# Effects of residential mobility on the educational opportunity of children in a society with a centralised educational system.

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**Effects of residential mobility on the educational opportunity of children in a society with a centralised educational system.**

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## 1. Introduction

In the Netherlands geographic mobility among school children has increased considerably in recent decades. In addition to moves for professional reasons, moves have increased because of the rise in the number of divorces involving children. Moving entails changes in the surroundings of those concerned. Often children have to change schools. They are confronted with different teachers, new classmates, and other teaching methods. With moves motivated by a divorce, the changes are even more dramatic. These moves often entail family tensions and economic decline, which may in turn affect the quality of parenting.

In the Netherlands no studies have been conducted yet on the impact of moves on children's school performance. In the United States, however, more is known about this subject. Long (1975) has concluded that upper-middle class families move the most. Although moving and school performance appear unrelated at first, adjusting the data to reflect social class reveals that moving adversely affects school performance. Only if the parents are university graduates does this effect disappear. Hagan (1996) shows that lack of parental concern or support for their children after the move reinforces the negative effect. Simmons (1987) demonstrates that the coincidence of geographic mobility and other major changes, such as puberty or divorce by the parents, interacts negatively with self-image and school performance. Astone and McLanahan (1994) believe that moving is the reason why18 percent of children from single-parent families and 30 percent of children with a stepparent drop out of school. Geographic mobility and the concurrent changes in social surroundings are important factors behind poorer school performance among children from broken homes, according to these authors. They list various reasons for the negative impact of moving on children's school performance. First, a new school often means different instructional materials and methods. Students not yet familiar with the new system may perform less well as a consequence. Moreover, parents (and children) entering new surroundings know less about the quality of the schools and therefore have greater difficulty choosing the right school. Changing schools also means establishing new relationships with teachers and age-mates. Teachers are less willing to invest time in a child they do not know well, especially if the child turns out to have moved many times before. Children entering a new school may feel isolated and lonely. They are therefore very likely to encounter other marginalized students involved in anti-social activities or already excluded from the learning experience. In their analysis, Swanson and Schneider (1999) distinguish between "movers" (students who move without changing schools), "changers" (students who change schools without moving), and "leavers" (students who move and change schools). Within these three categories they distinguish high school freshmen and sophomores (14 to 16 years old) who change schools or move from high school juniors and seniors (16 to 18 years old) who change schools or move. The authors then conclude that students who move at the beginning of high school (especially those who change schools) will experience short-term negative consequences. In the long run, however, they benefit from changing schools and perform better than students who do not

change schools. Changing schools later on in high school does not benefit subsequent school performance. Rather, changes at this stage have a negative impact on the cognitive development of the students.

Various studies in the United States reveal that changing schools adversely affects school performance. Outside the United States the negative effects of changing schools is never addressed. We have reason to assume, however, that this negative effect will not be found in most continental European societies. Unlike the United States, most European continental societies like the Netherlands have national school systems. Schools within such national school systems pursue government-imposed learning objectives. For instance in the Netherlands many elementary school students at the end of Grade 6 take a national standardized test (*CITO* Test) to demonstrate whether they have accomplished these objectives, and those completing high school take a standardized final written examination for the same purpose. Because the United States does not have a national school system, schools and their curricula vary more strongly. The differences can place children who change schools at a disadvantage, if the requirements at their new school differ from the ones to which they had been accustomed. In societies with national school systems, however, children will encounter fairly similar course materials at their new schools and will therefore have an easier time adjusting.

The status of comparative research outside the united States leads this article to address a simple descriptive question: "Do school changes by good students adversely affect their subsequent school performance?" In this analysis we have used data on students in MAVO (lower general secondary education) and VWO (pre-university) programs. The reason is that the effect of changing schools may vary according to a family's social class. Including MAVO students – who are mostly from working-class backgrounds – and VWO students – who are mostly the middle class – in the analysis serves to reveal any differences between the two groups. Unfortunately, the available longitudinal data, which contain adequate information about the children's wellbeing, do not enable direct quantification of the moves and the underlying reasons. In this article we therefore use school changes by good students as a proxy for moves by parents and students. Presumably, most school changes by good students result from moves because of parental employment prospects or divorce.

