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Abstract

In this article we study how the frequency of book-reading – a form of legitimate culture – develops in the period from adolescence to young adulthood and how it is influenced by parents' education, parental reading socialization climate, school and their interactions. In disentangling parental and educational effects we contribute to the cultural reproduction–cultural mobility debate. We use multi-actor panel data on three cohorts of Dutch secondary school students (and their parents) who took part in a classroom survey between the ages of 14 and 17, and who participated in at least one of the follow-up surveys two, four and six years later. We find that the amount of book-reading is more strongly associated with education than with parents' reading socialization. The influence of parents increases slightly in the period from adolescence to young adulthood. Differences in reading behaviour between students of different educational programmes increase during secondary education, but decrease in the period after secondary schooling. The transition to tertiary education hardly affects the frequency of reading. Overall, the results are more in line with the cultural reproduction model than with the cultural mobility model.

Keywords

Book-reading, cultural capital, cultural mobility, cultural participation, cultural reproduction, intergenerational transmission

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Introduction

This article examines how the reading of fiction – a form of legitimate culture – develops during adolescence and early adulthood. Many studies have analysed the influence of knowing about and participating in legitimate culture on educational attainment because of its impact on more general stratification patterns in society (see DiMaggio, 1982; De Graaf, 1986; Mohr and DiMaggio, 1995; Aschaffenburg and Maas, 1997; Kaufman and Gabler, 2004; Kraaykamp and Van Eijck, 2010). Reading books in particular has been found to have a major impact on children's educational attainment (De Graaf, 1986; De Graaf et al., 2000; Evans et al., 2010; Notten and Kraaykamp, 2010) and academic performance (Kloosterman et al., 2011). Here, however, we are concerned with explaining variations in reading behaviour itself – more specifically, the frequency of reading fiction – by offering a dynamic approach to participation practices.

Previous work has consistently emphasized the importance of school and the parental home as the most important social contexts in which people develop reading habits (Kraaykamp, 2001; Groeben and Hurrelmann, 2004; Verboord, 2005). In general, it takes specific cultural competencies and dispositions to enjoy legitimate culture (Bourdieu, 1979; Ganzeboom, 1982). While parents are generally thought to supply their children with the most profound cultural competencies ('habitus'; Bourdieu, 1979), some children will master these skills during their school years. Yet the relative importance of both contexts remains debated. Children of high-educated parents have (often) already been introduced to legitimate culture at home, which gives them a greater chance of succeeding in higher education, where the legitimate culture of the dominant classes prevails (Bourdieu, 1977, 1979). In other words, parental education, cultural socialization by the parents and education are strongly correlated. Many empirical studies into the relationship between family and school socialization contexts and book-reading rely on observations among adults (e.g. Kraaykamp and Dijkstra, 1999; Verboord, 2005; Notten, 2011). Using data on students who are still in their formative period (ages 14–23), and experiencing the influence of these contexts, this research adds to the assessment of the immediate impact of these determinants of reading behaviour. Our first research question is: 1. To what extent do parents' education, parental reading socialization climate and secondary schooling affect book-reading frequency in the period from adolescence to young adulthood?

The second contribution of this article concerns the temporal aspect of cultural socialization. The development of the effects of education and of parents during the formative period has so far hardly been studied for book-reading.¹ We study the period between ages 14 and 23, when students move from secondary education to follow-up education and – some time later – enter the labour market. As the reading of fiction is part of the secondary school curriculum, a general rise in reading can be expected, particularly among students of the higher educational programmes with the more severe reading requirements. An interesting question concerns the extent to which these differences persist after the secondary school years. Still, apart from compulsory reading, in these years adolescents also start to loosen their ties with their parents, thereby diverging in tastes and practices. Adolescents may continue reading in accordance with their parental socialization, but also adapt it to changes depending on their own (future) status position. Our second research question thus reads: 2. How do the effects of parents' education, parental reading socialization climate and secondary schooling on book-reading frequency change across age and with progression of one's educational career?

Finally, we address the issue whether the effects of education differ among children from various parental contexts. In line with classical research on the formation of 'cultural capital' through processes of cultural reproduction versus cultural mobility (e.g. DiMaggio, 1982), we first examine differentiation across parental educational attainments. Having measurements of parental socialization at our disposal also allows us to investigate whether secondary education is more, less or equally beneficial to students with various parental introductions to book-reading. Following from this, our third research question (in two parts) reads: 3. How do the influences of family and school interact? And is there an – positive or negative – interaction between the two determining contexts of book-reading frequency?

