

Are German Non-Public Secondary Schools More Effective in Reaching Cognitive and Non-Cognitive Educational Goals?

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Abstract

One of the assumptions of the parental choice debate is that non-public schools are more effective than public ones, not only in the cognitive but also in the non-cognitive domain. We test this assumption for German secondary schools with data collected from the Learning Processes, Educational Careers, and Psychosocial Development in Adolescence (BIJU) study, which was collected in two waves in the 7th and the 10th class. Our hypothesis, that pupils of non-public schools in Germany have higher cognitive and non-cognitive scores on some tests than pupils from public schools, can be partially accepted. It is only true for English in the 7th class and for biology in the 10th class, though pupils of non-public schools do worse on mathematics in the 10th class. Non-cognitive tests (tests of self-concept of academic ability and conformist motive to help others) show that in the 7th class pupils in non-public schools also differ from pupils of public schools. On the other cognitive and non-cognitive tests, pupils of German public and non-public schools score equally.

Introduction

Parental choice in education or the freedom for parents to choose their children's schools is a major topic in educational policy.¹ The introduction of more parental choice in educational systems is often advocated as a means to introduce competition between schools, thus improving the quality of teaching, decreasing the level of bureaucracy in and around schools, and reducing costs.² One of the assumptions of the choice movement is that non-public schools are more effective than public ones.

Unlike the USA and the UK, parents in different continental European societies can make choices between comparable schools, public and private, without paying very high fees. Private schools are most often Catholic or Protestant schools operating within a national educational system and receiving state grants. The existence of public and private schools within one national educational system is the unintended result of three processes in some European societies: 1) the struggle between the state and the established churches in continental Europe, 2) the fight between the 18th century ancien regimes (mostly with one state-church and sometimes suppressed religious minorities), 3) the 19th-century liberal governments (which claimed to be neutral to all churches), and 4) the emergence of new social classes in the 19th century (skilled workers, craftsmen, labourers) that rejected the dominant classes.³ In several continental European societies (Austria, Belgium, France, German Länder, and the Netherlands) these processes had more or less comparable results: public and religiously-subsidized school sectors

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¹ CERI (1994), *School: a Matter of Choice*, OECD, Paris.

² Chubb, J.E. and Moe, T.M. (1990), *Politics, markets, and America's schools*, The Brookings Institution, Washington, D.C.

³ Of course, the importance of these processes was not equal in the different European nations.

were able to offer parents a choice between schools with similar curricula and comparable costs.⁴ However, the size of these public and non-public school sectors varies greatly between European countries, for specific historical reasons.

The German non-public school sector, which is among the smallest on the continent,⁵ is a good place to test the assumption of American and British choice advocates that non-public schools are more effective than public schools. The aim of this article is to test this assumption by focusing on both the cognitive and non-cognitive goals of education.

Most studies of school effectiveness focus on cognitive goals, such as the extent to which students learn their mother language, foreign languages, mathematics, and natural sciences. Although education scholars recognize the importance of the non-cognitive goals of education (the cultivation of cultural values, psycho-social development, personal motivation), school effectiveness in reaching them is seldom studied, mostly because it is hard to evaluate students in non-cognitive areas. The German data used in this study, however, consider student scores on cognitive and non-cognitive measures in both public and non-public schools.

Despite the decreasing presence of religion in the daily lives of most Europeans, the presence of religious schools in European countries has not dwindled. On the contrary, the non-public school sector in societies with relatively inactive religious populations is growing (as in Australia and France). In Germany, for example, the percentage of pupils in non-public schools has increased from its lowest point during the 1970s (see table 1). This increase holds true not only for societies that traditionally had religious schools, but also for societies in which non-public schools had at some point been abolished (Hungary, Poland, the new German Länder, or States).

In some countries, despite a decline in church attendance, religious schools have generally maintained steady numbers of pupils. The Netherlands provides an example of this. One explanation for this phenomenon is that Dutch non-public schools are generally more effective in their teaching than public schools. Another explanation is that while non-public schools no longer aim to indoctrinate pupils into a particular religion, they still emphasize many of the non-cognitive goals that parents value. As in the Dutch case, if German non-public schools are, on average, more effective in reaching both cognitive and non-cognitive educational goals than public schools, this could be one explanation for the existence of religious schools in societies which, in practice, have become less religious.