## 2. Data

The data we used for this analysis are from the CBS [Central Office of Statistics] cohort study VOCL '89 containing data on the school performance of students in their first year of high school [equivalent to seventh grade in the United States] in 1989. In this analysis we used data for the years 1989-1994. While the codes of the schools attended by these students were indicated for each year, the municipalities of these schools were not.[2] We have used these school codes to select students who have changed schools. If more than two students transferred out of a certain school to a different one, we did not label them as "changers." In these cases, the change of school codes may result not from an actual school change but from an administrative transaction, such as a merge between schools. We set the limit at two students, as siblings are likely change schools together. In determining whether school changes by good students significantly affected school performance, we omitted all students who had to repeat the year or transferred to a less competitive program. Here, changing schools might be attributable to poor school performance rather than to the need to attend a different school. As stated above, our analysis distinguishes two populations: VWO students

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[2] The original file of the CBS contains the school codes combined with the names of municipalities. This information has been withheld from researchers, however, on privacy grounds.

(pre-university secondary education) and MAVO students (lower general secondary education).

Our two sample groups comprise good students in VWO or MAVO programs (i.e. only the ones who have not repeated a year or transferred to a less competitive program). We have distinguished between school changers and non-school changers, assuming that the students who change schools also move. There may also be a small group of good students, however, that changes schools without moving. These students might have behavior problems, despite their strong performance. Changing schools could be intended to resolve such behavior problems. We have tried to identify these distortions by controlling for previous school performance in elementary education (i.e. *CITO* Test score, recommendation of primary school head for high school program) in our analyses to rule out longstanding behavior problems as the reason for changing schools. After all, such problems would affect previous school performance in elementary education. Filtering out this factor in the analyses reduces the likelihood that a significant negative impact from changing schools is attributable to behavior problems. Although we have no way of verifying this, we assume that good students who change schools consist of: 1. students who move because of their parents' employment situation and 2. students who change schools after their parents get divorced. To offset the known negative impact of divorce on school performance (Dronkers, 1994), we have checked family composition upon entering high school in the analyses. This reduces the likelihood that possible negative effects of changing schools, especially between 7th and 8th grade, arise from changing schools following a divorce by the parents. Moving because of the parents' employment situation therefore remains the most plausible explanation for a negative effect from changing schools.

School changes were tabulated by transition from one academic year to the next. This includes the years 1989-1990 (7th to 8th grade), 1990-1991 (8th to 9th grade), and 1991-1992 (9th to 10th grade).

Except where stated otherwise, we have applied the following variables to VWO and MAVO students alike.

School changer. These students have only changed schools and have not repeated a year or been forced to change to another school type, because of poor academic performance

Father's level of education. The variable "father's level of education in 6 categories" has been re-encoded to a dichotomous variable in the categories high and low. Among the fathers of VWO students, the value "high" denotes the first and second stages of higher education. Among fathers of MAVO students, this value denotes the first and second stages of higher education and the second half of high school. Among fathers of MAVO students, "low" denotes the categories less than elementary school, elementary school and the first half of high school.

Mother's level of education. This variable has the same structure as the father's level of education.

Father's occupation. We have re-encoded the original variable "social background in 6 categories" to a dichotomous variable. Fathers of both VWO and MAVO students who are mid-level employees or professionals are assigned the value "high." "Low" comprises lower-ranking employees, self-employed with staff, self-employed without staff, and blue-collar workers.

Family composition. The family composition is based on the variable household composition in 1989. It has been re-encoded to a dichotomous variable comprising the categories "father and mother" and "other." "Other" comprises all other possible family compositions.

Degree of urbanization. This is based on the variable "municipal code for place of residence." We have linked it to the degree of urbanization variable of the Central Bureau of Statistics.

<u>*CITO* Test score in Grade 6</u>. The *CITO* Test score is a nationally standardized scholastic ability test at the end of primary school. This test is used to advice parents on the most suited type of secondary education for their children.

<u>School recommendation in Grade 6</u>. Besides the *CITO* test, the heads of primary school give also their advice to parents on the most suited type of secondary education. This advice is the4 best predictor of success in secondary education, because it also takes into account other factors than only scholastic ability, measured by the *CITO* test. (Faasse, Bakker, Dronkers & Schijf, 1987) We have re-encoded the 13 categories of the school recommendation variable to a dichotomous variable for VWO students consisting of HAVO or lower (1) on the one hand and the value HAVO or VWO (2) on the other hand. With MAVO students, we have divided the variable into three categories including lower than MAVO, MAVO, and higher than MAVO.

<u>School sector</u>. The Dutch educational systems can be distinguished into a public sector and a religious school sector (catholic and protestant; Dronkers, 1995). We constructed a dichotomous variable based on the school's sector in 1989-1990. The category public schools comprises municipal, state, and other special schools. We have designated the Protestant-Christian and Roman-Catholic schools as confessional schools. Rather than indicating school characteristics, this variable reflects the standards and values of parents concerning their immediate and extended families and the neighborhood. Parents who send their children to confessional schools are likely to be more concerned with their immediate and extended family and the neighborhood and therefore less inclined to move for professional reasons.