In answering these questions we use panel data on 2251 secondary school students in The Netherlands who first took part in a classroom interview at ages 14–17 and who two, four or six years later participated in at least one of the follow-up surveys. Also one of the parents was surveyed.

Theoretical background

Participation in legitimate culture such as classical music, theatre and reading fiction is traditionally a lifestyle activity mostly found among the high social status groups in Western societies (Bourdieu, 1979; DiMaggio and Mukhtar, 2004; Chan and Goldthorpe, 2007; Lizardo, 2008). More than just a leisure time activity, taking interest in these forms of culture falls within a wider array of dispositions, of which display and command can also influence social status, as has been theorized through the concept of cultural capital (Bourdieu, 1979; Lamont and Lareau, 1988; Bennett et al., 2009). Within this framework, participation in highbrow arts is considered an embodied form of cultural capital, which can be defined as ‘institutionalized, i.e. widely shared, high status cultural signals (attitudes, preferences, formal knowledge, behaviours, goods and credentials) used for social and cultural exclusion’ (Lamont and Lareau, 1988: 156). Explanatory models hence underscore the patterning of cultural participations to social structures: the legitimacy of cultural artefacts and practices is imposed by the dominant classes and their control of governing institutions (Bourdieu, 1979; Mohr and DiMaggio, 1995).

Bourdieu’s (1977) influential cultural reproduction model offers an explanation of differences in participation in cultural behaviour that emphasizes the role of socialization contexts. The cultural reproduction thesis states that the parental context will have the largest effect on individuals, since their socialization is continuous yet not overtly explicit. Parents transfer knowledge, opinions and behaviours of their own onto their children; the effect of school is only marginal. Moreover, Bourdieu and his collaborators viewed the school as an institution that merely reproduces and legitimizes existing social inequalities by emphasizing in their curriculum the knowledge, tastes and concepts considered important by the dominant fractions of society (Bourdieu and Passeron, 1990 [1977]; Bourdieu, 1979). Consequently, differences between children from social classes varying in parental cultural capital resources would not decline through school efforts, but may grow even larger. Lack of primary cultural socialization is not easily compensated in this view, because the educational system is organized to cultivate those who already have a head start through the home context.

Currently, the general trend in Western societies towards larger social mobility has pushed educational systems toward greater student-oriented curricula (McEneaney and Meyer, 2000; Verboord and Van Rees, 2009). Increasing enrolment of students from less culturally equipped backgrounds has urged schools to adjust the course content and teaching styles. This may have altered the educational influence on cultural participation along the lines of a second model which has been developed: the cultural mobility thesis (DiMaggio, 1982). This model acknowledges the influence of the parents, but incorporates additional influences of education. Particularly for a cultural practice such as book-reading, which has – through the compulsory position of literary education – a larger presence in school than other art forms,² secondary education seems to have independent effects on reading behaviour (Verboord, 2005). Furthermore, the cultural mobility model proposes that – as cultural resources play an important role in status attainment – students may compensate for a lack of parental cultural socialization by acquiring cultural resources at school.

One way to examine this debate is by studying the impact of social mobility on cultural participation. Here, both Van Eijck (1999) and Daenekindt and Roose (2011) find limited evidence for cultural mobility: only to a small extent do individuals conform to new social contexts. Another way to further assess the relative impact of socialization contexts is to monitor the development of influences, especially in the period from direct exposure to shortly afterwards, and to examine how parents and school interact in this formative period. Cultural taste shows a large intergenerational continuity as parents set examples and introduce their children in various degrees to specific forms of culture (Kraaykamp and Dijkstra, 1999; Notten, 2011; Ter Bogt et al., 2011). In the domain of reading, this already starts in early childhood as

parents can help develop reading skills (e.g. Sénéchal and LeFevre, 2002) and continues into later childhood (e.g. through giving books as birthday presents, taking them to the library) (Groeben and Hurrelmann, 2004) and the period of young adulthood when the availability of books in the home becomes an important resource (Evans et al., 2010).

