Intergenerational and intragenerational influences on time use on reading

Timo Toivonen

Abstract

The impact of parents on the reading of children has been studied quite intensively. However, studies from the time use perspective have been rare: how strong is parental influence and how strong is it in comparison with sibling influence? This research focused on this particular question. The general hypothesis was that the power of parental example is strong but also dependent on different characteristics of parent and child. Data came from two recent Finnish time use surveys from the years 1999–2000 and 2009–2010. Households of different-sex parents and two children were included. It was found that time used by the other child on reading was the most important factor in the child's reading time. However, parents also had a significant influence but often indirectly, for instance, the younger was the child, the stronger was parental influence.

Keywords: cultural capital, educational influence, parental influence, reading of children, sibling influence, time use

Introduction

The time used on reading has decreased in recent decades. Especially the reduction in time used on reading by young people has caused concern. Terms such as "Times of de-reading" (Knulst & Van Den Broek, 2003) and also "Reading class" (Griswold, McDonnell, & Wright, 2005) have been used, because people not only read less but the number of people who read anything, is fewer and fewer. Scholars and policymakers have considered the importance of the family on children's reading socialization for several decades. Wollscheid (2014) writes that

> *"in families, children acquire their mother tongue via interaction with their parents. In the family environment, children may be exposed to print materials, such as books and newspapers, and observe and imitate the reading behavior of their parents. Parents provide a role model for their children (regardless of whether parents are regular readers or not)"* (Wollscheid, 2014, 37).

Concerns are associated with the possible doubtful future of young people who do not read. In particular, there have been concerns about the reading of boys. For instance, a strong correlation has been

---

Toivonen (University of Turku) Corresponding author's e-mail: timo.v.toivonen@utu.fi

found between time spent reading for pleasure and academic success (Halford, 2011). Moreover impacts of parental reading socialization have also been seen as an important factor in children's reading, and thus in children's academic performance (Kloosterman et al., 2011).

However, time used on reading by boys has decreased also in Finland, because on the basis of longitudinal data from Finnish time use surveys it can be seen that boys 10–19 years of age spent an average 49 minutes on reading in 1979, but in 1999 no more than 22 minutes. The corresponding figures for girls were 49 and 42. Surprisingly, reading time seemed to decrease between 1999 and 2009 among boys only from 22 to 18 minutes, while among girls it decreased further from 42 to 18 minutes (Toivonen, 2014). However, this decrease in reading is presumably only a seeming one because newspaper paper reading and "other" reading (e.g., information searching) have diminished dramatically, but not book reading. This means, supposedly, that a great part of newspaper and other reading have been classified only as Internet use in time use studies.

Many recent studies show, for instance, that the impact of family on the reading of children is strong (e.g., Kraaykamp & Van Eijck, 2010; Notten, Kraaykamp, & Konig, 2012); in general, the reading of young people and the reading of their parents have been investigated quite intensively, but in time use studies, the parental influence on time used on reading of children has been investigated only to a limited extent (with a few exceptions, e.g., Mullan, 2010; Wollscheid, 2014).

There are rather a lot of studies on sibling influence on both good and bad activities such as sports activities and smoking, but in reading sibling influence studies are scarcer, if possible, even scarcer than studies on parental influence. However, there are some exceptions, such as Sonnenschein & Munsterman (2002) and Niklas & Schneider (2012), but they are not time use studies. Knoester & Plikuhn (2015) suppose that sibling influence is undervalued because it challenges the traditional view that adults primarily teach children. This may be true, and in any case we do not know of any studies on sibling influence from the time use perspective.

Studies on influence of all family members on each other in every matter are not usual, however, e.g., Cook (2001). The purpose of this article is to study what are the influences of mother, father, and sibling on reading time of the child. It is not known that such a study would have been conducted earlier.

Theoretical backgrounds

Theories: Education, social reproduction and social learning

The cultural capital of parents has been seen as the central factor in socializing children to read. However, empirical studies on cultural capital have never fully operationalized the concept using indicators of all the three dimensions distinguished by Bourdieu (1986). For Bourdieu, cultural capital has three basic dimensions: the institutionalized (e.g., educational diplomas) (Bourdieu, 1986, 48), the embodied (e.g., cultural knowledge), and the objectified (e.g., books at home) dimensions (Bourdieu, 1986, 49). Then, with these three dimensions cultural capital is inherited from one generation to another. Parents' time used on reading was interpreted here as embodied cultural capital (Bourdieu, 1986, 60) which can be transmitted to children.

This transmission can be approached by the social learning or social modeling theory. This theory is based on the assumption that parents can play an important role in assisting their children to learn to read, and can act as good role models in promoting reading behavior. As Mullan (2010) puts it:

> *"The modeling of reading by parents [...] does not expressly teach children how to read, but rather serves to communicate a preference or interest in reading that can be shared between parents and young people over time. This is important because it means that the modeling of reading is not a one-time demonstration, but rather something that is repeated over time"* (Mullan, 2010, 416).

