Proceedings of the 51st Annual Conference of the International Association of School Librarianship
and the 26th International Forum on Research on School Librarianship
Rome, Italy
July 17-21, 2023

Library Funding and Reading Promotion Improve Reading Motivation, Family Cultural Capital, and Academic Achievement Among Students in Vietnam

Chao-Chen Chen
Chair Professor and University Librarian,
Chung Yuan Christian University
joycechaochen@gmail.com

Yun-Fang Tu
Department of Educational Technology,
University of Wenzhou, China
sandy0692@gmail.com

Yi-Chin Chen
Research Assistant,
Chung Yuan Christian University
claire135799@gmail.com

NingChiao Wang
Ph.D. Student,
University of Wisconsin-Milwaukee
sylviawang8413@gmail.com

Abstract: *Overseas charitable organizations often play a crucial role in fostering educational and cultural development in developing countries. Taiwan's Zhi-Shan Foundation (hereinafter referred to as "Zhi-Shan") has been establishing school libraries and promoting reading programs in rural counties and cities in Vietnam since 2008. This study analyzes differences in reading engagement, academic performance, and family cultural capital between students in schools funded by Zhi-Shan and those in nonfunded schools. The study objectives are to determine the effectiveness of the foundation's reading programs and the relationships between students' reading engagement, academic performance, and family cultural capital by using structural equation modeling.*

Keywords: *Charitable foundation, reading engagement, academic performance, family cultural capital, developing country*

Introduction

Reading plays a crucial role in the development of students' literacy skills. In addition, early exposure to reading promotes the formation of lifelong reading habits, which in turn can enhance students' learning motivation and academic performance (Biancarosa & Snow, 2004; Cunningham & Stanovich, 1997; Graham & Perin, 2007). Research has also revealed that the lack of a conducive learning environment at home may contribute to children's limited engagement in reading activities (Burton, 2007; Evans, 2004; Yoshikawa et al., 2012). By contrast, in one study, students with access to library resources exhibited considerable improvements in their independent reading skills, reading ability, and academic performance (Asante & Agyei, 2020). Independent reading greatly enhances reading motivation and reading performance and facilitates the development of literacy skills (Krashen, 1993, 2016). However, children from low-income families and communities often lack access to reading resources (Buckingham et al., 2014; Nag et al., 2019), necessitating the establishment of libraries in information-deprived areas. Krashen (2004, 2009) has asserted that libraries function as learning resource centers and crucial media for promoting the development of students' information literacy, knowledge, and self-directed learning skills. In addition, libraries provide scaffolding to support students' learning. Furthermore, the availability of books from schools or public libraries is a critical factor that predicts students' reading performance (Lance, 1994; Krashen et al., 2012), and the presence of professional, full-time librarians or teachers dedicated to promoting reading in school libraries substantially contributes to students' academic achievement (Chan, 2008; Krashen & Bland, 2014; Lonsdale, 2003).

Charitable organizations often play a vital role in enhancing educational and cultural development in developing countries. Taiwan's Zhi-Shan Foundation (hereinafter referred to as "Zhi-Shan") has been establishing school libraries and promoting reading programs in rural counties and cities in Vietnam since 2008. Specifically, Zhi-Shan has implemented primary school reading programs in Thua Thien Hue province, which remain ongoing. Furthermore, this reading program initiative has since expanded to a further five provinces, namely Quang Tri, Quang Binh, Hoa Binh, Yen Bai, and Gia Lai. The foundation has also created reading environments in 466 schools, provided equipment for 282 so-called loving reading rooms, and established 2,485 classroom bookshelves. Notably, each student in a

funded school reads an average of 67 books per school year, and nearly 200,000 students are reported to have benefitted from the initiative.

In order to understand the effectiveness of Zhi-Shan's reading programs in Vietnam, this study examines whether differences in reading engagement, family cultural capital, and academic performance exited between students in schools funded by Zhi-Shan and those in nonfunded schools, and also examines the relationship between students' reading engagement, family cultural capital, and academic performance in Vietnam's educational environment, which will serve as a reference for further promotion in the future.

Literature Review

The impact of school libraries and family culture capital on students' reading motivation, behavior, and strategy application

PISA defines reading engagement as students' active involvement in reading diverse texts and materials, leading to the cultivation of interest and attitudes towards reading (Brozo et al., 2007). Within the PISA framework for reading literacy, the significance of reading motivation, reading practice, and metacognition has been emphasized since 2000. Reading practice refers to the frequency of engaging with various types of texts and media, while metacognition pertains to the ability to control reading and comprehension strategies (OECD, 2019). Proficient readers vigilantly monitor and adeptly utilize strategies, considering the learning objectives, evaluating, and judiciously selecting appropriate strategies (Guthrie et al., 1999).

In 2009, PISA introduced five distinct reading strategies: understanding and remembering, memorization strategies, control strategies, summarizing, and elaboration strategies. Lin and Cheng (1995) comprehensively reviewed literature on learning strategies from both domestic and international sources and categorized learning-related strategies into cognitive and metacognitive types, both of which have relevance to the application of strategies for reading comprehension. Beyond constructing personal meaning and knowledge through reading, readers also engage in cognitive processes that go beyond the surface-level interpretation of the text. This involves developing deeper levels of comprehension, engaging in profound critical thinking, and evaluating content through activities such as questioning,

interpretation, and assessment, ultimately forming their own perspectives (Harvey & Goudvis, 2007). It is evident that reading motivation, engaged reading behavior, and the utilization of reading strategies are closely intertwined.

