Exploring the impact of family capital on family reading culture of primary and secondary school students

Yuedi Liu1,a,*

1College of Teacher Education, Capital Normal University, No. 23, Fu Wai Bai Dai Zi, Haidian District, Beijing, 100037, China
ayuedi_liu@cnu.edu.cn
*aCorresponding author

Abstract: With the promotion of the concept of nationwide reading in the report of the 20th Party Congress, building a Scholarly China has become a macro trend in the development of Chinese society. The family, as the basic unit of the country, has become an important position for promoting reading. Family capital, as a collection of explicit and implicit resources, has an important influence on the formation of family reading culture. How to allocate family capital reasonably and form a good family reading culture has become an important topic to explore in the context of promoting nationwide reading in China's new era. However, previous studies have mostly focused on the influence of family capital on students, with few exploring its impact on families as a whole (parents and children), and no research has discussed the influence of family capital on family reading culture. In addition, previous research on family reading culture has mainly been theoretical and lacked empirical research. This paper focuses on three dimensions of family capital: economic capital, cultural capital, and social capital, and explores their influence on family reading culture respectively. It aims to explore the factors influencing family capital on family reading culture, provide theoretical support for the development of family reading culture, and provide an empirical perspective for developing and improving nationwide reading in the context of the new era.

Keywords: Family Capital, Family Reading Culture, Parent-child Reading Interactions

1. Introduction

The generation and development of a reading culture have far-reaching effects on groups and societies. In 2021, the Opinions on promoting the work of national reading stated that reading is a crucial way to acquire knowledge and grow wise. It is a meaningful way to pass on civilization and improve national quality, and it is essential to promote nationwide reading in depth to strengthen the construction of socialist spiritual civilization and promote social progress. In addition, some scholars have also mentioned the significance of reading culture for society. Ngamwittayaphong argued that a reading culture is one in which individuals continue to read until reading becomes a part of all areas of one's life. Readers find value in reading to teach or promote others to read1. Moreover, Kachak et al. noted that the reading culture of the individual is a strategically significant factor in spiritual culture, a tool of intellectual development, and a social activity of a person and a nation in general2. Therefore, the culture of reading is very important to individuals, families, and society. It can enhance the cultural literacy of people, the reading atmosphere of families, and also promote the progress of social spiritual civilization.

The family is the basic unit of society. Family reading culture is one of the significant parts of the reading culture. Education begins at home, and a family reading atmosphere that embraces knowledge is conducive to good reading habits. Diligent practices will have an impact on children through the words and actions of their parents. The origin of family reading culture can be traced back to the ancient Chinese family motto. The chapter "Encouragement to Learn" in the Yan Family Sutra, regarded as the ancestor of family discipline, discusses children's education and profoundly explains the purpose and meaning of reading, as well as the principles and methods of reading3. According to Yan Zhitui, the primary purpose of reading is to teach children to behave, improve their moral cultivation, and develop a sense of responsibility for their families and society. On the other hand, what one learns from studying should not be detached from practical matters but should relate to world affairs and be applied to them. In modern times, the construction of a family reading culture is an integral part of promoting "Nationwide reading,"
and Guo suggests that parents should invest less in entertainment and more in education. They should set an example of diligent reading for their children and create a good family reading environment through interaction with children to promote the gradual development of established reading habits [4]. Guo also mentions that the relationship between family reading education and the trend of “Nationwide reading” complements each other, and only by strengthening the foundation of family reading education can the advocacy of “Nationwide reading” become a social trend [4]. According to Train, family reading culture can be interpreted in two main ways: firstly, as family members support each other in developing their literacy skills, and secondly, as family members share their enjoyment of reading and storytelling [5].

In recent years, family capital has been shown to impact family reading culture in various ways. Previous research has confirmed a strong correlation between parents' educational level and children's reading achievement [6][7][8]. It has been observed that Finnish children with mothers possessing higher levels of education exhibit a greater propensity for acquiring reading skills during their initial year in kindergarten [9]. Additionally, Khanolainen et al. discovered that the educational attainment of Finnish fathers was a significant predictor of children's reading comprehension in the first and second grades [8]. However, the mechanism underlying the predictive influence of parental education on children's reading abilities remains yet to be elucidated. Currently, three primary possible reasons have been shown to explain the relationship between parental education and children's reading abilities. Firstly, parental educational levels are directly associated with the rich reading environment provided to students [8][10]. Secondly, deficiencies in parental reading skills may potentially be inherited by offspring [11]. Lastly, the educational system might not adequately meet the needs of students from diverse family backgrounds (for a discussion, see e.g., Williams et al. [12]).

From the material level of family resources, facilities, and the reading environment that are conducive to fostering reading habits, they can be associated with the capitals given by Bourdieu [13]. Several studies have already confirmed that family resources have an influence on students' reading interest. For example, Wen, Liang, and Liu investigated the effects of the home environment on students' reading ability [14]. The results showed that (1) the home environment influences reading interest through the full mediation of reading engagement; reading interest influences reading achievement through the full mediation of reading engagement; (2) the influence of the home environment on reading ability is realized through the circular interaction of reading engagement and reading interest. Furthermore, Li and Li investigated the home reading environment of young children aged 3-6 years [15]. This study explored the characteristics of the home reading environment for children aged 3-6 years in five dimensions: reading time, reading materials, creation of reading space, reading atmosphere, and reading style. The results showed that the creation of a home reading environment was strongly related to the family's economic conditions, parents' education level, the importance of reading by the caregivers, and the importance of early childhood education in the region [15]. Additionally, Ren and Xin used family ownership as an indicator of family economic status and showed that the lower the family's economic status, the lower the achievement of students [16]. The International Reading Literacy Study has also shown that the more children's books a family owns, the better the child's reading performance [17]. Taken together, family resources, reading environments, facilities, and book collections, which are most directly related to reading, are factors that may influence a family's reading culture.

