Parental Aspiration, Book Ownership, and Scholarly Culture[1]

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ABSTRACT The aim of this paper is to examine the link between a family's scholarly culture and the educational aspirations of parents for their children. Using data from the first and the second wave of the Czech Household Panel Survey (2015, 2016), the study reveals that the number of books in a household – the core aspect of scholarly culture – is significantly linked to the educational aspirations of parents for their children. However, other indicators of scholarly culture (frequency of reading, general interest in books) are not significantly associated with parents' university aspirations. These results suggest that, in the Czech Republic, the presence of a large number of books in the home signals higher social status and refers to the economic power of parents rather than to a family's literacy or reading culture.

KEYWORDS parental educational aspirations, scholarly culture, cultural capital, educational inequality

Introduction

A plethora of studies has demonstrated that parental educational aspirations are central to children's educational achievement (Agger et al. 2018; Lazarides et al. 2016; Matějů and Smith 2009). Parental aspirations can be understood as an important dimension of parental involvement as parents with higher educational aspirations tend to invest more in their child's education or extracurricular activities or convey the value of education to their children (Boonk et al. 2018; Kirk et al. 2011; Sosu 2014; Spera 2006; Spera et al. 2009). Despite the critical role of parental educational aspirations, the question of what predicts them is relatively neglected, and existing studies tend to focus on the role of socioeconomic status (SES) or family structure. Nevertheless, there is some evidence that "soft" non-material resources might allow low-income families to build higher educational aspirations than their socioeconomic capital would predict (Gofen 2009).

In this paper, we address the question of how parental aspirations are linked to family's scholarly culture. This concept refers to "the way of life in homes where books are numerous, esteemed, read, and enjoyed" (Evans et al. 2010, p. 171). Even though both scholarly culture and aspirations can be viewed as an expression of class-based cultural capital in the Bourdieuan sense (Bourdieu 1984), current scholarship tend to treat aspirations and cultural capital as two distinct concepts (Holmes et al. 2018; Moote et al. 2020; Strand

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and Winston 2008; Van de Werfhorst and Hofstede 2007). In line with the latter perspective, there is evidence that scholarly culture might serve as a means of mobility for parents with low economic capital. For example, parents in a disadvantaged socio-economic position but with high scholarly capital might be more confident about navigating their children through the educational system (DiMaggio 1982; Gofen 2009).

A recent comparative study showed that the Czech Republic was among those where the effect of the number of books at home on educational performance was strongest (Evans et al. 2014). Thus, we would expect to find a strong and positive link also between the family's scholarly culture and parental aspirations. Nevertheless, a recent study using Czech data found that the link between parental aspiration and family's scholarly culture was generally weak (Hamplová and Raudenská 2021). However, we believe that this study might have some limitations. First, the study by Hamplová and Raudenská (2021) did not control for socioeconomic status of the family and included a number of child-specific controls. While it brings important insights about the direct and indirect effects, only a subset of children filled the questionnaire, which lead to reduction of sample size and possible selection bias in the analyzed parent-child dyads. Moreover, as child's performance is closely linked to parental socioeconomic status, it is possible that over-controlling for child's characteristics might obscure the role of family's socioeconomic status. The current study rather includes a direct measure of socioeconomic status (ISEI). Second, Hamplová and Raudenská (2021) did not considered a possible non-linearity of the link between the scholarly culture and parental aspirations. Yet, some authors (Evans et al. 2015; Evans et al. 2014) suggest that the number of books in a household might have diminishing returns and is more influential in socioeconomically disadvantaged families. Third, the current study uses more nuanced measures of scholarly culture distinguishing between a general interest in books and reading frequency. Also, the current study applies multilevel regression models rather than structural equation modelling.

Background and Conceptual Framework

Parental Educational Aspirations

Research on parental aspirations has a long tradition in sociology (Sewell and Shah 1968; St. Clair et al. 2013). In general, parental aspirations are understood as a belief system that organizes and directs parents' behaviors toward their children (Agger et al. 2018; Fan and Williams 2010; Jeynes 2007; Spera et al. 2009). There is comprehensive empirical evidence that the offspring of ambitious parents try harder at school, gain better grades, and consequently secure higher levels of education (Reed 2012; Spera et al. 2009). Higher-aspiring parents invest more resources in their children's education and choose more demanding educational pathways for their offspring than lower-aspiring families on the same socioeconomic level. Thus, the enhancing of educational aspirations is crucial in enabling upward social mobility and reducing social inequalities in education (Rampino and Taylor 2013).