Table 1. Percentage of pupils in Realschule and Gymnasium attending non-public schools between 1956 and 1998

Year	Realschule	Gymnasium
1956	8.9	13.0
1965	8.5	13.2
1975	5.5	9.6
1990 (old BRD states)	8.4	12.2
1998 (old BRD states, including East Berlin)	8.2	12.1
1998 (new BRD states, excluding East Berlin)	0.03	2.5
1998 (total)	7.1	10.2

Sources: 1956-1975: Köhler in Goldschmidt & Roeder, 1979; 1990 Statistisches Bundesamt 1992; 1998: Statistisches Bundesamt 1998.

This summary of current research leads to our hypothesis: pupils in German non-public schools have higher cognitive and non-cognitive scores than pupils from public schools, after controlling for other characteristics of schools and parents. Some possible explanations for the performance of German non-public schools are the strong administrative practices of non-public schools, the stronger relationships between parents and teachers in non-public schools, and parental ability to choose non-public schools.

⁴ For good reasons, these processes had a quite different effect in the United Kingdom (Archer, 1984). The United States has never experienced these long conflicts over school between the state and the established church or the ancien regime and the liberal state, due to its revolutionary start.

⁵ OECD (1998), *Education at a Glance. Indicators 1998*, OECD, Paris, p. 139.

Public and Private Schools in Germany in the '90s⁶

A majority of public and a minority of private schools exist next to each other in all Länder, or States, of Germany. In the German Federal Republic, the State has a primary responsibility to establish and maintain public schools, but there is also a guarantee in law (Article 7, section IV of the German Constitution) for private, or non-public, schools. Non-public schools are allowed to operate so long as they do not promote preferential treatment for students from wealthy families and they maintain the same standards as public schools in terms curricular quality and teacher qualifications.⁷ Further, private schools are only allowed if they are based on special pedagogical, religious, or philosophical opinions (section V of the German Constitution).⁸ The schools also have to accept the right of the state to supervise them.

Private schools get many forms of financial help from the state, although degrees of help and conditions for help differ from state to state and from school type to school type.⁹ This can be seen from table 2, which shows the percentages of private schools¹⁰ of the total number of schools in these three German states and in the whole of Germany for the different school types in secondary education for the school year 1992/1993.¹¹ The data used in this article come from three German states: Mecklenburg-Vorpommern, Nordrhein-Westfalen, and Sachsen-Anhalt. It should be noted that non-public schools in the German states Mecklenburg-Vorpommern and Sachsen-Anhalt were only established after the German reunification of 1990.

Table 2. Percentages of private schools of the total number of schools in 4 German states and for the different school types in secondary education for the school year 1992/1993

State	Hauptschule	Realschule	Gesamtschule	Gymnasium
Total	2.54	6.82	1.66	11.07
Mecklenburg-Vorpommern	0.00	0.00	0.00	1.06
Nordrhein-Westfalen	0.57	7.74	3.85	17.01
Sachsen-Anhalt	0.00	0.00	0.00	3.47

Data and First Comparisons

This article makes use of a data-base provided by the longitudinal study Learning Processes, Educational Careers, and Psychosocial Development in Adolescence (BIJU), which was carried out by the Max Planck Institute for Human Development in collaboration with the Institute for Science Education at the University of Kiel (IPN). One major component of this study is the analysis of domain specific learning processes as dependent on social and cognitive resources, prior knowledge, motivational orientation, learning strategies, and quantity and quality of instruction. The design of the study includes curriculum-valid achievement tests from six domains. The achievement tests are IRT-scaled, using the two-parameter Birnbaum model. A branch testing design was implemented. Anchor items provided the link between the test forms and the different measurement points. BIJU includes information on SAS consistent with the international ISCO-standard and measures on basic dimensions of mental ability.

The longitudinal study began with the investigation of the main cohort during the school year 1991/92. The data collection started with the 7th class at three measurement points. The sample of school classes, disproportionately stratified according to state and type of school, comprises some 8,000 students from 212 schools of all secondary types in three states of West and East Germany. In order to separate the effects of school and grade, two classes per school were included in the sample (for further information Schnabel, 1998; Köller, 1998).¹²

⁶ Waldorfschulen (antroposofical schools) are excluded in this article because they have quite different goals and practices than other German schools, which makes comparison useless.

⁷ Die Lehrziele, Einrichtungen und Lehrkräfte der private Schulen sollen nicht hinter den öffentlichen Schulen zurückstehen und eine Sonderung der Schüler nach Besitzverhältnissen nicht gefördert wird.