Education emerges in empirical analyses as the other main determinant of participation in high culture (DiMaggio and Useem, 1978; De Vries and De Graaf, 2008; Nagel, 2010) and book-reading (Kraaykamp and Dijkstra, 1999; Verboord, 2005; Bennett et al., 2009: 110–112). However, the effect of education cannot directly be interpreted as cultural mobility, but may be partly due to social and cultural reproduction: children of culturally active families attain higher education (cf. Aschaffenburg and Maas, 1997; De Graaf, 1986; De Graaf et al., 2000; Evans et al., 2010; Kraaykamp and Van Eijck, 2010). Besides instructional effects of schooling, the net influence of education might also represent selection on cognitive abilities and/or unmeasured family characteristics. To disentangle the direct impact of education, it is thus useful to take a dynamic perspective which incorporates progress in the educational career at the time it is unfolding as well as cultural participations at these time-points (Aschaffenburg and Maas, 1997). This allows for more precise coupling of socialization activities and outcomes. Since the education career has particular discrete decision moments, we expect its impact to be more dynamic than that of the parents, whose influence is expected to be continuous and stable (cf. Nagel, 2010; Notten, 2011).

As for the interaction of parents and school – a critical issue in the cultural reproduction versus cultural mobility debate – we have no clear expectations, since previous studies are scarce. If the effects of parents are stronger for higher educated students, this would suggest that the formation of reading habits occurs in line with the cultural reproduction model. Rather than decreasing inequalities, education would then enlarge existing inequalities in reading. If, however, the effects of parents are weaker for higher educated students, this would signal the potential for education to compensate for a lag in reading frequency, as the difference becomes smaller. Of course, a third outcome could be the lack of any interaction, which would imply that possible effects of both contexts are independent of each other.

Method

Data

The data are part of the research project ‘Youth and Culture’, a series of cross-sectional and panel data of adolescents and young adults in The Netherlands (Ganzeboom and Nagel, 1998–2002, 2004). The panel consists of three cohorts of students (cohort 1998, cohort 2000 and cohort 2001) who were all originally approached via a classroom survey in secondary schools in The Netherlands, and then re-approached twice or three times via a postal survey. Each cohort comprised students who were in their third, fourth and fifth grade of secondary education (age 14–17) at the time of the classroom survey. However, the precise number of involved schools as well as the timing of surveying differs across cohorts (see below).

The general research design contained the following steps. First, schools were contacted for classroom surveys. Second, the classroom questionnaire (and follow-up questionnaires) probed students’ interests and participation in cultural activities, including their reading behaviour. Third, address information was asked in order to contact parents and re-contact students. Finally, in subsequent waves, postal mail surveys were used to question students again (the second wave one or two years after the classroom survey, the third wave two years thereafter and the fourth wave (only cohort 1998) again two years later) as well as to question one (randomly selected) parent about their own participation.

When the panel started with cohort 1998, 23 randomly selected schools from eight middle-large towns in The Netherlands were included (response rate: 100 per cent). (Note that due to a different phrasing of the survey question on reading frequency, this first classroom survey is not used in the analyses presented later.) Cohorts 2000 and 2001 were recruited from the same schools plus 22 additional schools from four smaller villages and two large towns as well (response rate 89 per cent). Within each of the

69 school locations (some schools have two or three locations), a stratified random sample of classes was drawn based on educational programme and school year. The total number of interviewed students was 3897.

Although the panel design led to almost full response of individual students during the first classroom waves, the follow-up waves suffered from the usual non-response patterns in survey research. At the second follow-up waves, 58 per cent of the original sample was maintained, at the third wave 45 per cent and at the fourth 47 per cent. The same holds for the parents: the response percentage of the first postal mail was 54, of the second 48. In our analyses we included only respondents whose parents participated in the research as well. Furthermore, respondents who only participated during the first interview were omitted from the analyses.³ A final selection was made due to missing values on reading behaviour and parents' education and reading behaviour. This leaves us with 2251 (58 per cent) respondents of three cohorts who were observed on their reading behaviour once (10 per cent), twice (34 per cent) or three (56 per cent) times (see Appendix 1).

Measurement of book-reading

Book-reading is operationalized in this article as the frequency of reading books (comic strips and textbooks excluded) measured using two items with the same wording in all questionnaires. One question tapped the number of books that the student had read in the previous 12 months, with the answering categories: 'none', '1–2', '3–6', '7–11', '1–2 per month' and 'more than 2 books per month'. The other item inquired how often the student read books in general: 'almost every day', 'a few times a week', 'a few times a month', 'less than once a month' and 'almost never'.