Two mechanism are invoked to explain the role of parental aspirations. First, there is a strong connection between the aspirations of parents and their children, as the offspring

tend to "inherit" parental attitudes to school and ambition and to internalize their expectations (Trusty 2002). If parents do not expect much from their children, their offspring are not likely to have very high aspirations. Indeed, it has been empirically demonstrated that ambitious expectations and high aspirations of parents positively affect children's school achievement even when all else remains constant (Khattab 2015). Second, parents influence their children's educational trajectory not only by showing them the value of education, but also by providing direct support to succeed in school. For example, higher-aspiring parents might help children with homework or provide financial aid and emotional encouragement during their studies (Hao and Yeung 2015; Kirk et al. 2011). In other words, more ambitious parents are more likely to invest additional resources and time in their children's school success.

Family's Scholarly Culture and Education

Scholarly culture might be viewed as a particular expression or dimension of a broader concept of cultural capital. Typically, cultural capital referrers to a various concepts related to familiarity with the dominant culture, tastes, language mastery, and manners, but also to ownership of cultural artefacts and participation in cultural activities (Bourdieu 1984; DiMaggio 1982; Jæger and Breen 2016; Van de Werfhorst 2010; Vryonides 2007). Scholarly culture might be viewed as a dimension of cultural capital, but it has a narrower meaning. It refers to the ownership and use of a particular type of cultural goods: books (Evans et al. 2010; Kelley and Evans 2000). As such, scholarly culture is most commonly measured by the number of books in the parental home. Numerous studies have demonstrated that children's educational achievement is predicted by the number of books a family owns. For example, the larger the number of books at home, the better children perform on reading tests, net of parents' education (Park 2008). Evans et al. (2015) showed that children who grew up in otherwise similar families but who had over 500 books at home spent three more years in school, on average. The number of books at home is as important as the parents' education and more important than the father's occupation (Evans et al. 2010). Moreover, past studies show that the number of books at home is a reliable predictor of school achievement worldwide and across different historical and political contexts (Evans et al. 2010).

Two mechanisms have been advanced to explain the number of books at home (Evans et al. 2014; Evans et al. 2010). First, the *elite closure perspective* views scholarly culture as a means of discrimination based on culture. Large collections of books serve as a cultural signal of belonging to the elite that is recognized and valued by teachers and employers (Evans et al. 2014; Evans et al. 2015). As a result, children from advantaged – and more scholarly – families usually gain better evaluations at school and more encouragement to continue with their education. In a way, this perspective reflects the traditional view of cultural capital as a means of reproducing social hierarchies and assumes that the education system is biased towards well-off families (Bourdieu 1984; Jæger and Breen 2016).

According to *the cognitive enhancement approach*, the number of books in a household is an expression of scholarly culture that directly enhances cognitive skills and provides a *toolkit of competencies and funds of knowledge* (Evans et al. 2014; Schmitt et al. 2011). In other words, children growing up in a household with a large number of books have more

opportunities to read, gain information, and develop cognitive skills that contribute to school success (Evans et al. 2015; Evans et al. 2014; Schmitt et al. 2011). The difference between status enhancement and cognitive enhancement is also echoed in DiMaggio's distinction between cultural capital as a means to indicate status group membership and cultural capital as a means to form a shared cognitive structure (DiMaggio 1982, 1997).

Evans et al. (2014) summarize the main differences between these two approaches. First, the cognitive enhancement perspective posits that the advantage of additional books at home increases steeply for those with only a few volumes in the home. In other words, in an almost bookless family, each additional book provides a more substantial increase of new information and vocabulary than a similar marginal increase in a household with many books. By contrast, the elite closure hypothesis argues that large book collections have a (big) impact because they signal elite membership, indicating that the relationship is flat at the beginning. Second, elite closure theory implies that the effect of the number of books at home on educational and occupational success is not universally applicable because cultural elites are not favored in all societies (for example under communism in the former Soviet Union). Therefore, this aspect of highbrow culture is not universally appreciated by gatekeepers. In contrast, the cognitive enhancement explanation claims the opposite: Books provide specific knowledge and skills important in all societies.