Social learning theory in this context can be understood as having three versions. The least strict ver-

sion is to present the influence in such a way that children read because their parents read whether children were present or not. The stricter version is to present the influence in such a way that children read because their parents read near a young person. Mullan used this version of social learning theory in his article. Only the time parents read when near a young person was measured. This was carried out by cross-refer-encing location information from parents and young people. Young people were regarded as 'near' their parents if they were in the same location such as when they were at home together awake (Mullan, 2010, 421). The strictest version is the direct parental stimulation (e.g., Kraaykamp, 2003). This means that par-ents or a parent are not only present and reading themselves when children read but children read because parents stimulate children to do so.

It has been suggested that intermediate variables also play a role in the parental influence, and that parental influence is mediated through the gender of both parent and child. This is called the gender ste-reotype role model indicating that fathers have had a stronger impact on the reading behavior of sons, and that mothers have had a stronger impact on the reading behavior of daughters (Wollscheid, 2014, 36). We can suppose that also the age of the child is important in this context. Already Charles Horton Cooley rec-ognized in his classic text (1909/1998) that the impact of a primary group, such as the family, diminishes as children grow, and this can be assumed to be true also in the case of reading.

We cannot assume that the parental influence would be similar in different cultures. For instance, we can apply Esping-Andersen's classification of European countries (Esping-Andersen, 2000, 85–86). He used three variables in his classification. These were labor market regulation (little, medium, strong), welfare state (residual, universalistic, social insurance), and importance of families (familialist, non-famil-ialist). European countries could be divided into four regimes. Denmark, Finland, Norway and Sweden belonged to the Nordic regime, and often also the Netherlands were included in this Nordic regime. In these countries, among others, familialism was lowest. The fourth regime was Mediterranean (Greece, Italy, Portugal, and Spain) where familialism was highest. Perhaps, by means of this classification we can expect that parental, especially maternal, influence on reading is less significant in Nordic counties than in Mediterranean countries.

Empirical evidence

Several studies have revealed an association between parental education (a part of institutional cultural capital) and children's reading. For instance, the study of Wollscheid (2014) was based on a sample from the German time use survey 2001–2002, where children aged between 10 and 19 years living in two-parent households were studied (Wollscheid, 2014, 36). The education of both parents significantly predicted children's reading behavior, with the impact of father's education being slightly stronger than that of the mother's education (Wollscheid 2014, 44). Thus, in the case of education the gender stereotype hypothesis did not seem to be correct.

Gracia (2015) studied cultural home-based activities and their connections with parents' social class and education. Cultural home-based activities were operationalized as sums of the daily minutes of activi-ties with children, such as reading, fine arts, music performance, and listening to music records (Gracia, 2015, 294). British time use data from 2000–2001 were used as research material. Three general findings could be summarized as follows. The first is that the mother's social position was clearly associated with differences in her leisure activities with children. Mothers' education was positively associated with their out-of-home and home-based cultural activity with children, while (upper) social class was negatively as-sociated with their time spent watching television with children. Although social position was for some ac-tivities associated with fathers' leisure time with children, these effects disappeared when other variables, mostly the mother's social position, were taken into consideration (Gracia, 2015, 300).

Mullan (2010) also found, on the basis of the same British data as Gracia (2015) that young people who have a parent with a degree read more (Mullan, 2010, 425). These findings were similar to those in qualitative studies with American and British data (Lareau, 2003; Reay, 1998), suggesting that privileged

mothers disproportionally share leisure activities with cultural capital implications with their children.

In respect of the connection between parental reading (embodied cultural capital) and child's reading the result was in Mullan's (2010) study that parental modeling of reading is likely to have a stronger impact when parents read when near young people. The study also found a strong association between parents' and young people's reading concentrated in households where parents are observed to read for more than 30 minutes per day. In addition, mothers' reading is associated primarily with girls' reading (especially in lone-mother households), while fathers' reading is strongly associated with boys' reading. Mullan's (2010) analysis revealed that the mother's impact on daughters was most pronounced in lone-mother households (Mullan, 2010, 417, 427).

Correspondingly, the results of the study of Mancini, Monfardini & Pasqua (2011) based on Italian time use survey data also showed that children are more likely to read and study when they live with parents who used time on reading in their presence. The conclusion of Mancini et al. (2011) was that the result seemed to confirm the saying "a good example is the best sermon", since children *imitate* (this author's italics) the observed parents' behaviors (Mancini, Monfardini, & Pasqua, 2011, 4). The methodology of this study differed from that of Mullan's (2010). The data were divided into two groups. The first group was composed of children who had observed the parents' reading activity, while the second consisted of children who had not observed the same activity. The estimated probability that the child reads, increased by about 50% for a child in the first group in comparison with the second group (Mancini, Montfardini, & Pasqua, 2011, 11).

In general, the findings from the studies indicated that the reading behavior of both parents had a strong impact on the reading behavior of children. At the same time, the findings supported the gender stereotype hypothesis, indicating that mothers have had a stronger impact on the reading behavior of daughters (Wollscheid, 2014, 36). Only in few studies on reading socialization has the role of the father on children's reading been explicitly investigated (however, e.g., Clark, 2005), and the empirical evidence has not been particularly strong.