<u>Transition from 8th to 9th grade of VWO</u>. This variable is based on three situations that may accompany the transition. First, students may transfer to a less competitive program. Second, they may repeat the year. Finally, they may proceed to the next year of VWO. We have assigned the values 0, 1, and 2 to these three situations, respectively.

<u>Transition from 9th to 10th grade of VWO.</u> See Transition from 8th to 9th grade of VWO.

<u>Transition from 10th to 11th grade of VWO</u>. See Transition from 8th to 9th grade of VWO.

<u>Transition from 8th to 9th grade of MAVO</u>. As with VWO, this variable is divided into three values. Transferring to a less competitive program has been assigned a 0, repeating the year a 1, and proceeding to the next year a 2. MAVO students may also transfer to the more competitive HAVO (upper general secondary education) or VWO programs. As very few students actually use this option, they are included in the group proceeding to the next year of MAVO.

<u>Transition from 9th to 10th grade of MAVO</u>. See Transition from 8th to 9th grade of MAVO.


**3. Do VWO students who change schools differ from their counterparts who do not change schools?**

*3. 1. Differences in social background between VWO students who change schools and their counterparts who do not*

School changers are students who have changed school code but have not repeated the year or transferred to a less competitive program in the year that they change schools. As stated, all these VWO school changers and their counterparts who remain in the same school are from various social backgrounds. In this section we discuss the results for students who changed schools between 7th and 8th grade and for those who changed schools between 8th and 9th grade. In Table 1 we present the results for all parameters. School changers differ consistently from students who do not change schools. The appendix, which is available from the authors, features a detailed account of the contexts with all background parameters.

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Here somewhere Table 1
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Table 1 reveals that students at public schools are more likely to change schools. Seventy-eight percent of the seventh-grade VWO students that do not change schools attends a confessional school. This share is significantly higher than among the school changers, of whom only 59% attends a confessional school. The same holds true for students who change schools after 8th grade. In this group, 53% attends a confessional school, compared with 79% of the students who do not change schools. Table 1 also shows that a larger share of school changers comes from single-parent families than of the students who do not change schools. This difference is significant only with the 7th grade VWO students, where 81% of the school changers comes from a traditional family, compared with 92% of the students who do not change schools.

Several other differences exist between the VWO students who change schools and their counterparts who do not. They are less systematic, however, and are reflected only in the appendix available from the authors. Among the students changing schools after 8th grade, 55% lives in rural communities, small towns, and bedroom suburbs, compared with 33% of those who do not change schools. Members of this group are more likely than the school changers to live in urbanized rural communities (32% versus 15%) and in medium-sized and large cities (25% versus 18%). The educational levels of the mothers of the 7th grade VWO students differ significantly between the school changers and those who do not change schools. Forty-four percent of the mothers of the school changers are well educated, compared with 27% of the mothers of those who do not change schools. The fathers of 8th grade VWO school changers are significantly more likely to be professionals than the fathers of those remaining at the same school. Among the fathers of those not changing schools, 61% are professionals, compared with 83% of the fathers of students who change schools. The father's education and occupation do not differ significantly between the two groups of 7th grade VWO students, and the education of both the fathers and mothers are similar for all 8th grade VWO students as well.

As for the high school program recommended in Grade 6, the difference is not significant between students who change schools after 7th or 8th grade and students who remain at the same school. The same holds true for *CITO* Test scores.

*3.2 Differences in subsequent school performance among VWO students who change schools*
Table 2 reveals the extent of the differences between subsequent school performance (our dependent variable) among VWO students who change schools and those who do not. We discuss the findings for students who change schools between 7th and 8th grade and between 8th and 9th grade.

===================================================================
Here somewhere Table 2
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VWO students changing schools do as well as their classmates remaining in the same school in the transition to subsequent years. School changers do, however, differ from their counterparts who do not change schools in transitions overall. After all, a significantly larger share of the students remaining in the same school transfers to HAVO than of the school changers, who are more likely to repeat a year in VWO.

School performance among VWO students changing schools varies with respect to the aforementioned differences in social background and prior school performance. We have examined this according to various indicators of school performance (transferring to a less competitive program, repeating the year etc.) and have performed a logistic regression analysis, because the dependent variable is dichotomous. The logistic regression analysis parameters reveal the probability ratios affecting the dependent variable (i.e. successful transition to the next academic year) in the event of a rise in the independent variable (e.g. changing schools). Coefficients equal to 1.00 indicate an identical probability. Coefficients above 1.00 indicate the likelihood of a high score on the dependent variable equal to the difference between the coefficient and 1.00, if the independent variable rises. With coefficients below 1.00, the likelihood of a high score on the dependent variable decreases by the difference between the coefficient and 1.00, if the independent variable rises.