Small, Shanahan, Stasak, and their colleagues explored the impact of New York State school libraries on students' learning achievements and reading motivation. In the third phase of their project, qualitative research methods, including observations and interviews, were used to investigate the perceptions of school principals and classroom teachers regarding the role of library services in enhancing student interest in reading. The findings indicated that both school libraries and librarians have a positive influence on students' reading interests (Small et al., 2010). The 2016 PIRLS survey revealed that approximately one-third of the surveyed students (32%) attended schools with library collections exceeding five thousand book titles. Conversely, 13% of the surveyed students attended schools without library resources. Furthermore, the analysis demonstrated a correlation between larger school libraries and higher average reading achievement scores, with an average score of 525. In contrast, schools with smaller or absent centralized libraries yielded average reading achievement scores ranging from 494 to 501 (IEA, 2016). Collaborative efforts between Tonne and Pihl from 2007 to 2011 involved the development of a literature-based multilingual literacy education program in Sweden, in collaboration with teachers and librarians. In 2009, their evaluation of student reading engagement revealed that the utilization of library resources contributed to students becoming more engaged with reading during language courses (Tonne & Phil, 2012).

Bourdieu (1973) in his "Theory of Cultural Reproduction" defines cultural activities frequently engaged in by the upper echelons of society, such as visiting museums, art galleries, historical landmarks, appreciating music, art, performances, and engaging with literary masterpieces, as manifestations of "cultural capital." He posits that individuals possessing elevated levels of cultural capital tend to exhibit higher frequencies of participation in these cultural forms, whereas those with diminished cultural capital display lower levels of engagement. This divergence in participation rates contributes to the stratification of social classes and subsequently influences forthcoming levels of achievement. DiMaggio (1982) explored the nexus between American high school students and their cultural capital, revealing that heightened involvement in cultural activities

associated with the upper strata, such as music or art, significantly impacts their overall academic performance. In an investigation employing data from the Programme for International Student Assessment (PISA) 2006, Marteleto & Andrade (2014) scrutinized the educational disparity in science and reading achievements among Brazilian students. The study unveiled notable variations in PISA scores attributable to the pronounced divergence in social strata within Brazilian society.

Conversely, Byun, Schofer, and Kim (2012) delved into the interplay between family socioeconomic status, cultural capital, and academic achievement in South Korea, undertaking comparisons with the educational systems of the United States, France, and Japan. Their aim was to decipher the role of cultural capital within South Korean education in achieving academic success. Their research uncovered that certain facets of cultural capital within South Korean households, such as artworks, books, and creative works, were inversely related to academic achievement when juxtaposed with other nations, thus reflecting the nuances of the Korean educational framework.

In summary, school libraries exert an influence on students' reading interest, reading behaviors, and the application of reading strategies. Additionally, family cultural capital impacts students' academic performance and reading achievements. However, these impacts can also vary based on the unique contexts of different countries.

Positive effects of school libraries on students' academic performance

Studies have revealed that teaching quality is considerably affected by the quality and quantity of resources available to schools. These resources include qualified teachers, appropriate amounts of classroom space, and the presence of libraries or multimedia centers (Greenwald et al., 1996; Lee & Barro, 2001). Multiple studies have investigated the correlation between the presence of school libraries and student learning achievement in the United States. Lance et al. (1993) conducted the earliest such study in Colorado; since then, many researchers have adopted that study's research model (Lonsdale, 2003; Williams et al., 2001). Smith (2001) surveyed 600 school libraries in Texas and collected 503 responses. That study analyzed data from the state government's information management system and the Federal Reserve Board, which comprised 200 variables related to students. The findings revealed that socioeconomic factors had the most substantial effect on students' performance

on the Texas Assessment of Academic Skills but that school libraries were also a contributing factor. Subsequently, a study conducted in Colorado examined the relationship between school libraries and scores on the Colorado Student Assessment Program; that study found that schools with full-time librarians had a higher proportion of students in the high-score group and a lower proportion in the low-score group compared with schools without full-time librarians (Lance et al., 2005). In addition, a study in Minnesota asserted that schools with higher funding for media resource centers had a higher proportion of students in grades 5, 7, 8, and 10 who achieved high scores (3 to 6) on reading tests (Baxter & Smalley, 2004). Lance et al. (2005) also revealed significant variations in reading test performance across elementary, middle, and high schools in Illinois that were contingent on the presence of high-ranking school librarians. Moreover, a survey in Michigan revealed differences in students' scores on the Michigan Educational Assessment Program that were associated with the presence of library media specialists; significant differences in reading test results were also observed in schools with qualified librarians (Rodney et al., 2003). A 2008 study described a strong correlation between the presence of school media specialists and students' performance on both the Pennsylvania System of School Assessment (PSSA) English language arts test and on U.S. history exams (Achterman, 2008). Another study conducted in Pennsylvania revealed a strong correlation between schools with high-ranking librarians and students achieving high scores in advanced writing and reading (Lance & Schwarz, 2012). Finally, a study conducted in Kansas revealed a significant correlation between the presence of full-time media specialists in schools and students' performance in reading, mathematics, science, history, and writing (Dow & McMahon-Lakin, 2012).