In this paper, we distinguish between two expressions of scholarly culture: the size of the family book collection and reading culture (the extent to which books are esteemed and read). We argue that both dimensions are likely to predict parental aspirations. In particular, we suggest that the number of books at home can be treated as a signal of membership in the elite group. From this perspective, the number of books is not important per se but it is a proxy for a membership in specific social group/social class. This dimension of scholarly culture is of particular interest if we aim to explain parental educational aspirations for their offspring. On its own, the presence of books at home does not enhance skills or cognitive abilities outright; rather, it indicates a social status of the family. As upper-class families possess on average a higher level of scholarly culture (i.e., own more books), and as these families aspire to maintain their privilege and social status, we expect greater parental educational aspirations in families with larger numbers of books even after controlling for reading frequency and enjoyment of books. In this case, the number of books at home can be viewed as a signal of class membership. As such, books ownership might signalize parental aspirations irrespective of the added value that books bring to fostering knowledge and skills. Parents might buy books because they are more ambitious and hope that the books will help children to succeed in the educational system. In this case, there is no direct benefit from having books at home in terms of gaining new information and proficiency; rather, the number of books serves primarily as a signal of higher aspirations (*signaling hypothesis*).

It is important to note that the library size can have a signaling function even if it is not accessible to outsiders, such as teachers or selection committee members. The fact that the family decided to keep a large home library might be a proxy of its belonging to the specific social classes. It has also important intergenerational dimension as large parts of home libraries are often inherited. Thus, the library size might also show to what extent parents grew in homes that valued books and scholarly culture.

Reading culture (the extent to which books are read and enjoyed) constitutes the second dimension of scholarly culture. It might also reinforce parental aspirations. Familiarity with books and reading frequency might enhance parental confidence in their children's ability to succeed in the educational system (*enhancement hypothesis*). Yet, we argue that it is important to distinguish between two sub-dimensions of reading culture. The first refers to reading the book, the second to general interest in books. While both might enhance parental education, we suggest that the link should be stronger for reading than for the general interest in books. Parents who read more are more likely to be confident in their ability to successfully navigate their children through the educational system. Indeed, research shows that parents who feel more confident about helping their children with school tasks have higher aspirations (Yamamoto and Holloway 2010). It is also likely that parents that show higher interest in books view education as more valuable than less scholarly parents net of their SES status. Moreover, we propose also an indirect effect between parental reading and parental aspirations through their children's own reading behavior and aspirations. Children of more scholarly parents tend to read more and have better grades (Wollscheid 2013). In turn, children's academic performance reinforces parental educational aspirations.

Even though it is generally acknowledged that scholarly culture is an important predictor of educational success, studies also suggest that the number of books in a household might have diminishing returns and is more influential in socioeconomically disadvantaged families and developing countries (Evans et al. 2015; Evans et al. 2014). This proposition is not surprising as other dimensions of cultural capital also tend to have different effects in high- and low-SES environments (Jæger 2009). The fewer resources in the family of origin (indicated by poor and non-educated parents), the more books can help a child from a low-SES background to flourish at school (Evans et al. 2010). Therefore, in families with fewer resources, parents can partly influence their children's school performance by offering them a favorable reading climate (De Graaf et al. 2000).

Czech Context

This paper uses data from the Czech Republic, where the secondary system is described as highly differentiated, having an educational tracking system similar to that in Germany, Austria, and Hungary (Buchmann and Park 2009). Students can be enrolled in various types of secondary schools, academic or vocational. Children are channeled toward different educational trajectories at an early age (from the age of 11). The most academically oriented and selective track – the gymnasium – and vocational schools offering a high school diploma enable students to continue to higher levels of education. On the other end, vocational schools which do not offer a high school diploma might represent a dead-end school track leading to limited or no access to higher education.

Past studies have demonstrated that the earlier the tracking of students starts, the larger the effect of the family on educational attainment. It has been repeatedly confirmed that academically oriented schools are particularly attended by children from families with high SES (Buchmann and Park 2009; Matějů and Straková 2006; Simonová 2011). There is also evidence that type of school significantly influences students' educational expectations, and the

effect of SES on aspirations is stronger in differentiated systems than in undifferentiated ones (Buchmann and Park 2009). Thus, we would expect that in the Czech Republic, in particular, a family's cultural capital is important in explaining levels of educational aspiration.

