are on average one year older than their classmates, they are likely to have more experience with the curriculum and classroom routines. Moreover, retained children may also have developed more competences for adequately interacting with their peers and their teachers. Since cognitive growth and psychosocial development are intertwined, children who are repeating a grade may gain confidence when comparing themselves with younger promoted peers. Thus, social comparisons favouring retained students may contribute to their self-perceived competence and interest in school and school subjects (Plummer & Graziano, 1987).

However, many educators are concerned about the stigma that is often associated with grade retention. Stigmatization may cause a decrease of the student's self-esteem and commitment to school (Pagani, Tremblay, Vitaro, Boulerice, & McDuff, 2001). Some educators even believe that grade retention destroys the self-respect and confidence of students and can actually be detrimental for educational performance Royce, Darlington, & Murray, 1983).

Another reason for negative effects of grade retention may be seen in peer reactions (Entwisle & Hayduk, 1982). Retained children are placed with classmates who are on average younger, smaller and in some respects less mature than themselves. It is possible that retained students are therefore not accepted by their peers and are targets of discrimination, for example, because they are perceived as having lower status (Plummer & Graziano, 1987). In case of such discriminations, lower academic achievement and negative self-evaluations might follow.

Studies have also addressed the social and psychological adjustment outcomes associated with grade retention. In his meta-analysis, Holmes (1989) considered over 40 studies that included psychosocial outcomes. These studies showed on average that retained students demonstrated poorer attendance, poorer social adjustment, and more negative attitudes toward school as well as more problem behaviours than their promoted peers. Jimerson (2001) found 16 studies addressing psychosocial outcomes, including 148 analyses in total. The vast majority of these analyses (86%) yielded no statistically significant differences between retained and promoted students.

# 1.4. Short-term and medium-term effects of grade retention on academic achievement

The occurrence and relative weighting of positive or negative effects might depend on the time elapsed since the actual retention. In the short term, especially in their retained year, students are likely to

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