All the aforementioned studies have revealed positive influences of school libraries on students' academic performance. The level of school investment in library resources tends to be directly associated with students' academic performance. The term "library resources" encompasses the quality and services of physical and virtual libraries and their collections, the presence of full-time professional staff, collaboration between librarians and teachers, and the integration of information literacy into curricula. It should be noted that all the aforementioned studies were conducted in the United States and explored factors beyond the mere presence or functionality of a school library.

Lack of positive influence of school libraries on students' academic performance

In contrast to the aforementioned research findings, some surveys have indicated no correlations between school libraries and students' academic performance. Furthermore, most such studies have been conducted in developing countries. One study examined the effect of school infrastructure on student learning by collecting relevant literature from the economic and educational fields in developing countries between 1990 and 2012. That study asserted that of several indicators, only the presence of libraries in schools and the establishment of new schools by the government effectively improved student enrollment rates and learning outcomes (Cuesta et al., 2016). Suryadarma et al. (2006) analyzed data from an educational survey conducted by the Social Monitoring and Early Response Unit Research Institute in collaboration with the World Bank, which focused on fourth-grade students in public schools in Indonesia. That study investigated the factors that affected scores on learning assessments, such as teacher quality, school facilities (including school libraries), and parents' educational levels. The findings revealed only a weak correlation between the presence of a school library and students' mathematics scores and a negative correlation between the presence of a school library and students' listening and writing skills; however, neither of those correlations reached statistical significance. Adeyemi (2010) conducted a survey on 120 secondary schools in the Nigerian state of Ekiti. That study investigated the environment, personnel, and use of the school library by surveying 120 principals and randomly selecting 440 of 3,640 teachers. In addition, the researcher analyzed students' academic performance in subjects including English, mathematics, physics, chemistry, and biology between 2002 and 2006 and observed inadequate school library resources in Ekiti and low student use of those resources. The results revealed no correlation between students' academic performance and the presence of library resources or their use. Subsequently, Borkum et al. (2013) performed a randomized controlled trial in India, revealing four estimates indicating negative correlations between the presence of school libraries and students' academic performance; however, none of those correlations reached statistical significance. Two studies have examined the relationship between libraries and students' academic performance in Latin America. McEwan (1998) investigated rural areas of Colombia, and Spreitsma (2012) analyzed Brazil, yielding a total of six estimates. The findings of those two studies have revealed three statistically significant positive correlations, two statistically nonsignificant negative correlations, and one

statistically significant negative correlation. Regarding research on classroom libraries, a randomized controlled trial conducted by Zhao and Glewwe (2010) in China revealed no significant correlation between the presence of a classroom library and improved student learning. Yu and Yang (2013) investigated the effect of library use on secondary students' academic performance by distributing a questionnaire survey among teachers and students in a middle school in Suzhou, China. Their results revealed that teachers and students perceived the school library as providing varying degrees of assistance but that the effects were nonsignificant. However, notably, that study did not analyze academic performance on the basis of subject grades. The aforementioned studies have focused on developing countries. Overall, the findings of those studies suggest that no correlation exists between the presence of school libraries and students' academic performance and that in some cases, a negative correlation may exist.

In 2016, researchers initiated a project to establish school libraries and implement reading programs in eight primary schools in eight townships of Shuangfeng County in Changsha, a city in Hunan province, China. The initiative received support from the Reading Dreams Foundation. In addition, eight primary schools that did not receive assistance from this foundation to establish libraries or implement reading programs were selected for comparison. The researchers tracked the establishment of libraries and the implementation of reading programs in both sets of schools over a 2-year period and examined whether the intervention affected students' reading engagement and academic performance. The research revealed the following findings: 1) The establishment of school libraries and the implementation of reading programs positively affected students' reading motivation, reading behavior, and application of reading strategies. 2) The establishment of school libraries and the promotion of reading positively affected students' language performance (Lee et al., 2021).

Methodology

The present study investigated the reading engagement of fifth-grade students from six schools in Thua Thien Hue Province, Vietnam, funded by Zhi-Shan, as well as two nonfunded schools. The funded schools had 692 students in total, and the nonfunded schools had 153 students in total. This study conducted questionnaires to survey students regarding

their reading engagement; these questionnaires were composed of items related to reading motivation, reading behavior, reading strategies (Guthrie et al., 2013; Schleicher et al., 2009), and family cultural capital (Chang & Wang, 2012). In addition, this study obtained language and mathematics scores from standardized exams from government agencies for each of the analyzed schools. Differences in reading engagement, family cultural capital, and academic performance between students from funded and nonfunded schools were examined using t tests. Furthermore, structural equation modeling (SEM) was employed to analyze the relationships among student reading engagement, student academic performance, and family cultural capital.