The items were recoded to obtain a measure in which high scores represented frequent reading behaviour, and were subsequently transformed into percentile rank scores, ranging from 1 to 100 (ranking scores corrected for different numbers of observations between respondents). The correlation between the ranked items is 0.74. We used a composite measure of reading behaviour by taking the mean of both percentile scores.

Measurement parental reading socialization climate

We have no information on parents' socialization activities, but we have information on parents' reading behaviour and the availability of books in the home. Parents themselves reported on their own and their spouses reading behaviour on one or two occasions. Two of these items were the same as in the students' survey and referred to the number of books read in the previous 12 months ('none', '1–2', '3–6', '7–11', '1–2 per month' and 'more than 2 books per month') and to general reading behaviour (reading 'almost every day', 'a few times a week', 'a few times a month', 'less than once a month' and 'almost never'). The third and fourth items asked for the number of books owned by the responding parent and his or her spouse: 'no books', '1–20', '20–50', '5–100', '100–300' and '>300'. The items were repeated in both parents' surveys, except for the item on the number of books that was not included in the first parents' survey of cohort 1998.

The measure of *parental reading socialization climate* was obtained using all the available information on parental reading. For the majority of cases, information on parental reading was available from both parents' surveys (66 per cent) and for 34 per cent from one of the two parents' surveys. We standardized the items by transforming them into percentile rank scores ranging from 0 to 1. Next, we took the average and again used rank scores as a standardization method. The resulting index of parental reading ranges from 0 to 1.

Measurement of student's education

As already mentioned, at the time of the classroom interview students were in their third, fourth or fifth year of secondary education, between the ages of 14 and 17. *Secondary education* is differentiated in five educational

Table 1. Level of secondary and tertiary education across waves ($n = 5522$) (percentages)

	Literary education	Age	Wave 1	Wave 2	Wave 3	Wave 4
Secondary education: current or highest completed						
Lower vocational (Vbo/Vmbo-b)	Limited; hardly any compulsory readings	12–16	13.4	11.0	9.7	7.6
Junior general (Mavo/Vmbo-t)	Compulsory readings years 3–4; not <i>per se</i> literary books	12–16	5.9	14.5	14.4	18.7
Senior general (Havo)	Compulsory readings years 3–5; 8–12 literary books	12–17	32.6	35.4	34.6	36.0
Pre-university (Vwo)	Compulsory readings years 3–6; 12–20 literary books	12–18	37.4	29.5	31.4	25.5
Classical pre-university ^a (Gymnasium)	Compulsory readings years 3–6; 12–20 literary books	12–18	10.6	9.6	9.9	12.2
			100.0	100.0	100.0	100.0
Tertiary education: current or highest completed						
No tertiary education			100.0	51.1	11.8	8.4
Middle vocational (Mbo)		16–20	0	24.0	24.0	20.2
Higher vocational (Hbo)		17–21	0	17.2	36.0	39.8
University		18–22	0	7.7	28.2	31.6
			100.0	100.0	100.0	100.0
N respondents			1231	2026	1607	658

Note: ^a In The Netherlands, students in secondary education can follow pre-university education, in which they learn Latin and/or Ancient Greek. We called this 'Classical pre-university'.

Data source: Youth and Culture (Ganzeboom and Nagel, 1998–2002, 2004).

programmes that increase in difficulty: lower vocational (Vbo, Vmbo-b), junior general education (Mavo, Vmbo-t), senior general education (Havo), pre-university education (Vwo) and classical pre-university (Gymnasium).⁴ Although changes within secondary education occur (7 per cent), students typically follow one educational programme during their secondary school years. In the analyses, the programme of secondary education has a range between 0 (Vbo, Vmbo-b) and 1 (Gymnasium). After completion of secondary education or dropping out, it remains constant at the highest completed or last known programme.

At the time of the second, third and fourth waves, students have increasingly moved to follow-up education, which is differentiated into three main types: middle vocational education (Mbo), which is typically followed by students originating from the two lower programmes of secondary education; higher vocational education (Hbo), the typical follow-up education for senior general education students (Havo); and university education for which pre-university education (Vwo) and classical pre-university education prepare. Students who are still in secondary education or have completed their educational career with secondary education have the value 0 on these variables. The level of follow-up education varies over time; after ending tertiary education this stays constant at the value of the highest completed level. Table 1 presents the percentages of students that attend the educational programmes and gives an overview of the reading requirements (literary education) in secondary education.