Furthermore, the home literacy environment is considered a spiritual factor that influences family reading culture. Senechal and LeFevre employed longitudinal data to expound upon a theoretical framework delineating the connections between the home environment's impact on language and literacy development. They classified two aspects of the home environment as informal and formal literacy engagements. Informal literacy experiences encompass situations where written material is present but not the central focus of parent-child interactions. Conversely, formal literacy activities involve situations where the primary focus is on the written material itself [18]. Subsequent research has indicated that informal family literacy activities, such as parent-child shared reading, primarily enhance children's oral communication skills [19]. However, formal family literacy activities have the potential to enhance early literacy, including aspects such as alphabet knowledge, reading readiness, early reading, and inventive spelling skills. Typical formal literacy activities encompass parental guidance and parents listening to their children read [20].

Family encouragement has an important impact on the literacy development of children. Reading encouragement can encompass both behavioral encouragement, such as encouragement in parent-child reading interactions, and emotional encouragement strategies towards children. Research has indicated that families of higher socioeconomic status or parents with higher educational attainment tend to employ strategies to encourage reading [21]. Additionally, studies have found that elementary school students who receive frequent encouragement from parents exhibit higher levels of reading enjoyment, autonomy, and
reading proficiency compared to those lacking such encouragement [22]. Furthermore, Yusof suggested a direct link between the development of preschool reading habits and interests and a family's cultural capital [23]. Thus, it is evident that family socioeconomic status is associated with reading encouragement, and the constituent elements of socioeconomic status impact both parental reading nurturing behaviors and emotional encouragement towards children. However, there is currently limited research confirming the influence of family cultural capital on family reading encouragement.

In conclusion, reading culture serves as both a reflection of individual reading habits and a symbol of societal intellectual civilization. The family, as the fundamental unit of society, bears the crucial responsibility for nurturing family reading culture. Previous research has explored the impact of family material resources, parental educational levels, as well as family reading interactions and encouragement on children's reading abilities and achievements. However, the scope of these studies has been somewhat limited, lacking a comprehensive investigation into the overall family reading culture. Furthermore, there is a need for further exploration of the composition of family reading culture. Therefore, this study takes this as a point of departure and employs quantitative research methods to investigate the factors influencing family reading culture, as well as the impact of the three sub-dimensions of family capital on family reading culture.

2. Family capital and family reading culture

2.1. Family capital

The concept of family capital is derived from social capital. Social capital is a term used to describe the resources in interpersonal interactions. Unlike social capital, family capital is limited to information channels among family members [24]. In Bourdieu's book "The Forms of Capital," capital is divided into economic, cultural, and social capital, and family capital is the sum of economic, cultural, and social capital that can be mobilized within the family [13]. Coleman then classified family capital into three forms: economic, human, and social. According to Coleman, family social capital gives the child access to the adult's human capital, which depends both on the physical presence of adults in the family and on the attention given by the adults to the child. He emphasized that family structure and the presence of parents during the day impact family social capital [25]. In contrast to Coleman, Putnam focused the definition of social capital on the community level and referred to social capital as a moral resource [26]. Meanwhile, Chinese scholars have mainly defined family capital by expanding on the theories proposed by Bourdieu and Coleman. In a study on family capital and college employment policy, "family capital" is defined as the family background that exists within the family and can be used by individuals to achieve specific "instrumental purposes" [27]. This concept was later followed in Li and Lu's study, which defined family capital as the family's economic and cultural social background [28]. Jiang and Yan used the three dimensions proposed by Bourdieu in their study on the impact of family capital differences between urban and rural areas on children's academic achievement, in which the definition of cultural capital incorporated Coleman's human capital [29]. Yu and Luo defined family capital as the resources and conditions that families provide for children's learning and development in their study on the relationship between family capital and children's learning qualities [30].

2.1.1. Family economic capital

Family economic capital refers to the material form of parental investment in their children [31]. Economic capital is the most basic form of social capital, upon which social capital and cultural capital are based. Bourdieu argues that economic capital is directly expressed as money and institutionalized in property rights [32]. Coleman also believed that the family's wealth or income approximately measures financial capital. It provides the physical resources that can aid achievement: a fixed place in the home for studying, materials to aid learning, and the financial resources that smooth family problems [33]. Several scholars have measured family economic capital using annual family income [34][28]. Additionally, some scholars also consider occupational and educational expenditures as part of family economic capital [30]. Overall, the aforementioned studies are more consistent in measuring family economic capital based on family income. In this study, the author follows Bourdieu's capital theory and chooses annual family income as a measure of family economic capital. Furthermore, this study synthesizes Bourdieu's perspective and selects family annual income as a measure of family cultural capital.

2.1.2. Family cultural capital

Family cultural capital refers to the specific social resources, such as cultural knowledge, cultural skills, cultural cultivation, and cultural goods, accumulated by family members through mutual
exchanges and practices [31]. Yu and Luo argue that family cultural capital encompasses the knowledge, skills, and cultural resources possessed by family members [30]. Specifically, cultural capital is often expressed through educational qualifications [32]. Coleman believed that parents' education measures human capital and provides the potential for a cognitive environment that supports a child's learning [25]. Most Chinese researchers have visualized educational qualifications as parents' education when referring to family cultural capital. For example, Jiang and Yan used indicators such as the father's literacy, home and children's school supplies, and home book collection to represent family cultural capital [29]. Yu and Luo defined family cultural capital as parental literacy, the family's education concept, and the family's cultural environment [30]. Li and Lu measured family cultural capital based on the educational levels of both the father and the mother [27]. Li measured family cultural capital by the father's literacy level [34]. This study synthesizes the perspectives of the aforementioned scholars and selects parental literacy, book collection, and the physical environment for reading as measures of family cultural capital.