⁸ Private Volksschulen sind allerdings nur bei besonderem pädagogischen Interesse zuzulassen oder wenn sie als Gemeinschaftsschule, Bekenntnis- oder Weltanschauungsschule errichtet werden sollen.

⁹ Goldschmidt, D. and Roeder, P.M. (1979), *Alternative Schulen? Gestalt und Funktion nichtstaatlicher Schulen im Rahmen öffentlicher Bildungssysteme*, Klett-Cotta, Stuttgart, p. 131-145.

¹⁰ Private school is defined here according to Article 7 of the Constitution and the decision of the German ministers of education of the *Länder* on 10 and 11 September 1951.

¹¹ Statistisches Bundesamt (1994), *Bildung und Kultur. Fachserie 11. Reihe 1. Allgemeinbildende Schulen. 1993/94*, Statistisches Bundesamt, Wiesbaden.

¹² For further information see Schnabel, K. (1998), *Prüfungsangst und Lernen*, Waxmann, Munster/New York. Köller, O. (1998), *Zielorientierungen und schulisches Lernen*, Waxmann, Munster/New York.

The data presented are longitudinal and representative of two waves; the pupils were tested in the 7th class (the beginning of secondary school in Germany) and retested in the 10th class. This offers the possibility to analyze the effectiveness of the schools more precisely. However, the non-response of pupils in the 10th class compared with the 7th class is considerable, and larger for the public schools than for the non-public schools. The causes of this non-response stem from both the individual level (repeating of earlier classes, school dropout, illness at testing day) and the school level (failure to cooperate with the second wave, which was more frequent among public schools). As a consequence, pupils measured in the 10th class are a select group of the more successful pupils. A logistic analysis shows that first wave pupils from Nordrhein-Westfalen, from Gymnasia, from non-public schools, and with parents of higher occupational prestige participated significantly more often in the second wave. This biased non-response leads to an underestimation of the difference in school effectiveness between public and non-public schools because non-response in the second wave is significantly related to lower scores in mathematics, physics, biology, English, self-concept of social effectiveness, and self-concept of social acceptance in the first wave.

There were 5 non-public schools (4 Gymnasia, 1 Gesamtschule) in the first wave and 4 non-public schools in the second wave (only Gymnasia) with enough valid data for the core variables in the BIJU scattered around in 3 German states: Meckelenburg-Vorpommern, Nordrhein-Westfalen and Sachsen-Anhalt (N-pupils in 7th class=139; N-pupils in 10th class=79). We added all public schools of the same type and in the same state and with enough valid data for the core variables (first wave: 6 Gesamtschule, 43 Gymnasia; N-pupils in 7th class =1092; second wave: 3 Gesamtschule, 31 Gymnasia; N-pupils in 10th class=419) to the data set of non-public schools.

The pupils whose cognitive and non-cognitive scores are analysed here have not finished their secondary school careers; they are only half-way through (10th class). This means that we still underestimate the possible effects of attending public and non-public schools.

We use the following variables in our analyses:

Control variables

1. German state (Two dummy variables with Nordrhein-Westfalen as reference category);
2. Boy;
3. Birth year;
4. Gymnasium.

Cognitive goals¹³

1. Mathematics score in 7th class;
2. Mathematics score in 10th class;
3. Physics score in 7th class;
4. Physics score in 10th class;
5. Biology score in 7th class;
6. Biology score in 10th class;
7. English score in 7th class (this test was not measured in the schools of Meckelenburg-Vorpommern and Sachsen-Anhalt, because English, as the most important foreign language, was only introduced after the German reunification);
8. English score in 10th class (this test was only measured in the schools where English was not measured in the first wave).

Non-cognitive goals

1. Self-concept of academic ability in 7th class;
2. Self-concept of academic ability in 10th class;
3. Task orientation in 7th class;
4. Task orientation in 10th class;
5. Ego orientation in 7th class;
6. Ego orientation in 10th class;
7. Self-concept of social effectiveness in 7th class;
8. Self-concept of social effectiveness in 10th class;
9. Self-concept of social acceptance in 7th class;
10. Self-concept of social acceptance in 10th class;

¹³ The measurements of the 7th class and the 10th class are equal for each variable.

11. Altruistic motive to help others in 7th class;
12. Altruistic motive to help others in 10th class;
13. Egoistic motive to help others in 7th class;
14. Egoistic motive to help others in 10th class;
15. Conformist motive to help others in 7th class;
16. Conformist motive to help others in 10th class.