Only the indicator of repeating a year of VWO reveals that school-changing students repeat years at VWO more often than their counterparts who do not change schools. This result appears in Table 3, and the other logistic regression analyses are provided in the appendix available from the authors. Although repeating a year is often not considered a very serious problem, we believe these results are an initial indication that changing schools is more likely to have a negative than a positive impact on good VWO students. VWO students changing schools are less likely to transfer to HAVO than their counterparts who do not change schools, after allowing for social background and previous school performance.

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## 4. Do MAVO students changing schools differ from their counterparts who do not change schools?

*4. 1. Differences in social background between MAVO students who change schools and their counterparts who do not.*
In this section we continue to discuss the results for students who change schools between 7th and 8th grade and those who change schools between 8th and 9th grade. Like with the VWO students, these school changers are students whose school code has changed, but who have not repeated the year or transferred to a less competitive program. Again, the appendix available from the authors features a detailed account of all background characteristics of the MAVO students who change schools and those who do not. Table 4 conveys the results of the parameters where school changers differ systematically from their counterparts who do not change schools.

==========================================================
Here somewhere Table 4
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Table 4 reveals that MAVO students are more likely to attend public schools than their counterparts who do not change schools. Among MAVO students changing schools after 7th grade, 49% attended a public school, compared with 21% of the students who did not change schools. Among MAVO 8th graders, 29% of the school changers attended a public school, compared with 20% of those who did not change schools. Regarding family composition, we see in Table 4 that students who change schools are less likely to come from two-parent

families than students who do not change schools (Table 6). Among MAVO students changing schools after 7th grade, 82% comes from a two-parent family, compared with 90% of the 7th graders that do not change schools. The corresponding rates for 8th grade MAVO students are 85% versus 91%. The differences are mildly significant in both cases.

Less systematic differences exist as well and are indicated in the appendix available from the authors. Urbanization differs significantly among the 7th grade MAVO students. School changers are more likely to live in medium-sized and large cities than their counterparts who do not change schools (42% versus 23%). Among 8th grade MAVO students, no significant differences are apparent with respect to urbanization between school changers and their counterparts who do not change schools. Among those changing schools after 8th grade, 13% had been advised [in 6th grade – Translator's note] to attend a less competitive school than MAVO, compared with 5% of the students who did not change schools. The fathers of 7th grade MAVO students who change schools are more educated than the fathers of those who do not change schools (77% versus 54%). We observed no other significant differences concerning the education or occupation of the parents of MAVO school changers. Students who change schools after 7th grade averaged a score of 32.5% on the *CITO* Test, reflecting a mildly significant difference from the average score (35.8%) among their counterparts who did not change schools. Students who change schools after 8th grade do not have significantly different *CITO* Test scores from those of their counterparts who do not change schools.

*4.2 Differences in subsequent school performance among MAVO students who change schools*
Table 5 reveals the extent of the differences between subsequent school performance (our dependent variable) among MAVO students who change schools and those who do not. We discuss the findings for students who change schools between 7th and 8th grade and between 8th and 9th grade.

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MAVO students who change schools after 7th grade are as likely to repeat the year as those who do not change schools. Among the school changers, however, a significantly larger share transfers to a less competitive program. Forty-three percent of MAVO students changing schools after 7th grade transfers to a less competitive school between 8th and 9th grade. The corresponding rate for MAVO students who do not change schools is only 14%. The next year, in the transition from the 9th to the 10th grade of MAVO, 52% of the students changing schools transfers to a less competitive program, versus 17% of the students who do not change schools. The pattern is the same among the students changing schools after 8th grade. In the transition from 9th to 10th grade, 24% of the MAVO school changers transfers to a less competitive program, compared with 2% of their counterparts who do not change schools. The shares of students forced to repeat the year are virtually identical for the school changers and their counterparts who do not change schools, while a far smaller share of school changers than of those remaining in the same school proceeds to the next academic year (63% versus 83%).

This difference in school performance between MAVO school changers and their counterparts who do not change schools may arise from the difference noted above concerning social background and previous school career. We have therefore used a logistic regression analysis to examine whether social background underlies the difference in

subsequent school performance. The main results appear in tables 6 and 7 and the others in the appendix available from the authors.

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Here somewhere Table 7 & 8
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The regression analysis reveals that even after allowing for social backgrounds, MAVO school changers subsequently perform less well than their counterparts who do not change schools. According to Table 6, students changing schools are significantly more likely to transfer to less competitive programs. In Table 7 we find that significantly fewer of the students changing schools after 7th grade proceed to the next year of MAVO than of the ones who do not change schools. The situation is the same among MAVO students who change schools after 8th grade. At the end of the year that follows, significantly fewer of these students than of the ones who do not change schools proceed to the 10th grade of MAVO.