Measurement of parents' education

Parents reported on their educational level and on that of their spouse at one or two stages. Education was measured on a nine-point scale, ranging from 1 (no education) to 9 (university education). We took the

mean of the maximum four education variables and recoded this new variable into a range from 0 (no education) to 1 (university).

Time

The over-time development is indicated by *age*, measured in the number of years since the age of 14. The age range is between 14 and 23.⁵ We model (the fixed effects of) age by piecewise linear functions (Snijders and Bosker, 1999: 186). These models estimate linear age effects within certain age ranges, but allow the slopes to differ across these ranges. We estimated separate linear models for the age ranges 14–17, 17–19 and 19–23, which roughly reflect the period of secondary schooling (14–19) and afterwards (19–23).

Statistical analysis

The data are hierarchically organized: students are nested within classes within school locations and are observed over time. Multi-level analysis takes these dependencies of observations into account in the estimates of the standard errors of the regression coefficients. The effects of time are represented by age and are an average of between-and within-individual age differences. We applied multi-level models in which random coefficients for age are estimated, thereby allowing variances to differ across age and covariances between different ages to be a function of age (Snijders and Bosker, 1999). The age variables are not only modelled to vary randomly over individuals, but also over classes (random variation of age over schools did not improve the fit of the model), thereby allowing individual differences and differences between classes to vary over time.

The models are estimated in MLWin 2.14 (Rasbash et al., 2009). They are presented in Tables 2 and 3 and the regression coefficients discussed in the results section will be discussed.

Results

Tables 2 and 3 present the results of the analyses. Model 1 is the baseline model, in which solely the effects of age are estimated. The effects are modelled for three separate age ranges: 14–17, 17–19 and 19–23. As becomes clear, reading frequency develops in each of the three stages differently. Despite the reading requirements in secondary school, from age 14 to age 17, there is a rather slow decrease by 1.301 points each year (on the reading scale from 1 to 100). From age 17 to age 19 a larger decrease in reading can be noticed, although still modest. As the examination programme compels students to read a certain number of books (cf. Verboord, 2005), a drop in the reading frequency could have been expected as soon as these requirements no longer hold. Reading behaviour stabilizes after age 19.

In model 2, the effects of parents' education and their reading are included in the model. The positive effect of parents' reading behaviour indicates that parents transmit their reading behaviour to their children: a favourable reading climate at home enhances the frequency of reading fiction among youngsters. Parents' education also has an independent effect on their children's reading.

In the next model, secondary education is entered. The coefficients in model 3 point to large differences between students of different school programmes. The difference between lower vocational schooling and classical pre-university is estimated at 26.354, which is almost twice that between students from the least and most reading families. The effect of parents' education has disappeared: it is mediated by children's secondary education. The effects of parents' reading have not changed now that secondary education is in the model. The age differences in reading remain roughly the same, which is not surprising considering the fact that parents' reading behaviour does not vary over time and that secondary education only varies for those who changed their secondary education.

Model 4 presents the interactions of parents' education and reading on the one hand and the student's secondary education on the other. The non-significant coefficients make clear that parental and school contexts operate independently: they neither reinforce nor compensate one another.

Table 2. Reading behaviour: effects of parents and education between ages 14 and 23. Hierarchical linear model: unstandardized regression coefficients (fixed part); intercept and age variances and covariances (random part); standard errors (in *italics*) (N schools = 67, N classes = 279, N students = 2251, N observations = 5522)

	1		2		3		4	
	b	se	b	se	b	se	b	se
Fixed part:								
Constant	52.970	1.725	43.337	1.752	33.409	1.754	33.723	2.538
Ages 14–17 (14 = 0)	-1.301	0.412	-1.275	0.412	-1.210	0.416	-1.207	0.417
Ages 17–19	-2.748	0.356	-2.770	0.356	-2.833	0.359	-2.833	0.359
Ages 19–23	0.349	0.348	0.384	0.345	0.384	0.351	0.385	0.351
Parents' education (0–1)			5.532	2.220	1.685	2.183	0.259	4.509
Parents' reading (0–1)			14.094	1.804	14.162	1.762	15.087	3.576
Secondary education (0–1)					26.354	1.919	25.693	4.220
Parents' education * secondary education							2.661	7.268
Parents' reading * secondary education							-1.784	5.984
Random part:								
School: Constant/constant	93.123	21.658	64.125	15.944	7.420	4.004	7.477	4.017
Class: Constant/constant	98.002	19.745	93.828	19.088	73.423	16.386	73.206	16.633
Class: Age/constant	-10.209	2.715	-10.274	2.673	-10.578	2.608	-10.555	2.606
Class: Age/age	1.037	0.461	1.028	0.454	1.347	0.485	1.345	0.485
Respondent: Constant/constant	290.406	28.987	285.967	28.800	285.126	28.743	285.170	28.742
Respondent: Age/constant	-5.104	5.429	-6.577	5.417	-7.950	5.440	-7.979	5.441
Respondent: Age/age	5.411	1.272	5.403	1.265	5.684	1.274	5.694	1.274
Time: Constant/constant	221.633	7.279	221.5954	7.270	222.330	7.276	222.299	7.276
-2*log-likelihood:	49502.2		49401.1		49276.8		49276.7	