Significant differences in reading motivation between students from funded and nonfunded schools

Reading motivation influences reading behavior and encompasses aspects such as intrinsic and extrinsic motivation, beliefs regarding ability and efficacy, and social factors. Regarding reading motivation, the present results revealed significant differences between the funded and nonfunded schools for the following seven items: “I seek out books or articles related to topics that interest me”; “After reading extracurricular books, I can identify the main points”; “When reading extracurricular books, I can understand the relationships between different chapters”; “I understand the content of all the extracurricular books or articles that I have read”; “I can correctly answer questions about extracurricular books after reading them”; “I apply knowledge gained from reading extracurricular books or articles”; and “My classmates and I believe that reading extracurricular books or articles is meaningful.” Students’ reading behavior did not differ significantly between the funded and nonfunded schools. regarding reading strategies, the results indicated a significant difference for item (9) (“When I read longer articles, I can recall key points that I read earlier”) between the funded and nonfunded schools; however, students from the funded and nonfunded schools did not differ significantly with respect to their reading behavior or reading strategies. Further details are provided in Table 1.

Table 1. *Analysis of reading engagement among students from funded and nonfunded schools*

Item	School type	Quantity	Average	p value
(1) I derive pleasure from reading extracurricular books or articles.	Funded	692	4.65	.518
	Nonfunded	153	4.62	
(2) I voluntarily read extracurricular books or articles because reading is enjoyable.	Funded	692	4.44	.051
	Nonfunded	153	4.32	
(3) I seek out books or articles related to topics that interest me.	Funded	692	4.47	.005 **
	Nonfunded	153	4.25	
Positive reading motivation: positive intrinsic motivation	Funded	4.52		.001 **
	Nonfunded	4.40		
(4) When reading extracurricular books, I can understand the meanings of unfamiliar words.	Funded	692	4.25	.075
	Nonfunded	153	4.13	
(5) After reading extracurricular books, I can identify the main points.	Funded	692	4.38	.000 ***
	Nonfunded	153	4.08	
(6) When reading extracurricular books, I can understand the relationships between different chapters.	Funded	692	4.03	.028 *
	Nonfunded	153	3.84	
(7) I understand the content of all the extracurricular books or articles that I have read.	Funded	692	4.42	.000 ***
	Nonfunded	153	4.10	
(8) I understand the intended message of the author in all the extracurricular books or articles that I have read.	Funded	692	4.18	.584
	Nonfunded	153	4.14	
(9) I can correctly answer questions about extracurricular books after reading them.	Funded	692	4.20	.015 *
	Nonfunded	153	4.00	
(10) I can explain the content of extracurricular books or articles to my classmates.	Funded	692	4.45	.676
	Nonfunded	153	4.00	
Positive reading motivation: motivation leading to positive self-efficacy	Funded	4.27		.000 ***
	Nonfunded	4.10		
(11) I often acquire new knowledge by reading extracurricular books or articles.	Funded	692	4.77	.087
	Nonfunded	153	4.69	
(12) Understanding the content of extracurricular books or articles is important to me.	Funded	692	4.27	.466
	Nonfunded	153	4.22	
(13) I believe that reading extracurricular books or articles is more helpful than other activities.	Funded	692	3.60	.795
	Nonfunded	153	3.62	

Item	School type	Quantity	Average	p value
(14) I apply knowledge gained from reading extracurricular books or articles.	Funded	692	4.60	.004
	Nonfunded	153	4.42	**
(15) Having good reading performance is important to me.	Funded	692	4.32	.403
	Nonfunded	153	4.25	
Positive reading motivation: motivation to positive value	Funded	4.311		.102
	Nonfunded	4.241		
(16) My classmates and I believe that reading extracurricular books or articles is meaningful.	Funded	692	4.46	.026
	Nonfunded	153	4.30	*
(17) My classmates ask me about my thoughts regarding the extracurricular books or articles that I have read.	Funded	692	3.80	.330
	Nonfunded	153	3.71	
Positive reading motivation: positive social goals	Funded	4.129		.034
	Nonfunded	4.007		*
(18) Reading extracurricular books takes up too much time.	Funded	692	1.78	.181
	Nonfunded	153	1.67	
Negative reading motivation				

Significant differences in family cultural capital between students from funded and nonfunded schools

Family cultural capital refers to the learning resources that students possess within their families. In addition, in a broader sense, family cultural capital encompasses cultural resources and the family atmosphere. Children with greater family cultural capital receive more intellectual stimuli and support from their family members, which can positively influence their academic achievements. Our survey results revealed significant differences in overall family cultural capital between students from the funded and nonfunded schools, especially with respect to the following items: 1) Family members attending art performances, 2) Traveling with family members, and 3) Family members discussing learning situations with their children. Further details are provided in Table 2.