These results clearly confirm our assumption that school changes by good MAVO students have a negative impact on their subsequent school performance: these students are more likely to repeat the year or to transfer to a less competitive program in the year that follows. These negative consequences are not attributable to differences in background characteristics or past performance.


**5. Conclusion**
How do the above findings affect our research question? First, changing schools has a minimal negative impact on subsequent school performance among VWO students. The ones who change schools at the beginning of VWO are more likely to repeat the year but not to transfer to less competitive programs than their counterparts who do not change schools.

The results of MAVO students changing schools reveal that – unlike the VWO school changers – they perform significantly less well than their counterparts who do not change schools in the years that follow. Many transfer to less competitive programs, such as LBO (lower secondary vocational education). These results correspond with the findings by Long (1975), who also concluded that, after considering social surroundings, moving had a negative impact on school performance. Students from middle-class backgrounds may be affected less, because they have more cultural aids for coping with the changes.

In this analysis we have assumed that good students change schools because of a move. As indicated in the introduction, the reason for the move is unknown. We have controlled for family composition, which does not explain differences in school performance between students who change schools and those who do not. Unfortunately, we are aware only of the family composition of these students when they started high school. Some of the moves may result from divorces that occurred once the student was already attending high school. Our data on family composition does not yield this information. Nevertheless, the negative impact of school changes by these good MAVO students is difficult to attribute to moves that arise from divorce for two reasons. First, few of the moves by students entering 8th grade are likely to result from a previous divorce. Such a divorce would need to have occurred between the assessment of the family composition when the student entered high school and the transition to 8th grade. Second, if most school changes are attributable to divorce, then the negative impact on good VWO students is remarkably low. The incidence of divorce is similar among MAVO and VWO students alike, and having educated parents does not reduce the negative impact of divorce (Borgers, Dronkers & Van Praag, 1996). We therefore believe that a significant share of the observed negative impact of changing schools

arises from geographic mobility of the parents related to job changes, rather than to problems arising from divorce.

School changes by good students may well be attributable to behavior problems and intended as a way of overcoming such difficulties. One would expect those behavior problems to recur at the new school, which might make them more likely to repeat years or transfer to a less competitive program. Although this explanation is possible, it does not appear plausible. In our analyses we have controlled for the performance in elementary school. Any longstanding behavior problems among the school changers should also be reflected in their performance in elementary school. This controlling for prior school performance reduces the likelihood that the negative impact of changing schools is attributable to good students who transfer because of behavior problems.

Although the Netherlands has a national school system (unlike the United States), this consistency does not offset the negative consequences of changing schools, which are especially pronounced among MAVO students. Apparently, a national school system does not ensure educational continuity following a change of schools.

Overall, we conclude that the interests of parents and children differ regarding the decision as to whether or not to move because of a job change. Although high geographic mobility probably benefits the job market and the parents' quality of life, changing schools – especially among students in less competitive programs – may affect their children's performance.

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Table 1: Characteristics of VWO students who change schools and their counterparts who do not.

A: school sector attended by 7th grade VWO school changers and students who do not change schools

| School sector | No school change | School change | Total |
|---|---|---|---|
| **Public** | 643 21.9% | 19 41.3% | 662 22.2% |
| **Confessional** | 2287 78.1% | 27 58.7% | 2,314 77.8% |
| **Total** | 2,930 100.0% | 46 100.0% | 2,976 100.0% |

$\chi^2 = 9.81$; df = 1; p = .00

B: School sector attended by 8th grade VWO school changers and students who do not change schools

| School sector | No school change | School change | Total |
|---|---|---|---|
| **Public** | 453 21.1% | 19 47.5% | 472 21.6% |
| **Confessional** | 1,689 78.9% | 21 52.5% | 1,710 78.4% |
| **Total** | 2,142 100.0% | 40 100.0% | 2,182 100.0% |

$\chi^2 = 16.09$; df = 1; p = .00

C: Family composition for 7th grade VWO school changers and students who do not change schools

| Family composition | No school change | School change | Total |
|---|---|---|---|
| **Mother and father** | 2,313 91.6% | 35 81.4% | 2,348 91.4% |
| **Other** | 213 8.4% | 8 18.6% | 221 8.6% |
| **Total** | 2,526 100.0% | 43 100.0% | 2,596 100.0% |