Note: Fixed part coefficients with $p < 0.05$ are in bold type.

Data source: Youth and Culture (Ganzeboom and Nagel, 1998–2002, 2004).

So far, we have modelled the effects of family and school contexts as mean effects covering the entire period from adolescence to young adulthood. To answer the question whether their relative importance changes over time, we allow the effects of parents and school to vary with age. These age variations provide more insight into the immediate effects of schooling; if schooling immediately relates to reading behaviour, we would expect reading behaviour to grow with progress in the educational career.

Model 5 in Table 3 shows the results. The effects of parents' reading remain fairly stable, except for a short increase in the period between ages 17 and 19 (though accompanied by an almost significant decrease in the effect of parents' education). At ages between 14 and 17 the differences in reading between students of the various educational programmes of secondary education increase in line with the more severe reading requirements of the higher educational programmes.⁶ Students of higher school types read more often, and during secondary school years their reading pattern does not decrease like that of students of lower school programmes. Between the ages of 17 and 19 the differences in reading between lower and higher school programmes remain constant, although the downward trend that sets off from age 19 seems to have started in this period. After the age of 19, students of higher educational programmes tend to downgrade their reading compared to students from lower school types, who even show a small (but not significant) increase in their reading, at least until the age of 23 (the highest age in the sample). The differences between students of lower and higher school programmes decrease by 2.946 points each year.

These reading developments are pictured in Figures 1a and 1b. In the period between ages 14 and 23, differences according to family background, i.e. parents' reading, increase slightly (Figure 1a), whereas

Table 3. Reading behaviour: effects of parents and education between ages 14 and 23. Hierarchical linear model: unstandardized regression coefficients (fixed part); intercept and age variances and covariances (random part); standard errors (in *italics*) (N schools = 67, N classes = 279, N students = 2251, N observations = 5522)

	5 b	se	6 b	se
Fixed part:				
Constant	42.889	2.914	42.299	2.926
Ages 14–17 (14 = 0)	–5.494	1.084	–4.797	1.153
Ages 17–19	–1.837	1.019	–1.941	1.033
Ages 19–23	1.926	1.014	1.694	1.014
Parents' education (0–1)	–1.929	5.028	–1.705	5.025
Parents' reading (0–1)	10.896	4.148	10.781	4.146
Secondary education (0–1)	14.805	3.939	15.655	3.947
Parents' education				
*Ages 14–17	2.371	1.957	2.269	1.955
*Ages 17–19	–3.317	1.757	–3.391	1.758
*Ages 19–23	0.031	1.627	0.077	1.624
Parents' reading				
*Ages 14–17	–0.039	1.607	–0.013	1.605
*Age 17–19	4.400	1.395	4.375	1.394
*Ages 19–23	0.201	1.337	0.123	1.335
Secondary education				
*Ages 14–17	5.692	1.468	4.791	1.533
*Ages 17–19	–2.278	1.381	–2.259	1.522
*Ages 19–23	–2.946	1.430	–2.653	1.429
Tertiary education				
Middle vocational (Mbo)			–2.178	1.109
Higher vocational (Hbo)			1.209	0.992
University			–0.064	1.262
Random part:				
School: Constant/constant	7.305	3.934	7.360	3.948
Class: Constant/constant	57.921	14.802	57.038	14.715
Class: Age/constant	–7.721	2.300	–7.503	2.273
Class: Age/age	0.811	0.422	0.765	0.415
Respondent: Constant/constant	286.038	28.603	286.980	28.606
Respondent: Age/constant	–7.759	5.397	–7.623	5.386
Respondent: Age/age	5.591	1.262	5.478	1.256
Time: Constant/constant	220.961	7.225	220.733	7.215
–2*log-likelihood:	49228.0		49218.8	

Note: See note to Table 2.

differences according to secondary education only increase during secondary school, but later decrease again (Figure 1b).