Indeed, a recent comparative study of 42 countries shows that the Czech Republic was among those where the effect of the number of books at home on educational performance was strongest (Evans et al. 2014). Using data from 25 countries, Park (2008) demonstrated that the number of books in Czech households is above the international average. However, Czechs do not score above average in international comparisons of literacy activities (13th place out of 25, see [Park 2008]).

Moreover, there is another reason that cultural capital and scholarly culture might be important predictors of aspirations. The Czech Republic has one of the lowest levels of income inequality internationally: The GINI coefficient is on a similar level to that observed in Scandinavia. At the same time, it has one of the lowest levels of poverty in Europe (OECD, 2014). As Park (2008) argues, once the basic material needs of children are met, home literacy environments are expected to matter more for children's education. Thus, given the moderate levels of income inequality, cultural barriers to educational success might be viewed as more important than financial barriers in low-income families. Thus, some of these families might willingly invest in cultural capital as a means to upward mobility. In line with this argument, Šafr (2012) talks about "ambitious" working-class families that actively participate in highbrow culture to promote their children's life chances.

Hypotheses

The two perspectives outlined above have different implications for empirical analysis. The *enhancement hypothesis* suggests that the number of books in the household matters because it is linked to a family culture where books are read, esteemed, and discussed and where knowledge is valued. In contrast, the *signaling hypothesis* implies that the number of books in the home is associated with aspirations irrespective of whether the books are actually used.

In this paper, we test two specific hypotheses.

First, we expect that in the Czech context, book ownership to find a significant and positive association between the number of books and parental educational aspirations for their children but the number of books has a diminishing return on parental aspirations (Hypothesis 1).

Second, the number of books and parental aspirations should be partly explained by other measures of literacy activities (reading, subjective interest in books, etc.) (Hypothesis 2).

Method

Data

This paper uses data from two waves of the Czech Household Panel Survey (CHPS) gathered during the summer of 2015 and 2016 (CHPS 2015, 2016). Households were selected

randomly and are representative of the Czech population. 822 parents with at least one child in the household (aged 6 to 17) completed the individual Computer Assisted Personal Interview (CAPI) questionnaire of the CHPS. The data cover parental educational aspirations for each of the children in the household. The dataset also includes multiple indicators of scholarly culture.

It is important to note that we use data from 2015 and 2016. In the past ten years, major changes in the consumption of entertainment took place. At the same time, the digitalization and the rise of new technologies were well underway in these years and a significant part of population has already shifted towards different types of cultural consumption. Yet, we should be aware that some of the effect might have changed over time. For example, it is plausible to expect that reading became more socially selective activity. The dependent variable (*educational aspirations)* is measured using the response to the question: "What highest level of education would you like your child (*name, age*) to receive?" Parents could choose from the following response categories: elementary school, secondary school without a high school diploma (typically vocational training), vocational secondary school with a high school diploma, academic secondary education, university (bachelor degree), university (master degree), and university (postgraduate). Parents answered separately for each child living in the household who was under 26 years of age and still in full-time education. As two thirds of parents wanted their children to gain a university degree, the dependent variable is a binary measure distinguishing between those with university-level aspirations (coded as 1) and lower aspirations (coded as 0).

Three indicators of *scholarly culture* are included in the analyses. All three variables are measured on the level of parent. The main measure refers to *the number of books* and is measured by the question "How many books do you have at home?", with the following response categories: about 20 or fewer – about 100 – about 500 – about 1000 or more. Respondents were instructed that one meter of books on a bookshelf corresponds to approximately 50 books. If both parents answered the question about the number of books, there was generally high agreement: The correlation between their responses was strong (r=0.91). The second variable measures *reading frequency* ("How often do you read for pleasure?", with the following three response categories: a few times a year, a few times a month, and a few times a week).[2] The third variable is *general interest in books.* This variable is based on the following four statements: 1) Reading is one of my favorite hobbies; 2) I like talking about books with others; 3) I like going to the library; and 4) I am happy when I get a book as a present. The response was recorded on 4-point Likert scale ranging from "strongly agree" to "agree" to "disagree" to "strongly disagree." Given a high inter-correlation (around 0.7) between these items, a composite measure of interest in books was estimated using factor analysis. All items loaded on one factor with factor loadings well over 0.8.