$\chi^2 = 5.56$; df = 1; p = .03

D: Family composition for 8th grade VWO school changers and students who do not change schools

| Family composition | No school change | School change | Total |
|---|---|---|---|
| **Mother and father** | 1,669 91.7% | 33 89.2% | 1,702 91.6% |
| **Other** | 152 8.3% | 4 10.8% | 156 8.4% |
| **Total** | 1,821 100.0% | 37 100.0% | 1,858 100.0% |

$\chi^2 = .29$; df = 1; p = .38

Table 2: Subsequent school performance of VWO students who change schools and their counterparts who do not

A: Transition from 8th to 9th grade VWO by 7th grade VWO school changers and students who do not change schools

| Transition from VWO 8th to 9th grade | No school change | School change | Total |
|---|---|---|---|
| **Entered other program** | 627 21.4% | 5 10.9% | 632 21.2% |
| **Repeated a year of VWO** | 181 6.2% | 7 15.2% | 188 6.3% |
| **Proceeded to 9th grade VWO** | 2,122 72.4% | 34 73.8% | 2,156 72.4% |
| **Total** | 2,930 100.0% | 46 100.0% | 2,976 100.0% |

$\chi^2 = 8.24$; df = 2; p = .02

B: Transition from 9th to 10th grade VWO by 7th grade VWO school changers and students who do not change schools

| Transition from 9th to 10th grade VWO | No school change | School change | Total |
|---|---|---|---|
| **Entered other program** | 1,076 36.9% | 12 26.1% | 1,088 36.7% |
| **Repeated a year of VWO** | 212 7.3% | 7 15.2% | 219 7.4% |
| **Proceeded to 10th grade VWO** | 1,631 55.9% | 27 58.7% | 1,658 55.9% |
| **Total** | 2,919 100.0% | 46 100.0% | 2,965 100.0% |

$\chi^2 = 5.38$; df = 2; p = .07

C: Transition from 10th to 11th grade VWO by 7th grade VWO school changers and students who do not change schools

| Transition from 10th to 11th grade VWO | No school change | School change | Total |
|---|---|---|---|
| **Entered other program** | 1,166 41.6% | 13 28.9% | 1,179 41.4% |
| **Repeated a year of VWO** | 219 7.8% | 7 15.6% | 226 7.9% |
| **Proceeded to 11th grade VWO** | 1,415 50.5% | 25 55.6% | 1,440 50.6% |
| **Total** | 2,800 100.0% | 45 100.0% | 2,845 100.0% |

$\chi^2 = 5.29$; df = 2; p = .07

D: Transition from 9th to 10th grade VWO by 8th grade VWO school changers and students who do not change schools

| Transition from 9th to 10th grade VWO | No school change | School change | Total |
|---|---|---|---|
| **Entered other program** | 372<br>17.4% | 3<br>7.5% | 375<br>17.2% |
| **Repeated a year of VWO** | 123<br>5.8% | 4<br>10.0% | 127<br>5.8% |
| **Proceeded to 10th grade VWO** | 1,642<br>76.8% | 33<br>82.5% | 1,675<br>76.9% |
| **Total** | 2,137<br>100.0% | 40<br>100.0% | 2,177<br>100.0% |

$\chi^2 = 3.61$; df = 2; p = .16

E: Transition from 10th to 11th grade VWO by 8th grade VWO school changers and students who do not change schools

| Transition from 10th to 11th grade VWO | No school change | School change | Total |
|---|---|---|---|
| **Entered other program** | 512<br>24.2% | 6<br>15.0% | 518<br>24.0% |
| **Repeated a year of VWO** | 173<br>8.2% | 9<br>22.5% | 182<br>8.4% |
| **Proceeded to 11th grade VWO** | 1,429<br>67.6% | 25<br>62.5% | 1,454<br>67.5% |
| **Total** | 2,114<br>100.0% | 40<br>100.0% | 2,154<br>100.0% |

$\chi^2 = 11.06$; df = 2; p = .00

Table 3: Exponent[1] parameters from the logistic regression analysis, including whether students proceeded to the next year of VWO for grades 8-9, 9-10 and 10-11 VWO as a dependent variable

| Variables | Transition 8-9 VWO; VWO Grade 8 or VWO Grade 9 | Transition 9-10 VWO; VWO Grade 9 or VWO Grade 10 | Transition 10-11 VWO; VWO Grade 10 or VWO Grade 11 | Variables | Transition 9-10 VWO; VWO Grade 9 of VWO Grade 10 | Transition 10-11 VWO; VWO Grade 10 of VWO Grade 11 |
|---|---|---|---|---|---|---|
| **School change after VWO Grade 7** | .22** | .75 | 1.05 | **School change after VWO Grade 8** | .48 | .36* |
| Good H.S. recommended in Grade 6 | 3.29** | 2.00** | | Good H.S. recommended in Grade 6 | 1.44 | |
| High *CITO* score Grade 6 | 1.05** | 1.04** | | High *CITO* score Grade 6 | 1.05** | |
| High degree of Urbanization | | 1.19* | .84* | High degree of Urbanization | 1.26* | .80* |
| Well-educated father | | 1.60** | | Well-educated father | 1.75* | |
| Well-educated mother | | | | Well-educated mother | | |
| Confessional School | | 1.71** | 2.53** | Confessional School | | 2.23** |
| Professional father | | | | Professional father | | |
| Non-traditional Family composition | | | | Non-traditional Family composition | | |