Table 2. *Analysis of family cultural capital among students from funded and nonfunded schools*

Item	School type	Quantity	Average	p value
(1) I visit art galleries, museums, and historical buildings with my family.	Funded	692	2.49	.085

Item	School type	Quantity	Average	p value
	Nonfunded	153	2.29	
(2) I enjoy visual art with my family, such as concerts, plays, dances, art exhibitions, and book fairs.	Funded	692	2.84	.002
	Nonfunded	153	2.49	**
(3) I visit the library with my family.	Funded	692	3.19	.166
	Nonfunded	153	2.99	
(4) I travel with my family.	Funded	692	2.84	.000
	Nonfunded	153	2.29	***
(5) My family accompanies me when I do homework and read.	Funded	692	3.59	.668
	Nonfunded	153	3.54	
(6) My family encourages me to develop various talents, such as painting, dancing, foreign language proficiency, and other skills.	Funded	692	2.93	.801
	Nonfunded	153	2.96	
(7) My family creates an environment conducive to learning, such as by not turning on the television and engaging in healthy recreational activities.	Funded	692	4.02	.462
	Nonfunded	153	4.11	
(8) My family discusses my learning progress with me.	Funded	692	4.19	.034
	Nonfunded	153	3.97	*
(9) My home has many children's books (more than 30).	Funded	692	2.78	.357
	Nonfunded	153	2.65	
(10) I have a smartphone or tablet at home to facilitate my learning.	Funded	692	3.83	.142
	Nonfunded	153	3.63	
Family cultural capital	Funded	3.269		.009
	Nonfunded	3.093		**

Significant differences in academic language performance between students from funded and nonfunded schools

Asia schools and families tend to prioritize academic performance. Accordingly, this study obtained language and mathematics scores from the six funded schools and the two nonfunded schools for comparison. These language and mathematics scores were measured on a scale of 0 to 10. The average language score for students in the funded schools was 8.18, whereas the average score for students in the nonfunded schools was 8.00. A t test indicated that this difference was statistically significant. In addition, the average mathematics score for

the funded schools (8.55) was higher than that of the nonfunded schools (8.53); however, this difference was slight and not statistically significant. Further details are provided in Table 3.

Table 3. *Analysis of academic performance among students from funded and nonfunded schools*

Items	Funded or Nonfunded	Quantity	Average	p-value
(1)Language	Funded	692	8.18	.000***
	Nonfunded	153	8.00	
(2) Mathematics	Funded	692	8.55	.302
	Nonfunded	153	8.53	
Independent Samples T-test	Funded	692	8.37	.253
	Nonfunded	153	8.50	

Positive correlation between students' family cultural capital, reading engagement, and academic performance

This study examined the relationships between students' reading engagement, students' academic performance, and family cultural capital through SEM. All statistical analyses were conducted using SPSS Amos 26 software (IBM, Armonk, NY, USA). We verified the model's goodness of fit and examined the associations between constructs. The study sample comprised 692 students from funded schools and 153 students from nonfunded schools; all of the students completed a student questionnaire. The research hypotheses proposed a correlation between students' reading engagement, students' academic performance, and family cultural capital. To ensure consistency within each single construct, this study appropriately recoded any reverse-coded all items. Specifically, negative reading motivation and reading avoidance, which comprised three items in total, were transformed into positive values. To ensure a reliable model, this study excluded certain items with factor loadings lower than 0.5, namely eight items related to reading motivation (1, 3, 4, 10, 12, 13, 14, and 15), three items related to reading behavior (20, 22, and 23), five items related to reading strategies (2, 5, 7, 8, and 10), and four items related to family cultural capital (4, 7, 8, and 10). The structural equation model is depicted in Figure 1.

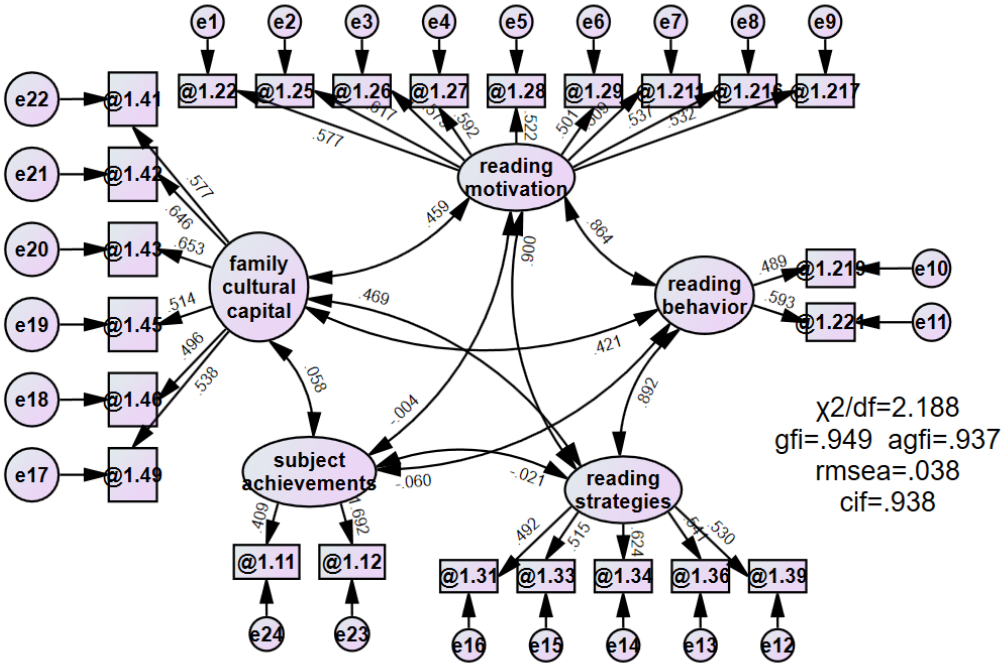

Figure 1. *Relationships between students' academic performance, students' reading engagement, and family cultural capital*