Parental background

1. Parental education (An ordinal variable (six categories) running from finished primary education to university study);
2. Parental occupational status (An interval variable based on the highest parental occupational status;¹⁴

The results of our selection of public and non-public schools from the same type and in the same state are provided in table 3. Public and non-public schools are listed separately.

Table 3. Means with their t-values and standard deviations with Levene's test for equality of variances, separately for public and non-public schools

Variable	Public school	Non-public school	t-value	Levene's test	Valid N
Boy	47%	31%	3.86**	-	1218
Mathematics score in 7 th class	117.1 (28.8)	111.8 (29.5)	2.01**	.09	1194
Mathematics score in 10 th class	215.5 (43.1)	195.1 (35.5)	4.48**	5.64*	494
Physic score in 7 th class	114.1 (25.1)	107.3 (27.0)	2.84**	.99	1188
Physic score in 10 th class	165.2 (37.6)	158.9 (30.7)	1.57	6.28**	457
Biology score in 7 th class	116.4 (26.6)	108.3 (26.7)	3.35**	.56	1204
Biology score in 10 th class	182.2 (34.3)	183.5 (41.7)	-.20	1.98	222
English score in 7 th class	114.7 (33.1)	130.2 (27.3)	- 4.39**	.49*	433
English score in 10 th class	195.6 (52.3)	204.4 (50.4)	-1.00	.08	276
Self-concept of academic ability in 7 th class	2.75 (.52)	2.66 (.55)	1.84§	.49	929
Self-concept of academic ability in 10 th class	3.07 (.59)	3.04 (.54)	.33	.82	496
Task orientation in 7 th class	3.20 (.52)	3.09 (.50)	2.25*	.29	1192
Task orientation in 10 th class	2.89 (.55)	2.93 (.48)	-.53	1.59	498
Ego orientation in 7 th class	2.69 (.70)	2.64 (.65)	.75	.21	1194
Ego orientation in 10 th class	2.39 (.72)	2.47 (.68)	-.97	.19	498
Self-concept of social effectiveness in 7 th class	2.62 (.71)	2.62 (.64)	-.02	2.32	1102
Self-concept of social effectiveness in 10 th class	2.93 (.68)	2.87 (.53)	.83	6.23**	495
Self-concept of social acceptance in 7 th class	3.09 (.72)	3.11 (.70)	-.31	.16	906
Self-concept of social acceptance in 10 th class	3.22 (.68)	3.34 (.63)	-1.51	1.95	496
Altruistic motive to help in 7 th class	3.76 (.75)	3.73 (.74)	.39	.26	846
Altruistic motive to help in 10 th class	3.95 (.70)	3.98 (.61)	-.35	1.58	491

¹⁴ International scale of Treiman, D. (1977), *Occupational Prestige in Comparative Perspective*, Academic Press, New York.

Egoistic motive to help in 7 th class	2.43 (.64)	2.32 (.55)	1.61§	2.66§	838
Egoistic motive to help in 10 th class	2.41 (.64)	2.31 (.42)	1.81§	16.93**	491
Conformist motive to help in 7 th class	3.08 (.72)	2.82 (.62)	3.38**	4.65*	839
Conformist motive to help in 10 th class	2.86 (.78)	2.68 (.60)	2.26	4.56*	492
Highest parental education	3.86 (1.90)	4.17 (1.78)	-1.88§	4.17*	1231
Highest parental status	61.38 (21.33)	61.05 (19.88)	.18	1.79	1231
N 7 th class	1092	139			
N 10 th class	419	79			

** p < .01; * p < .05; § p < .10

Table 3 shows some differences between pupils in public and non-public schools with respect to their cognitive scores. Pupils in non-public schools score significantly lower than pupils in public schools on mathematics in both waves and in physics and biology tests in the first wave. They score significantly higher on the English test in the first wave, however. These differences might be a result of the different composition of the pupil population of public and non-public schools: the latter have more female pupils and pupils with better educated parents (but not more prestigious occupations) than the former. On the basis of this table, it is impossible to reject or to confirm our hypotheses.