2.1.3. Family social capital

Family social capital refers to the network of interpersonal relationships that family members establish with others, both within and outside the family, based on trust, norms, institutions, and responsibilities. It is a social resource that can significantly impact children's development [31][30]. Bourdieu proposed that social capital is expressed through social obligations or social connections that are institutionalized in the form of various social titles [32]. Coleman measured family social capital using various family characteristics [35], including the presence of both parents in the family, the number of siblings, parents' educational expectations, the frequency of school-related conversations with parents, and inter-generational closure. Subsequent educational research has followed and updated the dimensions of family social capital division based on the theories of Bourdieu and Coleman. On one hand, some scholars have expanded Coleman's measurement dimensions, such as considering family structure [35], the number of siblings [36], parents' educational expectations [37][38], and inter-generational closure [39]. On the other hand, some scholars have focused on the impact of parental involvement on children's education, which includes parents' participation in their children's educational activities at home and involvement in their children's school activities [40][41]. In the Chinese context, researchers have also used parental involvement as a measure of family social capital, taking into account specific national conditions. For example, Jiang and Yan refined parental involvement to include academic expectations, study supervision, study tutoring, hiring tutors, or enrolling in classes [29]. Yu and Luo divided parental involvement into in-home and out-of-home involvement [29]. Additionally, some scholars believe that possession of social capital is linked to an individual's social class and social status, and therefore define the measure of family social capital based on the father's occupational status [28]. In summary, while researchers have varied in their selection of specific measures for family social capital, there is a strong consistency in focusing on dimensions such as parental educational expectations and occupational type. Following Bourdieu's capital theory and synthesizing the perspectives of the aforementioned scholars, the author defines the measures of family social capital as family inner social capital and family outside social capital.

2.2. Family reading culture

The concept of the phrase 'reading culture' can be traced back to Wang and Wang from the perspective of cultural theory. They believed that reading culture refers to 'the reading values and reading cultural activities that are based on certain technical and material forms and influenced by social consciousness and environmental institutions' [42]. Furthermore, they pointed out that reading culture belongs to a sociocultural system encompassing three levels: the functional and value level, the social consciousness and fashion level, and the environmental and educational level. Specifically, the function and value level reveal the spiritual significance of reading culture, while the social consciousness and fashion level highlight the age-related characteristics of reading culture. The environmental and educational factors serve as the material foundation for the generation and development of reading culture. In 2007, Professor Wang published a book titled 'Historical Essay on Reading Culture in China.' In this book, he explored reading culture and reading history from four perspectives, including reading culture, reading history, book selection and reading, and Internet reading. These aspects laid the foundation for the research content of China's reading history [43].

At the individual level, reading culture is manifested through reading habits that can support the development of a person's literacy skills [44]. Gbadamosi defined reading culture as the process by which individuals develop a positive attitude towards reading and form long-term reading habits. Individuals are able to cultivate regular and habitual reading behavior without being guided solely by utilitarian purposes such as professional needs [45]. Reading should not be limited to utilitarian purposes alone [46].
but rather should be a continuous activity aimed at nurturing one's mind. According to Ogugua et al., developing a reading culture involves teaching children to cultivate reading habits early in life, indicating that an individual's reading culture begins in childhood. Furthermore, in Ailakhu and Unegbu, reading culture is described as the habit of reading in daily life, not just for academic purposes. It is evident that the process of cultivating a reading culture involves nurturing people's regular and lifelong reading habits.

Family reading culture undergoes subtle changes with the evolution of time and technology. Online reading has become an important avenue for family members to engage in reading activities. The widespread availability of technology and the increasing usage of the Internet have contributed to a growing trend among students to acquire new knowledge and skills through online resources. Consequently, the Internet has gradually become a significant medium for people to read and access information. However, it is worth noting that the Internet has also been considered an obstacle in the development of students' reading habits.

In summary, individuals' reading habits are the external manifestation of reading culture. The following characteristics are presented: First, a person develops reading habits early. Second, the reading habit is reflected in a person's ability to engage in reading behavior long-term and regularly. Furthermore, reading habits are non-utilitarian and bring positive emotions to an individual. Moreover, having good reading habits can improve one's literacy skills. Finally, online reading has become an important way for family members to engage in reading. The reading culture within families undergoes subtle shifts as time and technology progress, and online reading has become an essential method for family members to read. Establishing a reading culture in the family requires parents to have good reading habits and lead by example. Parents create a conducive reading environment by interacting with their children during reading sessions and by encouraging them to read. In this study, family reading culture refers to a family in which parents have a long-term reading habit and engage in reading activities with their children at home, including early childhood reading sessions, reading-related activities, and reading encouragement. As a result, children develop good reading habits under the influence of their parents and during parent-child reading interactions.

2.2.1. Parent-child reading interaction

Parent-child reading interaction refers to parents and children engaging in discussions about the content of a book as they strive to develop a shared consensus regarding the meaning of the text. Additionally, reading guidance is also an activity through which parents interact with their children's reading. The nature of parental guidance during book reading has a significant impact on literacy and language-related developmental outcomes. The Parent questionnaire of PISA (2018) surveys parents' participation in reading-related activities, which include helping children with their reading homework, helping children in reading, visiting bookstores or libraries with their kids, and engaging in shared-book reading.

2.2.2. Online reading behavior

Online reading behavior refers to the reading behavior that primarily focuses on obtaining an overview and acquiring instant information through internet media such as microblogs, Weibo, and emails. The main purpose is to quickly browse and read information online. In this paper, parents' and students' online reading behaviors were classified according to PISA (2018) as reading emails, reading online news, retrieving online information, and participating in online forums.