All models control for a set of background variables on the parental level: parental education (*elementary education – high school degree – university degree*), SES of the

2 Originally, there were six response categories: never or almost never – a few times a year – once a year – a few times a month – a few times a week – every day. The response distribution indicated that a three-category coding best captured the variance of this item.

parent's occupation (ISEI), the number of children the given parent has, and sex of parent. On the child-level, we include two control variables: sex of child and child's age. Finally, the type of family is measured on the household level (parents are married, cohabiting, or single).

Method

Due to the hierarchical nature of the CHPS data, three-level mixed-effects regressions models were used to estimate parental educational aspirations. These models take into account that parents could report their aspirations for more than one child and that parents from the same family are likely to have similar aspirations for all of their children. At the same time, it means that aspirations for one child could be reported by two parents. Thus, two types of model specification is possible. We can treat children (level 1) nested within their parents (level 2) and parents as nested within the household (level 3). Alternatively, we could reflect the fact that two parents could report on the same child. Thus, we could treat parents (level 1) as nested within children (level 2) and children as nested a child can be treated as nested and we could treat children as nested within households. Both specifications lead very similar conclusions. There is mainly difference in the size of coefficients for parental education. As for the variables that are of main interest (scholarly culture), the differences in the estimated odds are on the second decimal place. Thus, we report results from the first specification (children nested within parents who are nested within households). The use of hierarchical models is necessary as it was necessary to account for interdependence between observations (Wooldridge 2009).

To interpret the findings and report the results from the multilevel model, we use standards as suggested by Monsalves et al. (2020). The intraclass correlations were high. For the model without covariates it was 0.74 at the household level. This means that most of the variation of the aspirations is attributable to differences across families. The correlation for the same parent within the same family was 0.80 (the correlation between aspirations of the same parent and the same family). All models were compared using Bayesian information criterion (BIC) (Raftery 1995) and the likelihood ratio test.

Results

Descriptive Statistics

For almost two thirds of children, parents aspire for university education. In approximately 30% of cases, parents want their children to get a high school diploma. Only for 5% of children do parents expect schooling to end with an elementary education or vocational school without a diploma (Table 1). Table 2 provides detailed description of variables used in the model.

Table 1. Aspired level of education of parents for children

Level of education		**%**
Elementary	18	1.55
Vocational secondary without diploma	36	3.09
Vocational secondary with diploma	225	19.33
Academic secondary school	140	12.03
University (bachelor)	133	11.43
University (master)	490	42.10
Universtiy (postgraduate)	122	10.48
N	1164	100.00

Source: CHPS (2015 & 2016)

Table 2: Description of variables and analytical sample

Variable means				
	Mean	**SD**	**Min**	**Max**
ISEI	46.6	21.7	11.0	89.0
Number of children	2.4	1.0	1.0	8.0
Child's age	11.7	3.2	6.0	17.0
Interest in books	2.8	0.9	1.0	4.0
Number of books	6.7	1.7	1.0	10.0
Proportions (%)				
	Lower	**Secondary**	**University**	
Education	28.7	41.2	30.1	
Marital status	Married	Cohabiting	Single	
	71.7	15.1	13.1	
Reading	Few times a year	Few times a month	Few times a week	
	50.4	23.9	25.7	
	Male	Female		
Sex of parent	34.5	65.5		
Sex of child	50.3	49.7		

Source: CHPS (2015 & 2016)

As regards number of books, more than half of the parents reported having over 100 books at home, and approximately 13% of mothers and fathers have 500 or more books at home. In contrast, only one in ten parents stated that they had fewer than 20 books at home. These findings correspond with studies documenting that Czech families are rich in books (Park 2008).

The number of books in the household is highly correlated with aspirations for university education (χ^2 (3) =96.29; Cramer's V= 0.29). While parents of 81% of children in our sample with large book collections (1000+ books) would like their offspring to gain a university degree, the same is true for parents of 39% of children with only a few books at home. However, a closer look at the CHPS (2016) data reveals that parents are not "bookworms" because 37% of fathers and 19% of mothers "never" or "almost never" read. Moreover, the association between parents' and children's reading frequency is weak (χ^2 (4) =16.80; Cramer's V= 0.12).