Model 6 provides a further test of the hypotheses on the age trends in the effect of educational level. Besides testing age variations according to the programme of secondary education, we examine whether reading changes with further progression in the educational career. Here we include – next to students' secondary educational programme – follow-up education: middle vocational education (Mbo), higher vocational education (Hbo) and university education. The results in model 6 again demonstrate that reading does not increase with progression in the educational career. Students who move to higher education (Hbo and university) do not raise their frequency levels of book-reading. Students who go to middle vocational education even show signs of decline in their reading behaviour after the reading

Figure 1a. Reading with age for students of high (1) and low (0) reading parents (Table 3: model 5, parents' education and secondary education .5)

Figure 1b. Reading with age for students from high (1) and low (0) secondary educational programmes (Table 3: model 5, parents' education and parents' reading .5)

requirements in secondary school have ended. Therefore, also this model leads us to conclude that reading does not increase with progression in the educational career.⁷

Conclusions and discussion

The aim of this article has been to contribute to the understanding of how participation in legitimate culture is affected by socialization contexts from a dynamic perspective. More specifically, we have studied how the reading of fiction develops from adolescence to early adulthood. This is a crucial phase in the formation of tastes and lifestyle patterns as students make the transition from direct exposure to both socialization contexts to a more independent life when they start working or go to college. Furthermore, our comparison of parental and educational influences enables us to contribute to the issue whether education can compensate for lack of parental cultural resources (cultural mobility) or not (cultural reproduction).

The results confirm the findings of previous studies that both parents' reading and education are important determinants of adolescents' and young adults' book-reading. We find that – for the entire period – differences in reading frequency according to education are larger than according to the parental reading environment. Both contexts affect reading independently: they neither reinforce nor compensate one another. Students with parents who are avid readers do not profit more from secondary education than students who do without such a stimulating reading environment at home. The latter do not make additional use of the opportunities to acquire cultural capital offered by the school.

Overall, the influence of parents' reading is fairly stable throughout the period between adolescence and young adulthood, although a temporary increase was noticed between ages 17 and 19. Students whose parents are avid readers themselves read a lot more than schoolmates who come from families in which reading is less common. The difference is not dependent on any school requirements, but increases a little just at the end of secondary schooling.

With respect to the effects of secondary education, at ages between 14 and 17 the differences between students of higher and lower programmes in secondary education increase, but in the period after the age of 19 they decrease again. Furthermore, reading behaviour decreases when students move to middle vocational training; it is not related to the transition to higher follow-up education.

Bringing our conclusions back to the contrasting views on cultural reproduction and cultural mobility, we conclude that overall the data are more in line with the cultural reproduction model. The effects of parents' reading increase a little between ages 17 and 19, whereas the differences in reading between students of lower and higher educational programmes only grow larger during secondary schooling, and decrease thereafter. The same holds for higher levels of follow-up education: students who go to these school types do not change their reading behaviour. Students who go to middle vocational education downgrade their reading after the transition. These developments in reading frequency lead us to assume that education does not persistently interfere in children's book-reading habits – be it through selection or training – at least not after age 14. Rather, the conclusion should be that the effects of education are the result of earlier education or of other established characteristics that affect reading behaviour. Nevertheless, it should be noted that the effect of parents' reading is not reinforced by secondary education. This suggests that students from well-read home backgrounds do not derive extra profit from education, as could be expected according to the cultural reproduction model.

Although our research contributes to the literature of cultural capital formation by using panel data, the data have some limitations as well. Despite its advantages, a panel design inevitably implies drop-out, which leads to some degree of selectivity of subsequent waves. Specifically with regard to dynamic models, this might affect results as no cohorts have passed through all age categories. In the reported study, we have mainly countered individual selectivity (i.e. one response, no parental response) while maintaining all three cohorts to secure more powerful analyses and go beyond one single cohort. We acknowledge that some selection is thus likely to be present, yet we think this is not all that different from cross-sectional survey research, which suffers from similar non-response rates. On a more pragmatic level, our design implies that the cohort and age range is limited (i.e. ages 14–23). This makes it hard to detect (age) trends in the effects of social background. We aim to elaborate our time-span in future studies by following the cohorts under investigation, and, hopefully, adding new cohorts.