2.2.3. Reading interest

Reading interest refers to one's attitude towards reading materials. Ro and Chen found that readers with a positive attitude toward reading tend to read more. Reading interest can also be reflected in the duration of reading. In addition, the duration of students' reading on both weekday and weekend days can be used to assess their reading habits. Furthermore, reading interest can be observed in the level of enjoyment derived from reading different types of books. Greaney categorized the types of reading into three parts: book reading, comic reading, and newspaper reading. Moreover, the reading types in PISA (2018) include magazines, comic books, fiction (novels, narratives, stories), non-fiction books (informational, documentaries), and newspapers.

2.2.4. Parents' encouragement

Parents' encouragement can enhance students' reading motivation and even predict their reading comprehension. Additionally, Neuman discovered a strong relationship between the home environment, particularly parental encouragement and the frequency of reading to the child during their...
early years, and teenagers' reading behaviors [57]. The PISA (2018) Parent questionnaire surveys the level of encouragement that parents provide to their children in their studies.

3. The Present Research

In the present research, the element of family capital was designed as the independent variable, while family reading culture was designated as the dependent variable, in order to explore the influences on the association between family capital and family reading culture. Building upon existing conditions and previous studies, this study aims to answer the following questions:

1) What is the family reading culture of Chinese primary and secondary schools students?
2) How does family capital affect the family reading culture?

We tested the following hypotheses: H1: Family reading culture varies with students' gender; H2: Family reading culture varies with students' grade; H3: Family reading culture varies with school regions; H4: Family reading culture varies with parents' educational level; H5: Family reading culture varies with parents' occupation; H6: Family reading culture varies with household income; H7: Family reading culture varies with family book collections; H8: Family economic capital influences family reading culture; H9: Family cultural capital influences family reading culture; H10: Family social capital influences family reading culture.

4. Materials and methods

4.1. Participants

4.2. Methods

This study is a quantitative research. The quantitative method enables simple to sophisticated analyses of the data and explores the causal-comparative and correlational relationships of reading habits and experiences. It is an effective way to understand the situation of a group of people, i.e., the participants. A questionnaire is the primary tool used in this study, which will be further illustrated in the next section. The questionnaire is designed using Likert scales and multiple-choice questions, encompassing two parts: the current situation of family reading culture and family capital.

4.2.1. Measures

The questionnaire includes two parts: the first part is family reading culture, and the second part is family capital. For the first part, most of the constructs measured on the questionnaire were drawn from the secondary students' questionnaire of PISA (2018). The second part measures the effects of family economic capital, family cultural capital, and family social capital on students' family reading culture. It was revised from the questionnaires of China Family Panel Studies (CFPS) and the Home Resources for Learning (HRL) Scale. The dimensions of the questionnaire are shown below.

First, to assess family reading culture, six parts were administered: Parent-child reading interactions, students' reading behavior, parents' reading behavior, parents' encouragement, students' reading interest, and parents' reading interest. These dimensions were measured using the PISA (2018) parents' questionnaire. The overall Cronbach's $\alpha$ for this questionnaire was 0.902. Since 0.902 > 0.9, it can be said that the scale's reliability is good for the purpose of the study. Specifically, for the parent-child reading interaction part, it consists of 10 items (e.g., "Did you read books with your child when he/she was in grade 1?"); and each item was rated on a 5-point Likert scale ranging from 1 (never or hardly ever) to 5 (every day or nearly every day). The Cronbach's $\alpha$ for this part was 0.93. For the students' online reading behavior part, it consists of 6 items (e.g., "How often are your children involved in the following reading activities?"); and each item was rated on a 5-point Likert scale ranging from 1 (never) to 5 (always). The Cronbach's $\alpha$ for this dimension was 0.895. For the parents' online reading behavior part, it consists of 4 items (e.g., "How often are you involved in the following reading activities?"); and each item was rated on a 5-point Likert scale ranging from 1 (never) to 5 (always). For the parents' encouragement part, it consists of 4 items (e.g., "Do you agree to support your child's efforts and achievements in reading?"); and each item was rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's $\alpha$ for this part was 0.928. For the students' reading interest part, it consists of 3 items (e.g., "Does your child like to talk about books with others?"); and each item was rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The
Cronbach's α for this part was 0.796. For the parents' reading interest part, it consists of 3 items (e.g., "Do you regularly read fiction? (Novels, narratives, stories)"), and each item was rated on a 5-point Likert scale ranging from 1 (never) to 5 (always). The Cronbach's α for this part was 0.736. The reliability of each dimension is above 0.7, indicating high reliability for each dimension.

Additionally, to assess family capital, the questionnaire is based on Bourdieu's theory of family capital, and the questions were revised from the China Family Panel Studies (CFPS) and the Home Resources for Learning (HRL) Scale. To measure family economic capital, we chose to explore family annual income, which consists of 8 options ranging from 1 (less than 10,000) to 8 (more than 5,000,000). Family cultural capital encompasses three parts: parents' education level, book collections, and family physical resources. Furthermore, parents' social capital focuses on both inside social capital and outside social capital of the family, which were designed using a 5-point Likert scale ranging from 1 (strongly inconsistent) to 5 (highly consistent).

Lastly, confirmatory factor analysis (CFA) suggested that all the factor loadings ranged from 0.56 to 0.78, and the uni-dimensional model fit the data well: χ²/df = 1.76, TLI = 0.88, CFI = 0.90, RMSEA = 0.07, which is indicative of acceptable structural validity.

4.2.2. Procedure

The questionnaires were collected in July 2023, and the online survey was administered to Chinese families through Wen Juanxing, with a sample of parents of elementary and middle school students. Data were analyzed using SPSS 27.0, utilizing the following methods: descriptive statistics, independent t-test, one-way ANOVA, Pearson correlation, and linear regression analysis. Descriptive statistics, specifically mean values and standard deviations, were used to describe the overall current situation of family reading culture. Variance analysis was applied to compare the differences in family reading culture based on gender, grade, school region, parents' educational level, parents' occupation, household income, and family book collections. Correlation analysis was used to determine the correlation between family capital and family reading culture. Simple linear regression was conducted to ascertain the extent to which family capital contributes to family reading culture.