In accordance with social learning theory which emphasizes the parent as an important role model for children, Wollscheid (2014) expected to find that children with two parents who read frequently (similar high reading parents) spend more time on reading than those in households in which only one parent reads frequently (contrasting parental reading). The findings indicated, indeed, that a more contrasting pattern of parental reading behavior had a negative effect on children's reading behavior (Wollscheid, 2014, 46).

Cardoso, Monfardini & Fountainha (2011) investigated the influence of both parents' individual reading time – measured as time spent on reading and studying (including computer use) – on the amount of time children spend on reading and studying, and compared findings from France, Italy and Germany. The results from Italy and France showed statistically significant and positive associations in terms of reading, only between the amount of time spent by mothers and the amount of time spent by children. The association was strongest in Italy. Only in Germany did Cardoso et al. (2010) find a statistically significant and positive association between the amount of time spent by fathers on reading and the amount of child reading time. Thus, these findings also supported the gender stereotype hypothesis and seemed to indicate that there are cultural differences.

In the case of sibling influence, Kramer and Conger (2009) assumed that children can learn from each other by observational learning and by interactions among siblings. Observational learning can be interpreted in the same way as passive model learning or imitation, whereas interactions among siblings mean instructions and discussions, cf. "direct parental stimulation" (Kraaykamp, 2003; Sonnenschein & Munsterman, 2002; Kramer & Conger, 2009). Knoester & Plikuhn (2015) also stress the important role of older siblings. Older siblings teach younger siblings. The influence of an older sibling was stressed even in cases where the younger siblings reported being more avid readers than their older sibling.

Contribution of this study

In the following, firstly, the impact of parental institutional cultural capital, i.e. parental education is studied. Secondly, the impact of embodied cultural capital, i.e. parental reading is investigated. Thirdly, in this study, the connection between children's reading and objectified cultural capital is not investigated. This question was studied in another study ("how many books do you have at home") (Toivonen, 2005). It is regrettable that this question must be left out, for some results reveal that the three dimensions of cultural capital differ in the constellation of their causes and consequences, plus the changes therein (Kraaykamp & Van Eijck, 2010, 209). The reason is that there simply is no information about objectified cultural capital in our time use data.

Research questions and hypotheses

On the basis of the above, the research questions and hypotheses of this study were as follows:

Research question 1. What is the influence of parents' institutionalized cultural capital (education of parents) on the child's time used on reading? Hypothesis: the influence is significant and positive.
>   *Corollary question 1.1.* Which influence is stronger, influence of mother's or father's education? Hypothesis: mother's influence is stronger.
>   *Corollary question 1.2.* Is there a difference in the influence of the education of mother and father depending on the gender of the child? Hypothesis: mother's influence on daughter is stronger than father's influence. In the case of sons the influence of father is stronger than that of mother.

Research question 2. What is the influence of parents' embodied cultural capital (time used on reading of parents) on the child's time used on reading? Hypothesis: the influence is significant and positive (social learning, model learning).
>   *Corollary question 2.1.* Which influence is stronger, influence of father's or mother's embodied capital. Hypothesis: the influence of mother is stronger.
>   *Corollary question 2.2.* Is there a difference in the influence of parents' embodied capital depending on the age of the child? Hypothesis: the influence of parents' reading time is stronger the younger the child is.
>   *Corollary question 2.3.* Is there a difference between mother's and father's influence depending on the gender of the child? Hypothesis: mother's influence on daughter is stronger than father's influence. In the case of sons the influence of father is stronger than that of mother.

Research question 3. What is the influence of siblings' embodied capital (time used on reading)? Hypothesis: remarkable sibling influence can be found.
>   *Corollary question 3.1.* Is the sibling influence stronger the younger the child in question is? Hypothesis: sibling influence is stronger the younger the child in question is.

Research question 4. Which influence is stronger, parents' influence on their children or sibling influence?

Data and variables

Data

The data came from two periods: 1999–2000 and 2009–2010. This enabled us to find out whether there

have been changes in the connections between child's reading time and control and research variables. However, already on the basis of preliminary analyses, it was evident that no changes in the significance of control and research variables have taken place between the periods. Therefore, it was unnecessary to present research questions about changes, and data could be analyzed as merged material.

This study was based on the original data from two Finnish time use surveys covering the population aged 10 years and over from the years 1999–2000 and 2009–2010. Asking people directly about their reading behavior can lead to socially desirable but unreliable answers (Hoffert, 2006). To capture the reading behavior of individuals, most scholars use survey estimates of reading frequencies, or estimates of the time people spend on reading (for example, during a typical week). One disadvantage of doing this is that it might lead informants to overestimate their reading behavior – particularly given that reading is a highly normative topic. The time-use data method requires all individuals in a household of a particular age (here, over nine years of age) to record all their activities in a diary in ten-minute intervals for two days (one weekday and one weekend day). For the first half of households the first day was weekday, and the second day weekend, and for the second half vice versa. The main advantage of this diary method is that participants do not register more activities than actually undertaken in a given time, for example, within the 24-hour periods, and this therefore limits the chance of them overestimating socially desirable activities such as reading (Wollscheid, 2014, 38).