Table 3 also shows some differences between pupils in public and non-public schools with respect to their non-cognitive scores. Pupils in non-public schools score significantly lower than pupils in public schools on the tests of the egoist motives to help others in both waves and on the test of the conformist motives to help others in the first wave. They also score lower in the first wave on the self-concept of academic ability (regarding themselves as more stupid, lazy, etc.) and on task orientation (having a lower intrinsic motivation to complete tasks). But these differences could be a result of the different compositions of the pupil populations of public and non-public schools, especially gender compositions.

The Levene's statistic shows that standard deviations of parental educational level, egoist and conformist motives to help others (both waves), English scores (first wave) and mathematics & psychics scores (second wave) of pupils in non-public schools are significantly lower than those of pupils of public schools. This could mean that German non-public schools are more successful in homogenizing the cognitive and non-cognitive scores of their pupils than public schools.

Multivariate Analyses and Cognitive Goals

Table 4 shows the final step of the multivariate analyses with the scores on four cognitive tests in the 7th class as the dependent variable and the control and parental background variables as independent variables.

Table 4. Scores on cognitive tests in the 7th class and the standardized effects of non-public schools, controlled for state, gender, birth year, gymnasium, parental education and parental occupational status

Variables	Mathematics	Physic	Biology	English
Non-public school	-.03	-.01	-.05§	.21**
Meckelenburg-Vorpommern	-.10**	.09**	.04	-
Sachsen-Anhalt	-.01	.10**	.16**	-
Male	.18**	.32**	.14**	-.10**
Birth year	.02	-.01	-.02	.12**
Gymnasium	.39**	.35**	.31**	.55**
Parental education	.03	.02	.05§	.00
Parental status	.05§	.02	.02	.02
Adjusted R ²	.17	.25	.17	.37

** p < .01; * p < .05; § p < .10

If one takes the different compositions of their pupil populations (especially gender compositions) into account, table 4 shows that pupils in public and non-public schools don't differ significantly in their cognitive scores for mathematics and natural sciences in the 7th class, although the biology scores of non-public school pupils are still lower than the scores of public school pupils. However, higher scores

in English by non-public school pupils cannot be explained fully by the social composition of schools: they remain significantly higher than the scores of pupils in public schools.¹⁵ So, public and non-public schools are equally effective in teaching natural sciences and mathematics in the 7th class (biology is not an exception because it is not a subject at the start of the German secondary school), but they differ in teaching foreign languages.

Table 5 shows the final step of the multivariate analyses with the scores on the mathematics, physics, and biology tests in the 10th class as the dependent variable and the analogous test scores in the 7th class and the control and the parental background variables as independent variables (pairwise deletion).

¹⁵ This difference in English score between pupils of public and non-public schools cannot be explained by the omission of the schools from Meckelenburg-Vorpommern and Sachsen-Anhalt in the regression with English score as dependent variable. If we deleted the schools of these two states in the other regressions, we get essentially the same results as presented here.

Table 5. Scores on cognitive tests in the 10th class and the standardized effects of non-public schools, controlled for state gender, birth year, gymnasium, parental education, parental occupational status, and the analogous test score in the 7th class

Variables	Mathematics	Physic	Biology
Non-public school	-.13**	.00	.12*
Meckelenburg-Vorpommern	.01	-.05	.44**
Sachsen-Anhalt	.00	.09§	.47**
Male	.24**	.29**	.14*
Birth year	.00	-.08**	-.07
Gymnasium	.11*	.15**	-.30**
Parental education	.10**	.13**	.06
Parental status	-.09*	-.03	.02
Analogous test in 7 th class	.36**	.37**	.44**
Adjusted R ²	.28	.39	.41

** p < .01; * p < .05; § p < .10

Table 5 shows a mixed picture. Pupils in non-public schools do worse on mathematics tests in the 10th class, but better on biology tests in the 10th class if one controls for the earlier scores in the 7th class. But one has to keep in mind that the pupils in the 10th class are a selected group, and selection is greater for the public schools than the non-public schools.

Multivariate Analyses and Non-Cognitive Goals

Table 6 shows the final step of the multivariate analyses with the scores on eight non-cognitive tests in the 7th class as the dependent variable and the control and parental background variables as independent variables.