5. Results

5.1. Current situation of family reading culture

5.1.1. Overall situation

The overall achievements of primary and secondary school students in terms of family reading culture are illustrated here. The overall scores of family reading culture for primary and secondary school students typically range from 49 to 143. Among the 159 surveyed families, the average score for family reading culture was 90.99 (±17.11). The lowest score recorded was 49, while the highest score was 143. Considering the average family score, the overall situation of family reading culture in China can be described as moderate, leaving substantial room for improvement.

5.1.2. Situation from gender

Differences in family reading culture based on students' gender were then explored. Out of the 159 participants who completed the questionnaire, there were 79 (49.7%) females and 80 (50.3%) males. Conclusions drawn from the independent samples t-test analysis indicate that there is no significant difference in family reading culture and its various dimensions based on students' gender (p > 0.05). Therefore, students' gender does not exert a significant influence on family reading culture, suggesting that within the current societal context, children's gender has a limited impact on the overall level of family reading culture.

5.1.3. Situation from grade

The family reading culture in different grades shows a tendency to be high at both ends and low in the middle. First, there is no obvious difference in family reading culture (p = 0.062 > 0.05) between primary school students and middle school students. However, significant differences exist between lower grade and intermediate grade students' family reading culture (p = 0.005), as well as between lower grade and higher grade students' family reading culture (p = 0.005). On the other hand, the difference between intermediate grade and higher grade students' family reading culture is not statistically significant. Thus, the results indicate that lower grade and higher grade students have significantly better family reading culture than intermediate grade primary school students. In general, the mean scores of

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family reading culture are as follows: junior school students’ families (M = 3.360, SD = 0.561), lower grade students’ families (M = 3.352, SD = 0.632), higher grade students’ families (M = 3.310, SD = 0.476), and intermediate grade students’ families (M = 2.930, SD = 0.551). These results signify that the performance of family reading culture is highest during the middle school years, followed by the early years of children’s education. Subsequently, while there is a declining trend, there is a resurgence during the later years of elementary school. There is no significant difference in family reading culture between the higher grade of elementary school and the middle school stage.

5.1.4. Situation from students’ school region

Generally, the family reading culture in first-tier cities is better than that in second-tier cities. The mean score of family reading culture is 3.273 (SD = 0.316). Among them, families in first-tier cities have a higher mean score (M = 3.398, SD = 0.550), while families in second-tier and below cities have a lower mean score (M = 3.092, SD = 0.532). The p-value for family reading culture is lower than 0.01 (p = 0.001), indicating that families in first-tier cities have significantly better family reading culture than families in second-tier and below cities.

5.1.5. Situation from parent educational level

A significant disparity has been shown in family reading culture based on differences in parental educational attainment, with higher levels of parental education correlating with better performance in family reading culture. More specifically, households where fathers have attained a master's degree or higher exhibit the highest performance (M = 3.821, SD = 0.602) in terms of family reading culture. On the other hand, households with fathers who have attained only a primary school education display the poorest performance (M = 3.096, SD = 0.893) in terms of family reading culture. Similarly, households where mothers have attained a master's degree or higher exhibit the highest performance (M = 3.839, SD = 0.559) in terms of family reading culture. Conversely, households with mothers who have attained only a primary school education display the poorest performance (M = 3.010, SD = 0.700) in terms of family reading culture. Furthermore, in terms of the magnitude of these differences, maternal educational attainment (p = 0.002 < 0.05) has a greater impact on family reading culture compared to paternal educational attainment (p = 0.035 < 0.05).

5.2. Family capital and family reading culture

5.2.1. Correlation analysis

Table 1: Pearson Correlation analysis.

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<th>cultural capital</th>
<th>social capital</th>
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<td></td>
<td>0.002</td>
<td>0.003</td>
</tr>
</tbody>
</table>

*p<0.05 **p<0.01 ***p<0.001

In general (see Table 1), family reading culture was significantly and positively correlated with all three capitals (economic: r = 0.242, p = 0.002; cultural: r = 0.235, p = 0.003; social: r = 0.513, p < 0.001). Among them, firstly, parent-child reading interactions have a significant relationship with the three dimensions of family capital. Family economic capital was significantly and positively related to parent-child reading interaction (r = 0.239, p = 0.002). Additionally, family cultural capital was also significantly and positively correlated with parent-child reading interaction (r = 0.187, p = 0.018). Moreover, the strongest positive correlation was found between family social capital and parent-child reading interaction (r = 0.513,

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0.410, p < 0.001). Secondly, students' reading behavior was only positively correlated with family social capital (r = 0.146, p = 0.066). Thirdly, parental online reading behavior was positively correlated with family economic capital (r = 0.143, p = 0.071) and cultural capital (r = 0.179, p = 0.024), and especially showed the strongest correlation with social capital (r = 0.424, p < 0.001). Moreover, students' reading interest was also significantly and positively correlated with the three types of family capital (economic: r = 0.134, p = 0.093; cultural: r = 0.212, p = 0.007; social: r = 0.260, p = 0.001). Lastly, parental reading encouragement was significantly and positively correlated with family economic capital (r = 0.219, p = 0.006), cultural capital (r = 0.185, p = 0.02), and social capital (r = 0.491, p < 0.001).