Subsequently, in accordance with the model presented in Figure 1, this study implemented path analysis to examine relationships between the constructs. The results revealed that with the exception of a negative correlation between academic performance and reading engagement (including reading motivation, reading behavior, and reading strategies), all the other paths had positive and significant effects. In the overall model, the highest path coefficient was that between reading motivation and reading strategies, indicating that these two constructs had the strongest correlation or strongest causal relationship. The next most significant coefficient was that between reading motivation and reading behavior. Although family cultural capital and academic performance had a positive relationship, their path coefficient was relatively small compared with those of the other paths. The study hypotheses, path coefficients, and p values for each path are explained as follows, with the results summarized in Table 4:

1. Hypothesis 1: A correlation or causal relationship exists between students' reading motivation and reading behavior. The path coefficient for this path was 0.864, and the p value was lower than .001, indicating a significant relationship or causal effect between students' reading motivation and reading behavior.

2. Hypothesis 2: A correlation or causal relationship exists between students' reading motivation and reading strategies. The path coefficient for this path was 0.900, and the p value was lower than .001, indicating a significant relationship or causal effect between students' reading motivation and reading strategies.
3. Hypothesis 3: A correlation or causal relationship exists between students' reading motivation and family cultural capital. The path coefficient for this path was 0.459, and the p value was lower than .001, indicating a significant relationship or causal effect between students' reading motivation and family cultural capital.
4. Hypothesis 4: A correlation or causal relationship exists between students' reading motivation and academic performance. The path coefficient for this path was −0.004, and the p value was .817, indicating no significant relationship or causal effect between students' reading motivation and academic performance.
5. Hypothesis 5: A correlation or causal relationship exists between students' reading behavior and reading strategies. The path coefficient for this path was 0.892, and the p value was lower than .001, indicating a significant relationship or causal effect between students' reading behavior and reading strategies.
6. Hypothesis 6: A correlation or causal relationship exists between students' reading behavior and family cultural capital. The path coefficient for this path was 0.421, and the p value was lower than .001, indicating a significant relationship or causal effect between students' reading behavior and family cultural capital.
7. Hypothesis 7: A correlation or causal relationship exists between students' reading behavior and academic performance. The path coefficient for this path was −0.060, and the p value was .028, indicating a significant relationship or causal effect between students' reading behavior and academic performance.
8. Hypothesis 8: A correlation or causal relationship exists between students' reading strategies and family cultural capital. The path coefficient for this path was 0.469, and the p value was lower than .001, indicating a significant relationship or causal effect between students' reading strategies and family cultural capital.
9. Hypothesis 9: A correlation or causal relationship exists between students' reading strategies and academic performance. The path coefficient for this path was −0.021, and the p value was .329, indicating no significant relationship or causal effect between students' reading strategies and academic performance.
10. Hypothesis 10: A correlation or causal relationship exists between family cultural capital and students' academic performance. The path coefficient for this path was 0.058, and the p value was .008, indicating a significant relationship or causal effect between family cultural capital and students' academic performance.

Table 4. *Test results for each hypothesis*

Hypothesis	Hypothesis Relationship between Variables	Path Coefficient	P-value	Test Result
H1	Motivation to Read ↔ Reading Behavior	.864	***	Accepted
H2	Motivation to Read ↔ Reading Strategies	.900	***	Accepted
H3	Motivation to Read ↔ Family Cultural Capital	.459	***	Accepted
H4	Motivation to Read ↔ Academic Performance	-.004	.817	Not accepted
H5	Reading Behavior ↔ Reading Strategies	.892	***	Accepted
H6	Reading Behavior ↔ Family Cultural Capital	.421	***	Accepted
H7	Reading Behavior ↔ Academic Performance	-.060	.028*	Not accepted
H8	Reading Strategies ↔ Family Cultural Capital	.469	***	Accepted
H9	Reading Strategies ↔ Academic Performance	-.021	.329	Not accepted
H10	Family Cultural Capital ↔ Academic Performance	.058	.008**	Accepted

*** $p < .001$; ** $p < .01$; * $p < .05$

Implications and Conclusions

On the basis of the research analysis, this study drew the following conclusions:

1. The provision of funding for the establishment of libraries and the promotion of reading had a significant positive effect on students' reading motivation. Reading motivation influences reading behavior and encompasses aspects including intrinsic and extrinsic motivation, beliefs regarding self-efficacy, and social factors. The students in the funded schools exhibited significantly higher reading motivation than did the students in the nonfunded schools. However, students' reading behavior and reading strategies did not differ significantly between the two groups.
2. The provision of funding for the establishment of libraries and the promotion of reading yielded significant differences in family cultural capital. Family cultural capital refers to the educational resources available within students' families, encompassing both cultural resources and the family atmosphere. Greater family cultural capital equates to increased intellectual stimulation for students, which in turn can positively influence their academic achievement. In this study, the students in the funded schools had significantly higher family cultural capital than did the students in the nonfunded schools.
3. The provision of funding for the establishment of libraries and the promotion of reading yielded significant differences in students' language achievements. The students in the funded schools had significantly higher language scores than did the

students in the nonfunded schools. However, these results indicated no such significant difference in mathematics scores between the two groups.