Table 6. Scores on eight non-cognitive tests in the 7th class and the standardized effects of non-public schools, controlled for state, gender, birth year, gymnasium, parental education, and parental occupational status

Variables	Self concept of academic ability	Task orientation	Ego orientation	Self-concept of social effectiveness	Self-concept of social acceptance	Altruism motive to help	Egoistic motive to help	Conformist motive to help
Non-public school	-.07*	-.02	-.01	.00	.00	-.05	-.02	-.10**
Meckelenburg-Vorpommern	-.14**	.18**	-.06§	-.08*	-.07§	-.09*	.18**	.08§
Sachsen-Anhalt	-.20**	.21**	-.06§	-.07§	-.06	-.09*	.16**	.11**
Male	.20**	.09**	.18**	.01	-.08*	-.17**	.14**	.01
Birth year	-.01	-.02	.02	-.03	-.08*	.05	.10**	.07*
Gymnasium	.08*	.14**	.12**	.11**	.14**	.04	-.13**	-.11**
Parental education	.09**	.06*	.06*	.01	-.03	-.02	.02	.00
Parental status	-.03	-.02	.00	.03	-.02	-.06§	-.02	-.06
Adjusted R ²	.07	.10	.04	.01	.02	.04	.05	.02

** p < .01; * p < .05; § p < .10

Table 6 shows that pupils in public and non-public schools still differ significantly on two non-cognitive tests in the 7th class, despite the control for parental background. Pupils in non-public schools score lower on the conformist motive to help others and on the test for the self-concept of academic ability. These differences cannot be explained by differences in social backgrounds of pupils and schools. The higher scores on the egoistic motive and task orientation, reported earlier without controls for background, can be explained by the different gender compositions of public and non-public schools.

Table 7 shows the final step of the multivariate analyses with the scores on eight non-cognitive tests in the 10th class as the dependent variable and the analogous scores in the 7th class and the control and parental background variables as independent variables (pairwise deletion).

Table 7. Scores on eight non-cognitive tests in the 7th class and the standardized effects of non-public schools, controlled for state, gender, birth year, gymnasium, parental education, parental occupational status and the analogous test in the 7th class

Variables	Self-concept of academic ability	Task orientation	Ego orientation	Self-concept of social effectiveness	Self-concept of social acceptance	Altruism motive to help	Egoistic motive to help	Conformist motive to help
Non-public school	-.02	.03	.06	-.04	.06	.01	-.02	-.02
Mecklenburg-Vorpommern	-.08	.01	-.05	-.01	.01	.03	.26**	.21**
Sachsen-Anhalt	-.11§	-.03	-.05	-.10§	-.03	-.02	.23**	.22**
Male	.03	-.05	.17**	.02	-.01	-.16**	.08§	.10*
Birth year	.07	-.05	.07§	-.02	.02	-.02	-.06	.01
Gymnasium	.05	.07	.00	.05	-.01	.05	-.17**	-.18**
Parental education	.12*	.10*	.11**	.03	-.04	.01	.00	.05
Parental status	-.18**	-.01	-.04	-.14**	-.12*	-.03	.03	-.03
Analogous test in 7 th class	.19**	.23**	.37**	.34**	.23**	.34**	.28**	.27**
Adjusted R ²	.07	.07	.20	.12	.06	.15	.14	.15

** p < .01; * p < .05; § p < .10

Table 7 shows that public and non-public schools do not differ in non-cognitive scores in the 10th class, if we take into account the scores in the 7th class. This is not what we expected. This negative result might be partly explained by the non-response in the 10th class, which is biased against public schools.

Discussion

We can accept our hypothesis that pupils in German non-public schools have higher cognitive and non-cognitive scores on some tests than pupils from public schools after controlling for other characteristics of schools and parents. For the cognitive test, this is only true for English in the 7th class and for biology in the 10th class. But pupils in non-public schools do worse on mathematics tests in the 10th class. For the non-cognitive tests of self-concept of academic ability and conformist motives to help others in the 7th class, pupils in non-public schools also differ from pupils in public schools. On the other cognitive and non-cognitive tests, pupils in public and non-public schools score equally.

A difference between the official and the hidden curricula could be an explanation of this difference in effectiveness between public and non-public schools with regard to natural sciences and mathematics, on the one hand, and foreign languages, on the other hand. Public and non-public schools within each German state have the same curriculum. Thus public and non-public schools don't deviate in curricular offerings to students.¹⁶ However, the authorities in non-public schools might focus, on average, less on the highest results in mathematics and natural sciences and concentrate, on average, more on learning foreign languages, general knowledge, and non-cognitive aspects of education (motivation, social competence, etc.). This is precisely what we found in this analysis: pupils of non-public schools do better on English tests, are more modest about their own academic ability (self-concept of academic mobility), and claim to help people less for conformist reasons.