Thus, respondents of the Finnish time use survey were asked to fill in a diary for two days. They were asked to record, in their own words, their primary activity, and what else they were doing at the same time (secondary activity). Record keeping was on a 10-minute basis (episodes) (Niemi & Pääkkönen, 2002, 11–12, 97–101). In both the 1999–2000 survey and the 2009–2010 survey, there were two phases in sampling. In the first phase, the random sample was drawn from persons living in Finland aged 15 and over. This person was the reference person and he/she gets the order number 1 in the household. This person can be any adult or child. In the second phase, also all other persons, at least 10 years old and belonging to a selected person's household (dwelling unit), were included in the final sample. This made it possible to study the time use of couples and children. Household members recorded their time use on the same two days, one weekday and one weekend day, that had already been decided on beforehand.

The number of cases (time-use diary days) was 10 500. The data of the 2009–2010 study were collected in the same way as in the study of 1999–2000 between April 23rd, 2009 and April 22nd, 2010. The number of diary days was 7 480 (Pääkkönen & Hanifi, 2011, 97). The response rate in the 1999-2000 survey was 51.7 %, and in the 2009-2010 survey 59.4 %.

However, the organization of data into a form that made it possible to compare the time use of both partners and both children simultaneously was a rather complicated task because the data were not originally coded in this way. In the original data each individual was in his/her own data row. In this case all family members, mother, father, and two children were in the same data row, i.e. the data were transformed from "long" to "wide" format. We then take into account only families with exactly two children ("child 1" and "child 2"), because we can assume that the number of siblings has an effect on sibling influence. The only difference between child 1 and child 2 is that the former has a lower order number in the household than the latter.

Methodological tool

General univariate linear models (OLS) of the SPSS package with main effects and interactions were used as a methodological tool in the analysis in such a way that the research units (cases) were not individuals but units were whole families or both parents and two children. In this way we could study, for instance whether the reading time of mother and the reading time of daughter were correlated. It should be noticed that in the following the variables are called, for instance, "time used reading, mother" and "time used reading, father" although, strictly speaking, we do not know if these particular persons are mothers or fathers of the children in question. We only know that they live together with the children.

Many problems were involved in constructing the research cases in this way. For instance, the fact that in many cases household members had recorded their time use only in one day, which was very often the first day (weekday or weekend), posed problems. Therefore, only one day, the first one, was included in the analyses. In this study, of the diaries, 48 % were from weekdays and 52 % from weekends. Thus only one diary day gave a representative picture of days. In addition, in many cases there was no information on the respondent's background variables, such as education, whereas information on education should be covered. Therefore, only cases with complete background information were accepted. In addition, in the final sample, only different-sex couples with two children under 18 years were taken into account, because in many cases individuals much older than 18 years living in two-adult households were coded "child". Thus, the final sample here was reduced to 255 cases including 255 women, 255 men and 255+255 children. Children were named here "child 1" and "child 2".

Dependent variable

The dependent variable was time devoted to reading for other purposes than studies and/or work. Perhaps a better dependent variable would have been time devoted to only book reading. Firstly, a lot of total reading time can remain concealed because in this merged data it was not possible to analyze multi-tasking. For instance, many people read a newspaper while they eat breakfast, so they can write down that they "ate breakfast" or "read newspaper". However, book reading is supposedly less often connected to multi-tasking. This is the recorded main activity. Secondly, already according to the Finnish time use data of 2009–2010, 73.4 % of all respondents were Internet users and as much as 55.5 % of them used the Internet as a news service, while only 1–2 per cent of all book readers used a computer or the Internet for book reading (Toivonen, 2013). However, we did not use book reading as a dependent variable, because only 21.2 % of mothers, 13.7 % of fathers, and 19.6 % of child 1 and 22.0 % of child 2 had devoted over 0 minutes to book reading. Corresponding figures for reading altogether were 69, 64, 43 and 42, respectively (Table 1). Thus, we assume that time devoted to reading according to time use surveys is a proxy for actual reading time.

Independent variables: control and research variables

The first independent control variable was gender of each child (1 = male, 2 = female). On the basis of Table 1 girls read more than boys. The second control variable was age of each child.

According to Wollscheid's (2014) study, among all the other controls, age appeared to have the strongest impact on children's leisure reading behavior. Her findings supported those of earlier studies showing that a decrease in children's leisure reading is linked to increasing age – an effect which might be related to the increasing number of extracurricular activity options and curricular demands on older children (Wollscheid, 2014, 44–45).

On the other hand, for instance, Nagel & Ganzeboom (2002) studied the effects of the family and the school on cultural participation. Their studies, in which cultural participation was defined as participation in highbrow cultural activities (for example, visiting museums or reading classical texts), showed that the influence of the parental home on children's cultural participation is relatively stable over time, enduring from early childhood to adolescence (Nagel & Ganzeboom, 2002, 38). By the same token, Notten, Kraaykamp, and Konig (2012) mention "enduring socialization" in the context of reading.

The amount of disposable time for various activities is limited because there are only 1 440 minutes in a day. Thus, time use on one activity constrains time use on other activities. This point of view has very often been omitted in other types of studies on leisure activities than time use studies. However, an individual can also regulate her/his time use more or less depending on the activity. Perhaps it is most difficult for an individual to decide how much time she/he devotes to paid work. It can be expected that parents' time devoted to paid work diminishes their time used on reading and thus, indirectly influences our dependent

variable (child's time spent on reading).