4. Family cultural capital was positively associated with students' reading engagement and academic achievement. However, reading engagement and academic achievement were not significantly correlated.

These conclusions suggest that funding for the establishment of libraries and the promotion of reading can positively affect students' reading motivation, family cultural capital, and language achievement. However, the relationship between students' reading engagement and academic achievement may be influenced by other factors beyond the scope of this study.

Suggestions

The intended outcome of this study was to offer enhanced guidance for the future engagement of charitable organizations for educational purposes. The present findings reaffirm the efficacy of long-term educational investments made by charitable organizations in developing countries. In addition, these findings highlight the considerable influence of family cultural capital on students' reading engagement and learning outcomes. By implementing practices based on the present findings, schools and charitable organizations could collaborate to foster an environment conducive to reading to enhance students' reading motivation and engagement.

Accordingly, this paper provides the following recommendations:

1. Schools should proactively invest resources into school libraries, acquire books that align with students' interests, and promote reading-related activities. In addition, schools should promote parental participation in school reading activities by encouraging parents to support their children's school's reading initiatives within their homes.
2. Charitable organizations should actively contribute to the enrichment of school library resources and reading activities to assist in the promotion of students' reading engagement.

Acknowledgements

This study was commissioned by the Taiwan Zhi-Shan Foundation.

References

Asante, J. A., & Agyei, D. D. (2020). School library services and reading habits of basic school pupils in the Ejisu Municipality of Ghana. *Journal of Education and Practice*, *11*(11), 117-126.

Burton, L. (2007). Childhood adultification in economically disadvantaged families: A conceptual model. *Family Relations*, *56*(4), 329-345. https://doi.org/10.1111/j.1741-3729.2007.00463.x

Biancarosa, G., & Snow, C. E. (2004). Reading next: A vision for action and research in middle and high school literacy: A report from the Carnegie Corporation of New York. Alliance for Excellent Education.

Bourdieu, P. (1973). Cultural Reproduction and Social Reproduction. In R. Brown (Ed.), Knowledge, Education, and Cultural Change (pp. 71-84). Tavistock Publications.

Brozo, W. G., Shiel, G., & Topping, K. (2007). Engagement in reading: Lessons learned from three PISA countries. *Journal of Adolescent & Adult Literacy, 51*(4), 304-315.

Buckingham J., Beaman R., Wheldall K. (2014). Why poor children are more likely to become poor readers: the early years. *Educational Review*, *66*(4), 428-446. https://doi.org/10.1080/00131911.2013.795129

Byun, S., Schofer, E., & Kim, K. (2012). Revisiting the Role of Cultural Capital in East Asian Educational Systems: The Case of South Korea. *Sociology of Education, 85*(3), 219–239. https://doi.org/10.1177/0038040712447180

Connell, J. P., & Klem, A. M. (2006). First things first: A framework for successful secondary school reform. *New Directions for Youth Development*, *2006*(111), 53-66. https://doi.org/10.1002/yd.182

Cunningham, A. E., & Stanovich, K. E. (1997). Early reading acquisition and its relation to reading experience and ability 10 years later. *Developmental Psychology, 33*(6), 934-945.

Chan, C. (2008). The impact of school library services on student achievement and the implications for advocacy: A review of the literature. *Access*, *22*(4), 15-20.

Chang, F.-C. & Wang, P.- K. (2012). A study on family cultural capital, reading motive and behavior of children of new-immigrant women and non-new-immigrant women. *Journal of National Taichung University: Education*, *26*(1), 55-89. https://doi.org/10.7037/JNTUE.201206.0055

DiMaggio, P. (1982). Cultural Capital and School Success: The Impact of Status Culture Participation on the Grades of U.S. High School Students. *American Sociological Review, 47*(2), 189–201. https://doi.org/10.2307/2094962

Evans, G. W. (2004). The environment of childhood poverty. *American Psychologist*, *59*(2), 77-92. https://doi.org/10.1037/0003-066X.59.2.77

Guthrie, J. T., Anderson, E., Alao, S., & Rinehart, J. (1999). Influences of concept-oriented reading instruction on strategy use and conceptual learning from text. *The Elementary School Journal, 99*(4), 343-366.

Guthrie, J. T., Klauda, S. L., & Ho, A. N. (2013). Modeling the relationships among reading instruction, motivation, engagement, and achievement for adolescents. *Reading Research Quarterly, 48*(1), 9-26. https://doi.org/10.1002/Frrq.035

Guthrie, J. T. (2003). Concept-oriented reading instruction: Practices of teaching reading for understanding. In A. P. Sweet & C. E. Snow (Eds.), Rethinking reading comprehension (pp.115-140). Guilford Press.

Graham, S., & Perin, D. (2007). Writing next: Effective strategies to improve writing of adolescents in middle and high schools – A report to Carnegie Corporation of New York. Alliance for Excellent Education.

Harvey, S., & Goudvis, A. (2007). Strategies that work: Teaching comprehension for understanding and engagement. Stenhouse Publishers.