This preference for foreign languages, general knowledge, and the non-cognitive aspects of education might be a result of the religious traditions in these non-public schools (the majority being Catholic). But this preference might also reflect the wishes of parents who believe that foreign languages, general knowledge, and the non-cognitive aspects of education are more important for upward social mobility or maintaining a high social position than the highest scores in mathematics and the natural sciences. As long as non-public schools are more successful in homogenising the learning results in mathematics

¹⁶ This is an importance difference with the USA where the freedom of choosing subjects at different levels is larger than in Germany and in most other European societies.

and natural sciences, parents might believe that less of a focus on these subjects is not harmful for the life courses of their children.

It should be clear that these analyses are not final. The samples used are small. The pupils who were analysed have not yet finished secondary school; they are only halfway through their secondary education. This means that at the end of secondary school the differences between pupils in public and non-public schools could be larger than reported here. But these outcomes, together with those of Dronkers and Hemsing¹⁷ justify a comprehensive study of the differences in effectiveness of public and non-public schools in Germany. These preliminary outcomes for Germany suggest that the differences between public and religious schools found in the Netherlands are not a unique phenomena but a part of a larger development in other continental European societies.

¹⁷ Dronkers, J. and Hemsing, W. (2005), 'Differences in Educational Attainment and Religious Socialization of Ex-Pupils from Grammar Schools with Public, Catholic, Protestant, and Private Backgrounds in the German State of Nordrhein-Westfalen during the 1970s and 1980s', *International Journal of Educational Policy, Research, & Practice* 5:73-93. A German version is published earlier in *Zeitschrift für Erziehungswissenschaft* 2:247-261.

References

- Archer, M.S. (1984), *Social origins of educational systems*, Sage, London/Beverly Hills
- CERI (1994), *School: a Matter of Choice*, OECD, Paris
- Chubb, J.E. and Moe, T.M. (1990), *Politics, markets, and America's schools*, The Brookings Institution, Washington D.C.
- Dijkstra, A.B., Dronkers, J. and Hofman, R. (1997), *Verzuiling in het onderwijs. Actuele verklaringen en analyse*, Wolters-Noordhoff, Groningen
- Dronkers, J. (1996), 'Dutch public and religious schools between state and market', *Zeitschrift für Pädagogik* 35:51-66
- Dronkers, J. and Hemsing, W. (2005), 'Differences in Educational Attainment and Religious Socialization of Ex-Pupils from Grammar Schools with Public, Catholic, Protestant, and Private Backgrounds in the German State of Nordrhein-Westfalen during the 1970s and 1980s', *International Journal of Educational Policy, Research, & Practice* 5:73-93. A German version is published earlier in *Zeitschrift für Erziehungswissenschaft* 2:247-261
- Goldschmidt, D. and Roeder, P.M. (1979), *Alternative Schulen? Gestalt und Funktion nichtstaatlicher Schulen im Rahmen öffentlicher Bildungssysteme*, Klett-Cotta, Stuttgart
- Köller, O. (1998), *Zielorientierungen und schulisches Lernen*, Waxmann, Munster/New York
- OECD (1998), *Education at a Glance. Indicators 1998*, OECD, Paris
- Schäfers, B. and Zapf, W. (1998), *Handwörterbuch zur Gesellschaft Deutschlands*, Leske + Budrich, Opladen
- Schnabel, K. (1998), *Prüfungsangst und Lernen*, Waxmann, Munster/New York
- Statistisches Bundesamt (1992), *Bildung und Kultur. Fachserie 11. Reihe 1. Allgemeinbildende Schulen. 1990*, Statistisches Bundesamt, Wiesbaden
- Statistisches Bundesamt (1996), *Bildung und Kultur. Fachserie 11. Reihe 1. Allgemeinbildende Schulen. Schuljahr 1995/96*, Statistisches Bundesamt, Wiesbaden
- Statistisches Bundesamt (1998), *Bildung und Kultur. Fachserie 11. Reihe 1. Allgemeinbildende Schulen. Schuljahr 1997/98*, Statistisches Bundesamt, Wiesbaden
- Sturm, J., Groenendijk, L., Kruithof, B. and Rens, J. (1998), 'Educational Pluralism – a historical study of so-called "pillarization" in the Netherlands, including a comparison with some developments in South African education', *Comparative Education* 34:281-297
- Treiman, D. (1977), *Occupational Prestige in Comparative Perspective*, Academic Press, New York