[1] These parameters reveal the probability ratios affecting the dependent variable (i.e. successful transition to the next academic year), if the independent variable rises (e.g. changing schools). Coefficients equal to 1.00 indicate an identical probability, coefficients above 1.00 a greater likelihood, and coefficients below 1.00 a smaller likelihood.
Key: ** p < .01; *.01 < p < .05; $.05 < p < .10

Table 4: Characteristics of MAVO students who change schools and their counterparts who do not.
A: School sector attended by 7th grade MAVO school changers and students who do not change schools

| School sector | No school change | School change | Total |
|---|---|---|---|
| **Public** | 959 20.9% | 33 49.3% | 992 21.3% |
| **Confessional** | 3,626 79.1% | 34 50.7% | 3,660 78.7% |
| **Total** | 4,585 100.0% | 67 100.0% | 4,652 100.0% |

$\chi^2 = 31.61$; df = 1; p = .00

B: School sector attended by 8th grade MAVO school changers and students who do not change schools

| School sector | No school change | School change | Total |
|---|---|---|---|
| **Public** | 630 19.2% | 18 29.0% | 648 19.4% |
| **Confessional** | 2,644 80.8% | 44 71.0% | 2,688 80.6% |
| **Total** | 3,247 100.0% | 62 100.0% | 3,336 100.0% |

$\chi^2 = 3.73$; df = 1; p = .04

C: Family composition for 7th grade MAVO school changers and students who do not change schools

| Family composition | No school change | School change | Total |
|---|---|---|---|
| **Mother and father** | 3,694 90.0% | 41 82.0% | 3,735 89.9% |
| **Other** | 409 10.0% | 9 18.0% | 418 10.1% |
| **Total** | 4,103 100.0% | 50 100.0% | 4,153 100.0% |

$\chi^2 = 3.52$; df = 1; p = .06

D: Family composition for 8th grade MAVO school changers and students who do not change schools

| Family composition | No school change | School change | Total |
|---|---|---|---|
| **Mother and father** | 2,714 91.4% | 46 85.2% | 2,760 91.3% |
| **Other** | 256 8.6% | 8 14.8% | 264 8.7% |
| **Total** | 2,970 100.0% | 54 100.0% | 3,024 100.0% |

$\chi^2 = 3.73$; df = 1; p = .04

Table 5: Subsequent school performance of MAVO students who change schools and their counterparts who do not

A: Transition from 8th to 9th grade MAVO by 7th grade MAVO school changers and students who do not change schools

| Transition from 8th to 9th grade MAVO | No school change | School change | Total |
|---|---|---|---|
| **Entered less competitive program** | 658<br>14.4% | 29<br>43.3% | 687<br>14.8% |
| **Repeated a year of MAVO** | 443<br>9.7% | 10<br>14.9% | 453<br>9.7% |
| **Proceeded to 9th grade MAVO (or entered a more competitive program)** | 3,484<br>76.0% | 28<br>41.8% | 3,512<br>75.5% |
| **Total** | 4,585<br>100.0% | 67<br>100.0% | 4,652<br>100.0% |

$\chi^2 = 49.54$; df = 2; p = .00

B: Transition from 9th to 10th grade MAVO by 7th grade MAVO school changers and students who do not change schools

| Transition from 9th to 10th grade MAVO | No school change | School change | Total |
|---|---|---|---|
| **Entered less competitive program** | 784<br>17.1% | 35<br>52.2% | 819<br>17.6% |
| **Repeated a year of MAVO** | 883<br>19.3% | 8<br>11.9% | 891<br>19.2% |
| **Proceeded to 10th grade MAVO (or entered a more competitive program)** | 2,918<br>63.6% | 24<br>35.8% | 2,942<br>63.2% |
| **Total** | 4,585<br>100.0% | 67<br>100.0% | 4,652<br>100.0% |