Mixed-effects Regression Analysis

To analyze the link between scholarly culture and parental aspirations, we estimated a set of mixed-effect regressions with the binary dependent variable being aspirations for university education (yes–no). First, we ran a baseline model with all control variables (education of the parent, sex of the parent, sex and age of the child, number of children in the family, type of family, and ISEI). This model shows that parents with higher education and higher occupational status have higher educational aspirations for their children, particularly if these parents hold a university degree. The effect of sex goes in the opposite direction for parents and children. As documented by other studies, our data also shows that parents hold much higher educational aspirations for their daughters than sons (DiPrete and Buchmann 2013; Hamplová and Raudenská 2021). Yet, our model shows that fathers generally tend to have higher educational aspirations for their children than mothers. It is noteworthy that controlling for parental education, sex of the parent and child, type of family, and occupation, the family-level ICC dramatically declined from 0.74 (null model – see above) to 0.52. This means that after taking account of the sociodemographic characteristic of the parent and the sex and age of the child, large proportion of variation is still explained by the differences across families. At the same time, it still remains large showing that even after controlling for these characteristics, much of the variation is on the family level.

In the second step, the number of books at home was included in the analysis. Both linear and categorical measures of number of books at home were tested (only linear measure reported in the Table 2). In both cases, the number of books was significantly ($p \leq 0.05$) linked to parental aspirations. As our first hypothesis predicted, the association between the number of books at home and parental aspirations was strong and positive. Model 2 suggests that with each shift in the response category, the odds of parents aspiring for a university education for their children grew by 50%.[3] Importantly, incorporating the number of books into the

[3] In a supplementary model (not reported here), we used the number of books as a categorical measure. However, the BIC suggested that the model with the categorical measure is over-specified

model, the strength of the association between parent's university education and aspirations declined to nearly a half. This suggests that the effect of parental education on aspirations is partly mediated through parent's scholarly capital. Yet, it is important to note that the effect of parental education is still very strong. University educated parents have around 25 times higher odds to hold university aspirations for their children than parents without full high-school diploma. A shift by one category on a 10-point scale measuring the number of books at home, increases the odds of university education by 50 percent. As the scales are not comparable, we can illustrate the size of the effect by using predicted probabilities. The mean predicted probability to aspire for offspring's university education is .85 for parents with university education and 0.33 for those parents without high school diploma. The mean predicted probability of university aspirations for parents with about 50 or less books at home is 0.29 and for parents with more than 1000 books about 0.84. Importantly, ICC remains nearly the same for all models in Table 2 suggesting that different levels of scholarly capital does not explain much of the differences between families.

We also hypothesized that the number of books might be particularly important for families with low SES (Hypothesis 1). It is plausible to expect that fewer resources in the family of origin, the more books can help a child from a low-SES background to flourish at school. This is fully in line with DiMaggio idea that cultural capital might serve as a means of social mobility (DiMaggio 1982). However, our models provide no support for this hypothesis. The interaction term between the number of books and ISEI was equal to one and not significant whether the BIC or the likelihood ratio test was used (i.e., comparing Models 2 and 3 in the left-hand section of Table 2. In a supplementary model (not shown here), we also tested the interaction term between the number of books at home and parental education. The interaction was also not significant and we did not find any evidence that the effect of number of books is different for different educational groups.

In the next step, we tested the third hypothesis, namely that the association between the number of books at home and parental educational aspirations is expected to be (partly) mediated by their reading habits. This prediction was based on the *enhancement hypothesis,* which suggests that parents who read and cherish books might be more confident about their own ability to help children in school, or simply that such parents might value knowledge and education more. To test this prediction, Model 4 includes information on reading frequency. Contrary to our second hypothesis, however, the link between reading and educational aspirations was not significant, as shown in Model 4 in the right-hand section of Table 2. Importantly, the size of the coefficients goes even in the opposite direction than expected and it seems that more scholarly parents have less ambition for their children's education. However, this unexpected tendency can be explained by including both parental reading frequency and education in the same model as reading is more common among parents with university education. From the point of our hypothesis it is important to note that the frequency of reading did not affect the association between the number of books and parental

(i.e., the BIC increased by 10.8) and the categorical measure indicated that the trend was linear. Thus, the model with a linear measure of the number of books was used in all subsequent models.

aspirations. The size of the coefficients for the number of books variable remained virtually unchanged in Models 3 and 4.