Mullan (2009) found a negative association between full-time maternal employment and the time young people spent on achievement-related activities. Achievement-related activities in her study were: reading, artistic and creative activities, homework and study. Instead, children whose mothers were employed full-time spent significantly more time watching TV than those whose mothers were not employed, especially when their parents were not near (Mullan, 2009). The indirect influence can also be different. Namely, it has been found that the more highly educated mothers are, the more likely they are to be in paid work (Kaur et. al., 2012). This means that the connection between time devoted to paid work by mother and time devoted to reading by child can also be positive. In any case, mother's and father's time devoted to paid work were here the fourth and fifth control variables.

The first and second of the independent research variables were the levels of education of mother and father. Variables were measured here using the ISCED classification (International Standard Classification of Education, 2011). It goes as follows:

　　3. Level of upper secondary education or lower, e.g. practical nurse, plumber. (4. Level. Post-secondary non-tertiary education is not relevant in Finland.)

　　5. Level of short-cycle tertiary education. e.g. nurse, pipe installation technician.

　　6. Level of bachelor or equivalent, e.g. Bachelor of Medicine (BM), engineer.

　　7. Level of tertiary education, master or doctor or equivalent, e.g. licentiate or doctor of medicine.

The third and fourth independent research variables were both parents' time devoted to reading for other purposes than studies or work. The fifth independent variable was time devoted to reading by child 1 or 2 depending on which child's reading time is measured.

Results

Table 1 shows a description of the variables. The time use figures in this sample were not, of course, exactly the same as in the total time use surveys, because here only couples with two children were included in the study. However, the figures were surprisingly consistent with figures from the total sample (see Pääkkönen & Hanifi, 2011). Females devoted more time to reading than males, and girls more than boys. These findings were all consistent with figures from the total sample. Notice that the mean age of child 2 seemed to be somewhat lower than that of child 1. In the time use data children are 10–17 old persons who are living with older persons. Therefore, the child aged 15 and over is more probable to get the order number 1 than 2. This can have some impact on the somewhat different results of child 1 and child 2.

In Table 2, correlations can be seen between times used on reading by father, mother, and both children. The correlation between reading time of spouses was high and significant, or .25, and confirms the result from an earlier study (Toivonen, 2015). However, it is surprising that the only significant correlation between children and parents was the correlation between father´s time used on reading and that of child 2. In contrast, the correlation between child 1 and child 2 was high and significant (.29). Thus, a preliminary result is that the influence of siblings on each other in reading was more important than the influence of parents.

Models 1a, 1b, 2a and 2b in Table 3 are main or direct effects -models consisting of intercept (constant) and direct impacts of independent control and research variables. Models 1c and 2c include five interactions. In models 1a and 2a the age of child, the gender (1 = boy, 2 = girl) of child, both mothers' and fathers' levels of education, both mothers' and fathers' time devoted to reading, and both mothers' and fathers' time devoted to paid work were included. Models 1b and 2b consisted of the above-mentioned variables plus time used on reading by other child.

In the case of child 1, only age was in model 1a significant at the .05 level (younger used more time). In the cases of the gender of child and education of parents, the signs were positive as expected but not significant. The explanation percentage, adjusted $100*R^2$, was very low or 1.2 (without adjustment for degrees

of freedom 4.3). In model 1b age was significant as in the previous model, but the additional term also, time used on reading by other child, significant and even at the .001 level. Thus, the rise in the explanation percentage was remarkable and was 8.8.

Table 1. List of variables and their descriptive statistics (minutes/day).

	N	Min	Max	Mean	SD	Participation rate
Time devoted to reading, males	255	0	280	29	54	64
Time devoted to reading, females	255	0	320	40	50	69
Time devoted to reading, child 1	255	0	590	32	66	43
Boys	136	0	590	28	70	33
Girls	119	0	410	37	62	54
Time devoted to reading, child 2	255	0	320	30	57	42
Boys	138	0	320	22	49	33
Girls	117	0	280	39	65	54
Time devoted to paid work, males	255	0	910	258	282	56
Time devoted to paid work, females	255	0	780	169	226	45
Age, males	255	33	65	46	6	
Age, females		32	60	43	5	
Age, child 1		10	17	15	2	
Age, child 2		10	17	13	2	

Sources: Time Use Surveys 1999–2000 and 2009–2010, Statistics Finland.

Table 2. Correlations between times devoted to reading by father, mother, and children.

	Father	Mother	Child 1	Child 2
Father	1	.25**	-.03	.16*
Mother		1	.03	.03
Child 1			1	.29**
Child 2				1

*significant at 0.05 level, **significant at 0.01 level
Sources: Time Use Surveys 1999–2000 and 2009–2010, Statistics Finland.

In the case of child 2 (model 2a) results resemble the results for child 1 except that results seemed to be more often significant. If gender was girl, education of mother high, the less time used on paid work by mother and the more was time used on reading by father the more time devoted child 2 to reading. The results also met expectations. The explanation percentage was 5.5, and hence higher than in the case of child 1. In model 2b results were in the same direction as in model 2a but the additional term, time devoted to reading by other child, was significant even at the .001 level. The explanation percentage rose to 12.9.