5.2.2. Regression analysis of family reading culture

Firstly, the results showed that parent-child reading interactions were used as the dependent variable, while family economic capital, family cultural capital, and family social capital were considered as the independent variables (see Table 2). A multiple regression model was established to examine the relationship between the independent variables and the dependent variable. The coefficient of determination, R² (R-square), represented the proportion of the dependent variable's variation explained by the independent variables in the regression model. It serves as the initial analysis of the regression results. The data revealed that the R-square value of the model is 0.2225, indicating that economic capital, cultural capital, and social capital can account for 22.25% of the variation in parent-child reading interactions. Furthermore, the F-test was conducted to determine the overall significance of the regression model, assessing the linear relationship between the dependent variable and all the independent variables. It also helps test the statistical significance of the model. The results indicated an F-value of 14.788 and a P-value of 0.0. The regression equation for the model is as follows: Parent-child reading interactions = -1.367 + 0.096 * family economic capital + 0.524 * family cultural capital + 0.697 * family social capital. This suggests that economic capital has a significant positive effect on parent-child reading interactions, with a beta value of 0.096 and a p-value of 0.026 (p < 0.05). Family cultural capital also has a significant positive effect on parent-child reading interactions, with a beta value of 0.524 and a p-value of 0.044 (p < 0.05). Additionally, family social capital has a significant positive effect on parent-child reading interactions, with a beta value of 0.697 and a p-value of 0.000 (p < 0.001).

Secondly, in the linear regression analysis, students' online reading behavior was considered as the dependent variable, while family economic capital, family cultural capital, and family social capital were treated as the independent variables (see Table 3). A multiple regression model was established to examine the relationship between the independent variables and the dependent variable. The coefficient of determination, R² (R-square), represented the proportion of the dependent variable's variation explained by the independent variables in the regression model. It serves as the initial analysis of the regression results. The data revealed that the R-square value of the model is 0.0322, indicating that family economic capital, family cultural capital, and family social capital can account for 3.22% of the variation in students' online reading behavior. Furthermore, the F-test was conducted to determine the overall significance of the regression model, assessing the linear relationship between the dependent variable and all the independent variables. It also helps test the statistical significance of the model. The results indicated an F-value of 1.72 and a P-value of 0.165. The regression equation for the model is as follows: Students' online reading behavior = 2.274 - 0.024 * family economic capital - 0.332 * family cultural capital + 0.29 * family social capital. However, the analysis of the independent variables revealed that none of them played a significant role in influencing the dependent variable, students' online reading behavior.
behavior (p > 0.05).

### Table 3: Linear Regression of students’ online reading behavior

<table>
<thead>
<tr>
<th>Linear Regression (n=159)</th>
<th>Unstandardized Coefficients</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>2.274</td>
<td>0.872</td>
<td>2.608</td>
</tr>
<tr>
<td>Family economic capital</td>
<td>-0.024</td>
<td>0.049</td>
<td>-0.498</td>
</tr>
<tr>
<td>Family cultural capital</td>
<td>-0.332</td>
<td>0.294</td>
<td>-1.126</td>
</tr>
<tr>
<td>Family social capital</td>
<td>0.290</td>
<td>0.149</td>
<td>1.946</td>
</tr>
</tbody>
</table>

R²: 0.032  
Adj. R²: 0.013  
F: F=1.720, p=0.165  
D-W: 1.399

Dependent Variable: Students’ online reading behavior

Thirdly, in the linear regression analysis, parents’ online reading behavior was considered as the dependent variable, while family economic capital, family cultural capital, and family social capital were treated as the independent variables (see Table 4). A multiple regression model was established to examine the relationship between the independent variables and the dependent variable. The coefficient of determination, R² (R-square), represented the proportion of the dependent variable's variation explained by the independent variables in the regression model. It serves as the initial analysis of the regression results. The data revealed that the R-square value of the model is 0.2102, indicating that family economic capital, family cultural capital, and family social capital can account for 21.02% of the variation in parents' online reading behavior. Furthermore, the F-test was conducted to determine the overall significance of the regression model, assessing the linear relationship between the dependent variable and all the independent variables. It also helps test the statistical significance of the model. The results indicated an F-value of 13.752 and a P-value of 0.0. The regression equation for the model is as follows: Parents' online reading behavior = -0.489 + 0.035 * family economic capital + 0.523 * family cultural capital + 0.712 * family social capital. This suggests that family cultural capital has a significant positive effect on parents' online reading behavior, with a beta value of 0.523 and a p-value of 0.036 (p < 0.05). Additionally, family social capital has a significant positive effect on parents' online reading behavior, with a beta value of 0.712 and a p-value of 0.0 (p < 0.05).

### Table 4: Linear Regression of parents’ online reading behavior

<table>
<thead>
<tr>
<th>Linear Regression (n=159)</th>
<th>Unstandardized Coefficients</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-0.489</td>
<td>0.733</td>
<td>-0.667</td>
</tr>
<tr>
<td>Family economic capital</td>
<td>0.035</td>
<td>0.041</td>
<td>0.859</td>
</tr>
<tr>
<td>Family cultural capital</td>
<td>0.523</td>
<td>0.247</td>
<td>2.112</td>
</tr>
<tr>
<td>Family social capital</td>
<td>0.712</td>
<td>0.125</td>
<td>5.686</td>
</tr>
</tbody>
</table>

R²: 0.210  
Adj. R²: 0.195  
F: F=13.752, p=0.000  
D-W: 1.997

Dependent Variable: Parents’ online reading behavior

Fourthly, in the linear regression analysis, parents' encouragement was considered as the dependent variable, while family economic capital, family cultural capital, and family social capital were treated as the independent variables (see Table 5). A multiple regression model was established to examine the relationship between the independent variables and the dependent variable. The coefficient of determination, R² (R-square), represented the proportion of the dependent variable's variation explained by the independent variables in the regression model. It serves as the initial analysis of the regression results. The data revealed that the R-square value of the model is 0.2848, indicating that family economic capital, family cultural capital, and family social capital can account for 28.48% of the variation in parents' encouragement. Furthermore, the F-test was conducted to determine the overall significance of the regression model, assessing the linear relationship between the dependent variable and all the independent variables.
independent variables. It also helps test the statistical significance of the model. The results indicated an F-value of 20.572 and a P-value of 0.0. The regression equation for the model is as follows: Parents' encouragement = 0.731 + 0.055 * economic capital + 0.371 * cultural capital + 0.603 * social capital. This suggests that family cultural capital has a significant positive effect on parents' encouragement, with a beta value of 0.371 and a p-value of 0.036 (p < 0.05). Additionally, family social capital has a significant positive effect on parents' encouragement, with a beta value of 0.603 and a p-value of 0.0 (p < 0.05).