$\chi^2 = 56.24$; df = 2; p= .00

C: Transition from 9th to 10th grade MAVO by 8th grade MAVO school changers and students who do not change schools

| Transition from 9th to 10th grade MAVO | No school change | School change | Total |
|---|---|---|---|
| **Entered less competitive program** | 68 2.1% | 15 24.2% | 83 2.5% |
| **Repeated a year of MAVO** | 461 14.1% | 8 12.9% | 469 14.1% |
| **Proceeded to 10th grade MAVO (or entered a more competitive program)** | 2,745 83.8% | 39 62.9% | 2,784 83.5% |
| **Total** | 3,247 100.0% | 62 100.0% | 3,336 100.0% |

$\chi^2 = 122.88$; df = 2; p = .00

Table 6: Exponent[1] parameters from the logistic regression analysis, including whether students transferred to a less competitive program from grades 8-9 and 9-10 MAVO and moving on to the next year of MAVO as a dependent variable

| Variables | Transition 8-9 MAVO; MAVO versus transfer to a less competitive program | Transition 9-10 MAVO; MAVO versus transfer to a less competitive program | Variables | Transition 9-10 MAVO; MAVO (Grade 9 or 10) versus transfer to a less competitive program |
|---|---|---|---|---|
| **School change after MAVO Grade 7** | .21** | .21** | **School change after MAVO Grade 8** | 0.07** |
| Good H.S. recommended in Grade 6 | 9.73** | 7.70** | Good H.S. recommended in Grade 6 | |
| High *CITO* score Grade 6 | | | High *CITO* score Grade 6 | |
| High degree of Urbanization | .85** | .85** | High degree of Urbanization | |
| Well-educated father | 1.57** | | Well-educated father | |
| Well-educated mother | | | Well-educated mother | |
| Confessional School | 1.46** | 1.49** | Confessional School | 1.84$ |
| Professional father | | 1.45** | Professional father | 2.38* |
| Non-traditional Family composition | .50* | .51* | Non-traditional Family composition | |

[1] These parameters reveal the probability ratios affecting the dependent variable (i.e. successful transition to the next academic year), if the independent variable rises (e.g. changing schools). Coefficients equal to 1.00 indicate an identical probability, coefficients above 1.00 a greater likelihood, and coefficients below 1.00 a smaller likelihood.
Key: ** $p < .01$; *$.01 < p < .05$; $.05 < p < .10$

Table 7: Exponent[1] parameters from the logistic regression analysis of whether students passed to the next year of MAVO for 8th to 9th grade, with passing the year in MAVO as the independent variable

| Variables | Transition 8-9 MAVO; MAVO Grade 9 versus transfer to a less competitive program or repeating the year | Transition 9-10 MAVO; MAVO Grade 10 versus transfer to a less competitive program or repeating the year | Variables | Transition 9-10 MAVO; MAVO Grade 10 versus transfer to a less competitive program or repeating the year |
|---|---|---|---|---|
| **School change after MAVO Grade 7** | .27** | .36** | **School change after MAVO Grade 8** | .47* |
| Good H.S. recommended in Grade 6 | 6.23** | 5.15** | Good H.S. recommended in Grade 6 | 2.04** |
| High *CITO* score Grade 6 | 1.01* | 1.01** | High *CITO* score Grade 6 | 1.01* |
| High degree of Urbanization | .82** | .84** | High degree of Urbanization | .88** |
| Well-educated father | 1.25** | | Well-educated father | |
| Well-educated mother | | | Well-educated mother | |
| Confessional School | 1.27** | | Confessional School | |
| Professional father | | 1.20* | Professional father | |
| Non-traditional Family composition | .54** | .57** | Non-traditional Family composition | |

[1] These parameters reveal the probability ratios affecting the dependent variable (i.e. successful transition to the next academic year), if the independent variable rises (e.g. changing schools). Coefficients equal to 1.00 indicate an identical probability, coefficients above 1.00 a greater likelihood, and coefficients below 1.00 a smaller likelihood.
Key: ** $p < .01$; *.01 $< p < .05$; $.05 < p < .10$

**Abstract**

Research in the United States indicates that moving adversely affects children's school performance No studies have been conducted on this subject in continental Europe yet. Unlike in the United States, most continental European societies have a national school system, which should diminish the educational consequences of moving. The question of this article is therefor "Does changing schools adversely affect the subsequent performance of good students in the Netherlands?" Our data are from the VOCL '89 cohort, a nationally representative longitudinal cohort of high school students. The results indicate that students in VWO (pre-university) programs are more likely to repeat the year than their counterparts who do not change schools. The discrepancy is greater still in the MAVO (lower general secondary education) programs. MAVO students are more likely to transfer to less competitive programs than their counterparts who do not change schools. They also repeat the year more often. Thus, we found for a continental European society also that changing schools for non-academic reasons adversely affects subsequent school performance.

**Biographical note**

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