Finally, Model 5 incorporates general interest in books as another indicator of scholarly culture that might affect parental aspiration through enhancement of cognitive abilities and confidence. Nevertheless, this variable is also not significantly linked to parental aspirations and its inclusion does not affect the strength of the coefficient for number of books at home. Thus, the number of books at home is the only measure of scholarly capital that predicts parental educational aspirations.

Supplementary analysis (not shown here) shows that the number of books is only loosely connected with reading frequency and reading for pleasure. The correlation between the number of books and reading frequency is positive but only moderate in size among parents (0.17). Around 30% of parents with large numbers of books (1000 + books) read for pleasure only a few times a year or never. For children aged between 10 and 17 years old, the correlation between the number of books at home and reading habits is similarly small (0.16). Thus, our analysis does not support the intuitive idea that the presence of many books in the home automatically indicates that they are frequently used. In other words, our modelling results suggest that the link between the number of books and educational achievement cannot be attributed only to the enhanced cognitive skills produced by a higher frequency of reading.

Many studies use only the number of books at home as an indicator of scholarly culture, as it is understood as conceptually central and strongly connected with reading habits (Evans et al. 2010). However, our analysis indicates that the number of books at home measures something else than the reading culture of the family, particularly in the context of a highly differentiated educational system. In this context, the number of books at home might serve primarily as a signal of elite membership. However, we would like to emphasize that our analysis does not imply that the number of books does not have any additional effect on children's cognitive enhancement. Our findings only show that – on the parental level – the number of books tells us more about their ambitions and social class membership than about a family culture in which books are cherished, read, and discussed.

Furthermore, we considered a possibility that books play different roles for people who are technically oriented and those educated in the humanities. Thus, the parent's field of study was examined in a supplementary analysis (not reported in the paper). However, contrary to this expectation, the association between aspirations and number of books did not differ between these two groups. Moreover, we included an interaction between parental education and number of books at home (not shown); nevertheless, the results corresponded to Model 3, and the interaction did not appear to be significant.

Table 3. Estimated odds ratios from multilevel mixed-effect regression with dependent variable university aspirations

	Model 1		Model 2		Model 3		Model 4		Model 5	
Parental education (elementary)	coef.	s.e.	coef.	s.e.	coef.	s.e.	coef.	s.e.	coef.	s.e.
secondary	4.45**	*1.88*	3.32**	*1.36*	3.46**	*1.44*	3.49**	*1.45*	3.39**	*1.42*
university	46.82**	*32.91*	25.82**	*17.33*	25.91**	*17.40*	27.84**	*18.97*	27.25**	*18.59*
Sex of the parent (mother)	0.49*	*0.16*	0.49*	*0.16*	0.49*	*0.16*	0.54	*0.17*	0.49*	*0.17*
Sex of the child (female)	2.38**	*0.66*	2.40**	*0.65*	2.43**	*0.66*	2.44**	*0.67*	2.44**	*0.67*
Number of children at home	0.67*	*0.12*	0.63*	*0.11*	0.63*	*0.11*	0.63*	0.12	0.63*	*0.12*
Child's age	1.07	*0.05*	1.06	*0.05*	1.06	*0.05*	1.06	*0.05*	1.06	*0.05*
Marital status (married)										
Cohabiting	0.82	*0.39*	0.97	0.45	0.95	*0.45*	0.93	*0.44*	0.94	*0.44*
Single	0.49	*0.24*	0.53	*0.25*	0.54	*0.26*	0.53	*0.25*	0.53	*0.25*
ISEI	1.02*	0.01	1.02*	*0.01*	0.99	*0.03*	1.02*	*0.01*	1.02*	*0.01*
Number of books			1.50**	*0.17*	1.28	*0.28*	1.53**	*0.18*	1.48**	*0.18*
ISEI*Number of books					1.00	0.00				
Reading (few times a year)										
Few times a month							0.54	*0.21*	0.48	*0.20*
Few times a week							0.65	*0.27*	0.52	*0.25*
Interest in books									1.26	*0.29*
Constant	0.36	*0.30*	0.05	*0.05*	0.13	*0.21*	0.05	*0.05*	0.04	*0.04*
Random effects										
Household	2.62	*0.41*	2.55	*0.40*	2.55	*0.40*	2.52	*0.40*	2.52	*0.40*
Child	1.68	*0.43*	1.59	*0.43*	1.61	*0.43*	1.65	*0.43*	1.67	*0.43*
BIC	1294.9		1287.5		1293.8		1298.8		1304.9	
ICC household	0.53		0.53		0.53		0.51		0.51	
ICC household – parent	0.75		0.73		0.73		0.73		0.74	