In models 1c and 2c interactions were added and denoted by asterisk (*) For instance, in model 1c interaction between the age of child 1, and time used on reading by other child is denoted: Age*Read OC (Corollary question 3.1 Is the sibling influence stronger the younger the child 1 is?).

Other interaction terms were:
   • age of child*time used on reading by father (Corollary question 2.2. Is there a difference in the

Table 3. Univariate linear models of children's time devoted to reading, main effects and interactions.

| | Child 1 | | | | | | Child 2 | | | | | |
| | (1a) | | (1b) | | (1c) | | (2a) | | (2b) | | (2c) | |
Model	B	SD	B	SD	B	SD	B	SD	B	SD	B	SD
Intercept	88.10*	45.13	63.94	43.65	-23.16	57.17	-18.57	28.06	-20.76	26.94	-68.66*	38.06
Age of child	-5.26*	2.64	-4.39*	2.55	1.01	3.43	0.75	1.77	1.01	1.70	2.22	2.54
Gender of child	4.87	8.45	6.30	8.13	8.53	11.05	11.70*	6.77	10.34	6.87	28.40**	9.69
Mother's education	3.36	3.12	1.43	3.03	1.92	2.82	4.81*	2.51	5.82*	2.55	3.77	2.50
Father's education	2.77	3.04	3.08	2.92	3.20	2.82	-1.55	2.44	-2.18	2.45	-0.32	2.45
Time used on PW M	-0.01	0.02	0.00	0.02			0.00	0.01	-0.04†	0.02		
Time used on PW F	-0.01	0.01	-0.01	0.02			-0.04†	0.02	0.01	0.01		
Time used on read M	0.03	0.09	0.05	0.09	-1.58*	0.90	-0.08	0.07	-0.09	0.07	0.47	0.52
Time used on read F	-0.06	0.09	-0.12	0.08	1.57*	0.93	0.17*	0.07	0.19**	0.07	0.57	0.52
Time used on read OC			0.34***	0.07	2.81***	0.63			0.24***	0.05	0.64*	0.30
Age*Read OC					-0.17***	0.04					-0.03	0.03
Age*Read F					0.11*	0.06					0.00	0.04
Age*Read M					-0.12*	0.06					-0.02	0.03
Gender*Read F					-0.22†	0.16					-0.27*	0.13
Gender*Read M					0.16	0.16					-0.16	0.14
Adjusted 100*R²	1.2		8.8		15.6		5.5		12.9		12.9	

† significant at 0.10 level, * significant at 0.05 level, ** significant at 0.01 level, *** significant at 0.001 level.
Abbreviations:
SD=standard deviation
PW M=time used on paid work, mother
PW F= time used on paid work time, father
Read M= time used on reading, mother
Read F= time used on reading, father
Read OC= time used on reading, other child
Sources: Time Use Surveys 1999–2000 and 2009–2010, Statistics Finland.

influence of parents' embodied capital depending on the age of the child?)
- age of child*time used on reading by mother (Corollary question 2.2.)
- gender of child*time used on reading by father (Corollary question 2.3 Is there a difference between mother's and father's influence depending on the gender of the child?)
- gender of child*time used on reading by mother (Corollary question 2.3)

In the case of child 1, the addition of the interaction between time used on reading by the other child and the age of the child indicated that the influence of the other child's reading reduces with age (model 1c). In addition, the picture on the parental influence became more precise. With regard to the interaction between time used on reading by parents and the child's age, the interaction model indicated that the mother's influence is actually negative and that this negative influence increases with age. In the case of fathers the influence was the opposite. Father's reading had a greater positive impact the older the child was. All in all, the parental reading had quite a strong influence, but it is negative in the case of mothers especially as the child grows older and correspondingly increases in its positive influence in the case of fathers.

The interaction between father's reading, the gender of the child and child's reading was negative and significant at the .10 level. It means that if the gender of child was boy, father's time use on reading influenced more positively child's time use on reading. The explanation percentage of model 1c was clearly higher or 15.6 than that of model 1b.

In the case of child 2 in model 2c, the only significant interaction was between father's time used on reading and the gender of the child, which was negative as in model 1c. However, the main effect of father's reading was insignificant, meaning that the influence of father's reading time was not significant for either gender. Perhaps the explanation is that the mean age of child 2 was somewhat lower than that of child 1. Thus, father's main effect was not significant, because the number of older children was lesser than in the case of child 1. The adjusted explanation percentage was 12.9 or same as in model 2b, however, without adjustment 17.0. In any case model 2c shed light only on the gender role model in child's time use on reading but not in the way we could expect.

Therefore, the results seem to show that parental embodied capital had *as such* only a slight influence on reading time of children. Sibling influence was stronger than parental influence. However, the influence of parental embodied capital was strong if we take into account the age and gender of the child.

Summary and discussion

The main aim of this article was to study the influences of parents' education and parents' time used on reading on time devoted to reading by children, as well as the influence of one sibling's time devoted to reading on another sibling's time devoted to reading. Data came from the original data of Finnish time use surveys from the periods 1999–2000 and 2009–2010.