Hughes, H., Bozorgian, H., Allan, C., & Dicinoski, M. (2013). School libraries, teacher-librarians and their contribution to student literacy development in Gold Coast schools: Research report. School Library Association of Queensland, Queensland University of Technology. https://eprints.qut.edu.au/60260/

IEA (2016). School Composition and Resources: size of school library. TIMSS & PIRLS International Study Center. https://pirls2016.org/pirls/school-composition-and-resources/school-library/

Krashen, S. (2004). *The power of reading: Insights from the research* (2nd ed.). Libraries Unlimited.

Krashen, S. (2009). Anything but reading. *Knowledge Quest*, *37*(5), 18-25.

Krashen, S. (2011). *Free voluntary reading*. Libraries Unlimited.

Krashen, S. (2016). The purpose of education, free voluntary reading, and dealing with the impact of poverty. *School Libraries Worldwide*, *22*(1), 1-7.

Krashen, S., Lee, S., & McQuillan, J. (2012). Is the library important? Multivariate studies at the national and international level. *Journal of Language and Literacy Education*, *8*(1), 26-36.

Krashen, S. (1993). *The Power of Reading*. Englewood, Col.: Libraries Unlimited, Inc

Krashen, S. (2016). The purpose of education, free voluntary reading, and dealing with the impact of poverty. *School Libraries Worldwide*, *22*(1), 1-7.

Krashen, S., & Bland, J. (2014). Compelling Comprehensible Input, Academic Language and School Libraries. *CLELEjournal*, *2*(2), 1-12. https://clelejournal.org/wp-content/uploads/2014/11/Article-Stephen-Krashen-Janice-Bland-CLELEjournal-Vol-2.2-2014.pdf

Lance, K. C., Rodney, M. J., & Hamilton-Pennell, C. (2001). Good schools have school librarians: Oregon school librarians collaborate to improve academic achievement. Oregon Educational Media Association.

Lee, T.Y., Chen, C.C., Leung, W. M., & Liang, H. S. (2021) The Effectiveness of school libraries on students' reading engagement and learning achievement: A case of rural schools in Hunan, China. Journal of Educational Media & Library Sciences 58:1 (2021) : 7-46. DOI:10.6120/JoEMLS.202103_58 (1).0057.RS.AM

Lance, K. C. (1994). The Impact of School Library Media Centers on Academic Achievement. *SLMQ, 22*(3), 167-172. https://www.ala.org/aasl/sites/ala.org.aasl/files/content/aaslpubsandjournals/slr/edchoice/SLMQ_ImpactofSchoolLibraryMediaCentersonAcademicAchievement_InfoPower.pdf

Lonsdale, M. (2003). *Impact of school libraries on student achievement: A review of the research*. Australian Council for Educational Research. https://research.acer.edu.au/cgi/viewcontent.cgi?article=1024&context=tll_misc

Marteleto, L., & Andrade, F. (2014). The Educational Achievement of Brazilian Adolescents: Cultural Capital and the Interaction between Families and Schools. *Sociology of Education, 87*(1), 16–35. https://doi.org/10.1177/0038040713494223

McEwan, Patrick J. 1998. "The Effectiveness of Multigrade Schools in Colombia." *International Journal of Educational Development 18*(6): 435–52.

Nag, S., Vagh, S. B., Dulay, K. M., & Snowling, M. J. (2019). Home literacy, school Language and children literacy attainments: A systematic review of evidence from low- and middle-income countries. *The Review of Education*, *7*(1), 91-150. https://doi.org/10.1002/rev3.3130

OECD (2019). PISA 2018 assessment and analytical framework. OECD Publishing. https://doi.org/10.1787/b25efab8-en.

Schleicher, A., Zimmer, K., Evans, J., & Clements, N. (2009). PISA 2009 assessment framework: Key competencies in reading, mathematics and science. OECD Publishing.

Small, R. V., Shanahan, K. A., & Stasak, M. (2010). The impact of New York's school libraries on student achievement and motivation: Phase III. School Library Research, 13, American Library Association. http://www.ala.org/aasl/slr/volume13/small-shanahan-stasak

Swan, E. A. (2003). Concept-oriented reading instruction: Engaging classrooms, lifelong learners. The Guilford Press.

Tonne, I., & Pihl, J. (2012). Literacy education, reading engagement, and library use in multilingual classes, *Intercultural Education, 23*(3), 183-194. https://doi.org/10.1080/14675986.2012.701424

Yoshikawa, H., Aber, J. L., & Beardslee, W. R. (2012). The effects of poverty on the mental, emotional, and behavioral health of children and youth. American Psychologist, 67(4), 272-284. https://doi.org/10.1037/a0028015

Biographies

Chao-Chen Chen is a Chair Professor and the University Librarian of Chung Yuan Christian University. She is also an Emeritus Professor of National Taiwan Normal University. Prof. Chen has authored over 100 academic journal articles and related monographs on knowledge organization, reading research, information literacy, and digital libraries.

Yun-Fang Tu is an associate professor at the Department of Educational Technology, University of Wenzhou, China. Her research interests include information literacy, digital libraries, online learning, and mobile and ubiquitous learning.

Yi-Chin Chen received her master's degree from National Taiwan Normal University. She is a Research Assistant at the Center for General Education, Chung Yuan Christian University, Taiwan.

NingChiao Wang is currently a Ph.D. student at the University of Wisconsin-Milwaukee. Her research interests include information literacy, information-seeking behavior, Information Retrieval, and Artificial Intelligence.