The current study focused on the frequency of reading fiction. We acknowledge that fiction could comprise works of highly different degrees of legitimacy. Given the importance of having books available in the home for educational success (Evans et al., 2010) and the persistent overall legitimacy of the genre echoed in the emergence of the 'reading class' (Griswold, 2008), however, this does not detract from our results. Still, future research could detail the type of reading that students undertake at various stages of their development. As peer influences may become more influential over time, it is likely that popular culture in general, and popular reading in particular, will form larger parts of their lifestyles.

To conclude, we find that the net effect of education appears to be stable throughout the period from adolescence to young adulthood: reading differences do not increase with progression in secondary and tertiary education. Moreover, reading differences due to high and low reading parents remain present and

even increase a little during this period. Both findings are highly relevant for the analysis of cultural capital formation. Apparently, parents' reading seems to make a more lasting impression than secondary and tertiary education. However, educational differences in reading are greater than those associated with family background. Hence, although these differences may not emerge in secondary and tertiary education, they should probably be attributed to previous education or to selection mechanisms in the education system. Future research could examine this in more detail – for example the role cultural resources play in school selection mechanisms – and for other cultural domains.

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Notes

1. For the development of the relationship between book-reading and reading skills, see Mol and Bus (2011).
2. Most forms of arts education are by voluntary enrolment, which is likely to lead to self-selection based on existing cultural interest and, possibly, cultural capital. Literary education, however, is a compulsory course in Dutch secondary education across all educational programmes.
3. Other analyses on a proportion of these data revealed that the panel drop-out is selective on age, gender, education, ethnic minority status and parents' and students' cultural participation (Ganzeboom and Nagel, 2007). However, note that our panel comprises almost the complete population (due to the classroom design), whereas other panels often already have some selection (and subsequent bias) at the start. To avoid interpreting selection effects as age developments, we decided to omit respondents that only participated during the first classroom wave and thus study the age effects among those who took part in at least one of the follow-up waves. Still, it turns out that the number of observations is slightly correlated with parents' education (0.05), parents' reading (0.05) and secondary education (0.09). However, as these important sources of missingness are controlled in the analyses, we assume that the data comply with the assumption of the applied panel models that the missing observations are missing randomly (MAR) (Fitzmaurice et al., 2004: 385).
4. Although lower vocational (Vbo) and junior general education (Mavo) have been merged into one level (Vmbo) since 2003, the original distinction still exists in practice and will be maintained in the analyses. The highest two levels of secondary education are often treated as one level because they both prepare for university education.
5. A few respondents (<1 per cent) report lower or higher ages, but are recoded within this age-span.
6. Although the educational programmes are related overall to reading behaviour in a linear way, developments with age show some fluctuations. Students at the junior general level (Mavo) read frequently at age 14, more than students at senior general level (Havo) and pre-university (Vwo) students, but between ages of 14 and 17 their reading drops at a faster rate than that of other students. Moreover, the general downward trend in reading does not hold for pre-university (Vwo) students, who even increase their reading a bit. Yet, they do not reach the same reading frequency as gymnasium

students, who – although they follow the overall decreasing trend – read the most throughout this period.

7. In an additional model – not presented here – we found that students who move to higher tertiary education (Hbo and University) read more often before they make the transition. Again, this points to effects of earlier established characteristics that affect reading behaviour.

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Appendix I: Time of survey, months after classroom survey at wave 1, numbers of respondents across cohorts and waves, age

		Wave 1	Wave 2	Wave 3	Wave 4
Cohort 1998	Time of survey	Sept 1998	Sept 2000	Sept 2002	Dec 2004
	months after wave 1	Information not used	24	48	75
	N respondents		938	658	658
	N parents		886		763
	median age		17	19	21
Cohort 2000	Time of survey	May 2000	Sept 2002	Dec 2004	
	months after wave 1	0	28	55	
	N respondents	568	490	436	
	N parents		496	451	
	median age	16	18	20	
Cohort 2001	Time of survey	May 2001	Sept 2002	Dec 2004	
	months after wave 1	0	16	43	
	N respondents	663	598	513	
	N parents		604	545	
	median age	15	17	19	
	N respondents	1231	2026	1607	658

Data: Youth and Culture (Ganzeboom and Nagel, 1998–2002, 2004)