There were two main results in the study. The first was the sibling influence. The research question was formulated: which influence is stronger, parents' influence on their children or sibling influence? The answer is clear: sibling influence was without doubt stronger. Thus the hypothesis connected with the research question on sibling influence was confirmed. The second main result was the remarkable parental influence but only if the age of the child was taken into account. So the hypothesis on this matter was also indirectly confirmed. In comparison with earlier studies and hypotheses, the results of this study only partly confirmed earlier observations: only in some cases did education of parents or time devoted to reading by parents without specifications play a significant role in the reading of children. Why was sibling influence so remarkably greater than parental influence? Perhaps this was due to the fact that only children aged 10 years and over were included in the time use data; these older children think that they belong to another generation than their parents. This is an indirect conclusion, because on the basis of the time use survey this cannot be clarified directly.

Why did the mother's role model and parents' role model in general seem to be less important in reading in Finland than in some other countries? The result is difficult to interpret. The results of Cardoso et al. (2010) indicated the same kinds of observations. Their data came from time use surveys from France, Germany and Italy, as mentioned above. In general, these countries presented convergence in time use of children and parents, but, on the other hand, divergence in the influence that parents may have on youngsters' time devoted to socializing and to reading and studying. Italy stood out as the country where the role of parents was more pronounced, and Italy was also the country where the role of the mother was highlighted (Cardoso et al., 2010, 500).

This finding recalls the classification of countries into the regime groups of Esping-Andersen (2010) mentioned earlier. We can understand with this classification why the impact of parental and especially maternal influence was so important on young people's reading socialization in a Mediterranean country, such as Italy, whereas parental influence was more equal, focusing on both parents, in a Nordic country, such as Finland.

Mother's impact seemed to be important for younger children while father's impact was important for older children. This was quite natural: for small children mother is more important than father. One result was partly somewhat surprising: father's impact on son was significant but the impact of mother was not significant for sons or daughters. However, perhaps the explanation is simple. It is quite natural that mother spends more time than fathers with their children, and also mothers use more time on reading than fathers. Thus, the role model of mother is more or less commonplace for children; so, if father is reading, it is more uncommon and striking, and thus attracts sons' attention.

Another important deviation from previous results was the lesser role of education of fathers in the reading of children. Education of mother and reading time of child were still positively connected in Finland, but the education of father was not important. A general reason may be that in Finland education is more evenly distributed than, for instance, in the United Kingdom, where the data of Gracia (2015), who obtained clear evidence on the importance of education, were obtained.

There are also some limitations to the drawing of too far reaching conclusions on the basis of these data. Firstly, it must be remembered that although the results proved parental correlation with the time devoted to reading by the child, the results tell us nothing about the direction of the influence. To draw conclusions about the direction of effects, panel data would have been needed. This means that we do not know the effect of the child on the parents. It is not unusual for parents to become enthusiastic about their children's hobbies. Model learning can be mutual.

Secondly, a problem in time use data is that when it tries to cover all human activities it is superficial in individual areas. For instance, we know only the time devoted to reading for other purposes than work and studies, but we do not know if people read fiction or non-fiction, and we do not even know if they read popular or literary books.

Thirdly, this study was limited to families with two children living in a two-parent household. In light of the increasing number of one child families and increasing single-parent households, subsequent studies could include children from one-parent households and compare the impact of the reading behavior of children in different household constellations. However, including these family constellations would have made comparisons cumbersome, because there were some families in which mother's impact, father's impact or other child's impact was missing.

However, limitations notwithstanding, this study has shown a clear connection between parents' and young people's reading, as well as sibling's reading. Future research should continue to shed more light on this topic.

References

Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of Theory and Research for the Sociology of Education* (pp. 241–258). New York: Greenwood.

Cardoso, A.R., Monfardini, C., & Fontainha, E. (2010). Children's and parents' time use: Empirical evidence on investment in human capital in France, Germany and Italy. *Review of Economy of Household*, 8, 479–504.

Clark, C. (2005). Father involvement and children's literacy outcomes. *Literacy Today*, 42, 14–15.

Cook, W.L. (2001). Interpersonal influence in family systems. A social relations model analysis. *Child Development*, 72, 1179–1192.

Cooley, C.H. (1998/1909). *Social Organization: a Study of the Larger Mind*. Chicago: University of Chicago Press.

Esping-Andersen, G. (2000). *Social Foundations of Postindustrial Economies*. Oxford: Oxford University Press.

Gracia, P. (2015). Parent-child leisure activities and cultural capital in the United Kingdom: The gendered effects of education and social class. *Social Science Research*, 52, 290–302.

Griswold, V., McDonnell, T., & Wright, N. (2005). Reading and reading class in the twenty-first century. *Annual Review of Sociology*, 31, 127–139.

Halford, M. (2011). Reading and the 2010 Time Use Survey. *The New Yorker*. http://www.newyorker.com/online/blogs/books/2011/06/reading-and-the-2010-time-use-survey.html [Retrieved 1.12.2016].

Hofferth, S.L. (2006). Response bias in a popular indicator of reading to children. *Sociological Methodology*, 36, 301–315.