Source: CHPS (2015, 2016)
N (parental reports) = 1164, N (children) = 959, N (households) = 678

Discussion

As in past studies such as Spera et al. (2009), a strong positive association between the number of books in the household and parents having high educational aspirations for their children was observed in the CHPS (2015, 2016) data. Our finding that the size of the library predicts parental aspirations differs from results reported by Hamplová and Raudenská (2021). As we included only data from adult questionnaires, our analysis is based on a larger and less selective sample size. Also, it is possible that their structural equation model "over-controls" for various characteristics closely linked to scholarly culture. We believe that our finding that the number of books at home predicts parental aspirations is plausible. It is fully in line with the findings that the home library size is associated with educational aspirations among students (Gil-Flores et al. 2011).

Although the number of books is a significant predictor of high educational aspirations among parents, the same is not true for other aspects of scholarly culture. Paradoxically, parental reading habits and general interest in books are not connected to the aspirations they have for their children. Our analysis suggests that parents who have large numbers of books do not necessarily read a great deal and that the number of books is only weakly correlated to reading frequency. It is not surprising as Park (2008) pointed out, the possession of books does not automatically mean that books are read. Moreover, neither reading nor a general interest in books was linked to the aspirations parents hold for their children. Thus, we did not find any support for the idea that parents have higher aspirations because they are more scholarly or literate or because they have the skills to navigate children through the educational system. The positive association between the home library size and children's school performance is often interpreted in terms of cognitive enhancement provided by family's scholarly culture (Evans et al. 2014). Given very low correlation between reading habits and the number of books at home, out analysis sheds some doubts about such interpretation.

In contrast, we found support for the *signaling hypothesis* in the Czech data. Here, we would like to emphasize that the signaling function does not necessarily mean that teachers and educators have a direct access to family's home but signaling might work on several levels. For example, the number of books shows family's economic power, and plays a role as a status symbol. Even though books cannot be at present time considered luxury goods and can be purchased in large quantities without major economic investments, e.g. in second-hand bookstores, having a lot of books might still speak of some economic power. For example, having a large home library also means that the family occupies a more spacious dwelling where space is available for non-essential household items. Furthermore, the home library might also provide signals to family members and might encourage feelings of membership in the cultured elite. Similarly, having a large home library might also be a proxy for membership in specific social elite groups.

Furthermore, our analyses have shown that, in our Czech case study, the association between the number of books and aspirations is not higher for families with low SES. This finding stands in contrast to the prediction of the confidence enhancement hypothesis that scholarly culture plays a greater role in disadvantaged families with low SES. Furthermore, in line with the elite signaling thesis, the effect of books on aspirations increases with the number of books and is particularly strong when there are at least 500 books at home.

We would like to accentuate that our analysis focuses on *parental* aspirations. The finding that – on the parental level – the number of books serves as a signal of elite membership or as a signal of higher aspirations does not mean that it might not also contribute to children's cognitive enhancement. Our models do not include any information on children's reading habits or skills. Thus, our analysis tends to show that the signaling hypothesis should not be discarded, particularly in the context of a highly differentiated educational system. Irrespective of whether having a large number of books at home enhances children's skills, our data suggest that it also signals aspirations of parents.

Unfortunately, the data do not include information about what types of books families own. Yet, it is likely that not only the number of books matters, but also their content – popular, serious, or practical matters (De Graaf and De Graaf 2002). In addition, the data do not provide sufficient information about the school performance and reading habits of children. This information is available only for a subsample of children respondents. Even though we tried to include such measures in our analysis, the subsample was too small to allow any reliable estimates.

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