Table 5: Linear Regression of parents' encouragement.

<table>
<thead>
<tr>
<th>Linear Regression(n=159)</th>
<th>Unstandardized Coefficients</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.731</td>
<td>1.410</td>
<td>0.161</td>
</tr>
<tr>
<td>Family economic capital</td>
<td>0.055</td>
<td>1.892</td>
<td>0.060</td>
</tr>
<tr>
<td>Family cultural capital</td>
<td>0.371</td>
<td>2.116</td>
<td>0.036*</td>
</tr>
<tr>
<td>Family social capital</td>
<td>0.603</td>
<td>6.809</td>
<td>0.000***</td>
</tr>
</tbody>
</table>

Moreover, in the linear regression analysis, students' reading interest was considered as the dependent variable, while economic capital, cultural capital, and social capital were treated as the independent variables (see Table 6). A multiple regression model was established to examine the relationship between the independent variables and the dependent variable. The coefficient of determination, R² (R-square), represented the proportion of the dependent variable's variation explained by the independent variables in the regression model. It serves as the initial analysis of the regression results. The data shows that the R-square value of the model is 0.1132, indicating that economic capital, cultural capital, and social capital can account for 11.32% of the variation in students' reading interest. Furthermore, the F-test was conducted to determine the overall significance of the regression model, assessing the linear relationship between the dependent variable and all the independent variables. It also helps test the statistical significance of the model. The results indicated an F-value of 6.596 and a P-value of 0.0. The regression equation for the model is as follows: Students' reading interest = 0.562 + 0.034 * family economic capital + 0.572 * family cultural capital + 0.37 * family social capital. This suggests that family cultural capital has a significant positive effect on students' reading interest, with a beta value of 0.572 and a p-value of 0.014 (p < 0.05). Additionally, there is a significant positive effect of family social capital on students' reading interest, with a beta value of 0.37 and a p-value of 0.002 (p < 0.05).

Table 6: Linear Regression of students' reading interest.

<table>
<thead>
<tr>
<th>Linear Regression(n=159)</th>
<th>Unstandardized Coefficients</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.562</td>
<td>0.828</td>
<td>0.409</td>
</tr>
<tr>
<td>Family economic capital</td>
<td>0.034</td>
<td>0.904</td>
<td>0.368</td>
</tr>
<tr>
<td>Family cultural capital</td>
<td>0.572</td>
<td>2.495</td>
<td>0.014*</td>
</tr>
<tr>
<td>Family social capital</td>
<td>0.370</td>
<td>3.186</td>
<td>0.002**</td>
</tr>
</tbody>
</table>

Lastly, in the linear regression analysis, parents' reading interest was considered as the dependent variable, while family economic capital, family cultural capital, and family social capital were treated as the independent variables (see Table 7). A multiple regression model was established to examine the relationship between the independent variables and the dependent variable. The coefficient of determination, R² (R-square), represents the proportion of the dependent variable's variation explained by the independent variables in the regression model. It serves as the initial analysis of the regression results. The data showed that the R-square value of the model is 0.1418, indicating that family economic
capital, family cultural capital, and family social capital can account for 14.18% of the variation in parents' reading interest. Furthermore, the F-test was conducted to determine the overall significance of the regression model, assessing the linear relationship between the dependent variable and all the independent variables. It also helps test the statistical significance of the model. The results indicated an F-value of 8.539 and a P-value of 0.0. The regression equation for the model is as follows: Parents' reading interest = -1.219 + 0.106 * family economic capital + 0.793 * family cultural capital + 0.462 * family social capital. This suggests that family economic capital has a significant positive effect on parents' reading interest, with a beta value of 0.106 and a p-value of 0.035 (p < 0.05). Additionally, there is a significant positive effect of family cultural capital on parents' reading interest, with a beta value of 0.793 and a p-value of 0.009 (p < 0.05). Moreover, there is a significant positive effect of family social capital on parents' reading interest, with a beta value of 0.462 and a p-value of 0.003 (p < 0.05).

Table 7: Linear Regression of parents' reading interest.

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-1.219</td>
<td>0.890</td>
<td>-1.371</td>
</tr>
<tr>
<td>Family economic capital</td>
<td>0.106</td>
<td>0.050</td>
<td>2.130</td>
</tr>
<tr>
<td>Family cultural capital</td>
<td>0.793</td>
<td>0.300</td>
<td>2.640</td>
</tr>
<tr>
<td>Family social capital</td>
<td>0.462</td>
<td>0.152</td>
<td>3.036</td>
</tr>
<tr>
<td>R²</td>
<td>0.142</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj.R²</td>
<td>0.125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>F=8.539, p=0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D-W</td>
<td>1.575</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent Variable: Parents' reading interest

*p<0.05 **p<0.01 ***p<0.001

6. Discussion

6.1. Current situation of family reading culture

The present study examined the current situation of family reading culture in China. Firstly, the results of this study enriched previous research on the influence of parents' education level and students' reading achievement [6][7][8] by confirming that parents' education level is also significantly correlated with family reading culture. The study further revealed that higher levels of parental education are associated with better performance in family reading culture. While the effect of parental education on family reading culture has not been extensively explored in previous studies, the present study found that, in addition to parental education positively influencing family reading culture, differences in mothers' educational attainment exerted a greater influence (p = 0.002) on family reading culture performance compared to fathers (p = 0.035).