International Standard Classification of Education 2011. (2011). *International Standard Classification of Education 2011.* http://en.wikipedia.org/wiki/ISCED#ISCED_2011_levels_of_education_and_comparison_with_ISCED_1997 [Retrieved 3.12.2016.]

Kaur, H., Ratneswary, R., Rasiah, V., & Nagaratnam, S. (2012). The impact of parental influence on the reading habits of Gen-Y adults: A generalized linear model analysis. *International Journal of Education Economics and Development*, 3, 63–78.

Kloosterman R., Notten, N.T., Jochem, T., & Kraaykamp, G. (2011). The effects of parental reading socialization and early school involvement on children's academic performance: A panel study of primary school pupils in the Netherlands. *European Sociological Review*, 27, 291–306.

Knoester, M., & Plikuhn, M. (2015). Influence of siblings on out-of-school reading practices. *Journal of Research in Reading*, 38, 1–17.

Knulst, W., & Van Den Broek, A. (2003). The readership of books in times of de-reading. *Poetics*, 31, 213–233.

Kraaykamp, G. (2003). Literary socialization and reading preferences. Effects of parents, the library, and the school. *Poetics*, 3, 235–257.

Kraaykamp, G., & Van Eijck, K. (2010). The intergenerational reproduction of cultural capital: A threefold perspective. *Social Forces*, 89, 209–231.

Kramer, L., & Conger, K.J. (2009). What we learn from our sisters and brothers: For better or for worse. In L. Kramer & K.J. Conger (Eds.), *Siblings as Agents of Socialization. New Directions for Child and Adolescent Development* (pp.1-12). San Francisco: Jossey-Bass.

Lareau, A. (2003). *Unequal Chances: Class, Race and Family Life*. Berkeley CA: University of California Press.

Mancini, L., Monfardini, C., & Pasqua, S. (2011). *On Intergenerational Transmission of Reading Habits in Italy: Is a Good Example the Best Sermon?* IZA Discussion paper series No.6038. http://conference.iza.org/conference_files/Transatlantic2011/mancini_a6760.pdf [Retrieved 3.10.2017].

Mullan, K. (2009). Young people's time use and maternal employment in the UK. *British Journal of Sociology*, 60, 741–762.

Mullan, K. (2010). Families that read: A time diary analysis of young people's and parents' reading. *Journal of Research in Reading*, 33, 414–430.

Nagel, I., & Ganzeboom, H.B.G. (2002). Participation in legitimate culture: Family and school effects from adolescents to adulthood. *Netherland Journal of Social Sciences*, 38, 102–120.

Niemi, I., & Pääkkönen, H. (2002). *Time Use Changes in Finland through the 1990s. Culture and the Media 2002:2*. Helsinki: Statistics Finland.

Niklas, F., & Schneider, W. (2012). Home literacy environment and the beginning of reading and spelling. *Contemporary Educational Psychology,* 38, 40–50.

Notten, N., Kraaykamp, G., & Konig, R. (2012). Intergenerational transmission of reading and television tastes. *Sociological Perspectives*, 55, 683–706.

Pääkkönen, H., & Hanifi, R. (2011). *Ajankäytön muutokset 2000-luvulla* [Changes in Time Use in the 2000s]. Elinolot 2011 [Living circumstances 2011]. Helsinki: Tilastokeskus.

Reay, D. (1998). Engendering social reproduction: Mothers in the educational marketplace. *British Journal of Sociology of Education*, 19, 195–209.

Sonnenschein, S., & Munsterman, K. (2002). The influence of home-based reading interactions on 5-year-olds' reading motivations and early literacy development. *Early Childhood Research Quarterly*, 17, 318–337.

Toivonen, T. (2013). Cohorts and reading time on the basis of the Finnish time use data 1979–2009. *Research on Finnish Society*, 6, 15–24.

Toivonen, T. (2005). "Have you read any books for other purposes than studies or work in the last 12 months?". On book reading in 15 EU countries. In T. Toivonen, L. Haanpää, & T. Virtanen (Eds), *National, European, Global. Research Seminars of Economic Sociology 2004*. Turku: Publications of the Turku School of Economics and Business Administration. Discussion and Working Papers 2.

Toivonen, T. (2015). Spousal influence in time use – On book reading, highbrow culture attendance and computer use. *Electronic International Journal of Time Use Research*, 12, 1–18.

Toivonen, T. (2014). *Tempora Mutantur Et Nos In Illis – Times Are Changing and We Are Changing with Them: The Development of Time Use of Socioeconomic Groups*. Turku: Turku School of Economics. Series KR-2.

Wollscheid, S. (2014). The impact of leisure reading behaviours of both parents on children's reading behaviour: Investigating differences between sons and daughters. *Poetics*, 45, 36–54.

Author biography

Timo Toivonen defended his PhD in 1972 at the University of Turku and after various positions in the Academy of Finland and Finnish universities, he was from 1981 to 2008 Professor of Economic Sociology at Turku School of Economics. His main fields of interest have been social classes and stratification, sociology of consumption (especially cultural consumption) and methodology and philosophy of sociological studies.