Secondly, in this study, we categorized residential areas based on the distinction between Tier 1 cities, Tier 2 cities, and lower-tier cities, with the aim of examining variations in family reading culture across regions. A previous study conducted a comparative analysis of urban and rural families regarding book holdings, guidance on reading practices, and parental attitudes towards their children's reading. The study found that families with lower parental education levels and lower socioeconomic status faced numerous challenges in aspects such as book selection, book purchasing, and parent-child shared reading [58]. Similarly, our investigation reveals similar distinctions between Tier 1 cities, Tier 2 cities, and lower-tier cities. Specifically, families in Tier 1 cities exhibit a significantly superior family reading culture compared to families in Tier 2 and lower-tier cities.

Although previous research has confirmed the existence of gender differences in students' reading performance [59], no study has explored whether family reading culture is associated with the gender of children within the family. The results of this study indicate that children's gender has a limited impact on the overall level of family reading culture. In other words, whether the children in the family are boys or girls, their gender does not significantly influence the family reading culture. Therefore, family reading culture is largely independent of the gender of children within the family.
6.2. The affecting factors of family reading culture

The present study also explored the influence of family capital on family reading culture. Parent-child reading interaction is closely related to various aspects of family capital from different dimensions. Specifically, families with greater economic capital are able to purchase more reading materials and invest more time and effort in parent-child reading, thus showing a positive correlation with parent-child reading interaction. Family cultural capital reflects the parents' level of education, and parents with higher levels of education place a greater emphasis on cultivating good reading habits in their children. They may also be better at selecting reading materials suitable for their children, which, in turn, promotes reading communication between parents and children. With the exception of students' online reading behavior, all other dimensions are closely correlated with the three aspects of family capital. Among them, family social capital exhibits the most prominent correlation with reading variables. This is primarily due to the fact that families with abundant social resources can access more parenting and reading advice through neighborly relationships, friends, and networks. They are also more likely to organize collective reading activities, which directly contribute to increasing the interest and frequency of reading for both students and parents. In summary, the abundance of family capital can provide better reading conditions and create an atmosphere for students and parents. The data in this study support this point. Among them, the influence of family social capital is particularly critical, and this resource should be fully utilized to promote the reading literacy of children and parents.

A noteworthy finding is that the family reading culture in different grades shows a tendency to be high at both ends and low in the middle. Previous research has indicated that middle school students have the best reading habits. However, this study revealed a lack of significant differences in family reading culture between the early years of elementary school and junior high school. Instead, a declining trend is observed during the middle years of elementary school. This could be attributed to parents' heightened focus on creating a home reading atmosphere during their child's early years, providing a supportive environment for reading, and dedicating ample time for shared reading. As a result, family reading culture exhibits stronger performance during the early years of elementary school, while students in the middle years of elementary school experience a slight reduction in family reading time due to increased academic demands and changes in family reading patterns. As students progress to the upper grades of elementary school and enter junior high school, parents once again emphasize their child's reading education, leading to a resurgence in family reading culture. This renewed focus may be driven by parents' concerns about their child's academic advancement, prompting them to invest both effort and resources into their child's reading education.

Additionally, this study found that family capital plays a significant role in explaining family reading culture as a whole. The coefficient of determination (R²) represents the extent to which each dimension can explain the influence on family reading culture. The linear regression analysis in this study demonstrates that family economic capital, cultural capital, and social capital can account for 32.95% of the influencing factors in family reading culture, indicating a substantial contribution and highlighting family capital as a key determinant of family reading culture. Specifically, the influence of family capital varies across different dimensions of family reading culture. The three dimensions of family capital can explain 28.48% of the variance in "Parents' encouragement," 22.5% of the variance in parent-child reading interaction, such as shared reading and reading guidance, underscoring the significance of parental encouragement and interaction with children in shaping family reading culture. Furthermore, family capital can explain 11.32% of the variance in "students' reading interest," 14.18% of the variance in "parents' reading interest," and 21.02% of the variance in "parents' online reading behavior," indicating that family capital also has a direct impact on these aspects of family reading culture and influences parental reading behavior. This study validates Yusof’s assertion that students' reading habits and interests are closely linked to family cultural capital.

7. Conclusion

In this study, the current status of Chinese family reading culture and how family capital influences it were explored through quantitative research. This research contributes to the empirical understanding of family reading culture and plays a positive role in promoting the societal trend of "Nationwide reading" in China. The results indicated several key findings. Firstly, family reading culture is not affected by the gender of children within the family. Secondly, family reading culture changes with the age of children, exhibiting a slight decline from the early years of primary school to the middle years, followed by a gradual resurgence. Thirdly, family reading culture is associated with the region where the child's school
is located, with family reading culture in first-tier cities significantly higher than in second-tier and lower-tier cities. Fourthly, family reading culture is significantly correlated with parents' educational levels and occupations, where a higher socioeconomic status results in a better family reading culture. Fifthly, family capital is the primary factor explaining differences in family reading culture, with each dimension having different degrees of impact on various aspects of family reading culture. The most significant impact is observed in parent-child reading interaction and family reading encouragement, highlighting that the reading communication between parents and children is the most crucial factor in shaping family reading culture. Lastly, family social capital has the most significant correlations with the variables of family reading culture. The limitation of this study is the relatively limited analysis of the reasons for the formation of family reading culture. It is hoped that future research will enrich qualitative data and uncover deeper reasons, thereby continuously promoting the development of family reading culture.

Acknowledgements

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