

FAMILY RESOURCES AND STUDENTS' READING ATTAINMENT: CAPITALISING ON HOME FACTORS

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Abstract. An examination is reported of data from *The Progress in International Reading Literacy Study (PIRLS) 2001*, with samples of 5,050 Hong Kong Grade 4 students, 5,050 parents, 147 teachers and 147 school principals. The analyses examine the relationship between family capital (financial, human and social) variables and students' reading comprehension of informational and literary texts. Positive correlations were found between reading attainment and most family variables, with parents who read regularly to their children helping to promote reading competence in their offspring. These parents are well placed to provide a stimulating learning home environment for their children and serve as positive role models. Regression analyses of the data support the expectation that children accustomed to books and exposed to reading at home are not overwhelmed by the reading assignments they encounter in school. Negative correlations were found that reflect cultural idiosyncrasies. For example, the traditional unwillingness of Chinese parents to be seen going to the school to talk about their children's scholastic progress. It is suggested that many parents in Hong Kong possess the wherewithal to assist their children to learn to read with understanding but that some need guidance from schools about using their influence to ensure the best effect.

Keywords: family human capital, family financial, family social capital, PIRLS, Hong Kong

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Chinese

[Translation Shek Kam Tse]

TITEL. 家庭资源与学生阅读成就：充分利用家庭因素

ABSTRACT. 本研究报告了全球学生阅读能力进展研究 (PIRLS) 在 2001 年的一项调查中所收集的数据。这一调查的对象包括香港的 5050 位学生、5050 位家长、147 位教师以及 147 位学校校长。研究通过对数据的分析测查了家庭资本（经济资本、人力资本和社会资本）变量与学生阅读理解信息类文本和文学类文本的能力之间的关系。结果发现，在那些家长经常给儿童读书来提高儿童阅读能力的家庭中，阅读成就与大多数家庭变量之间存在正关联。这些家长有条件为儿童提供一个激励性的家庭学习环境，并且为儿童树立正面的榜样。研究预期，惯于读书和在家中接触阅读的儿童不会被学校的阅读任务所困，而数据的回归分析支持了这一点。结果中发现的负关联反映了文化特性。例如，中国的家长普遍都不愿意被人看到自己到学校去谈论孩子的学业进展。

研究表明，很多香港的家长都有经济能力支持自己的孩子学习理解性阅读，但是其中一些人需要学校的指导，从而利用他们的影响力来保证最好的阅读效果。

KEYWORDS: 关键词：家庭人力资本、家庭经济资本、家庭社会资本、PIRLS、香港

Dutch

[Translation Tanja Janssen]

TITEL. Hulpbronnen in het gezin en leesvaardigheid van leerlingen: Gebruik maken van thuisfactoren.

SAMENVATTING. In dit onderzoek zijn data geanalyseerd uit *The Progress in International Reading Literacy Study (PIRLS) 2001*, met steekproeven van 5050 leerlingen uit Hong Kong (leerjaar 4), 5050 ouders, 147 docenten en 147 schoolleiders. In de analyse is gekeken naar de relatie tussen hulpbronnen thuis (financiële, menselijke en sociale variabelen) enerzijds en het tekstbegrip van leerlingen bij het lezen van informatieve en literaire teksten anderzijds. Er werden positieve correlaties gevonden tussen tekstbegrip en de meeste gezinsvariabelen. Ouders die hun kinderen regelmatig voorlezen helpen de leescompetentie van hun kinderen te vergroten. Deze ouders bieden een stimulerende thuisomgeving voor hun kinderen en dienen als positieve rolmodellen. Regressie analyses van de data ondersteunen de verwachting dat kinderen die gewend zijn aan boeken en lezen thuis niet overrompeld worden door de leestaken die zij op school tegenkomen. Negatieve correlaties die werden gevonden weerspiegelen culturele eigenaardigheden. Bijvoorbeeld: de traditionele aversie van Chinese ouders om gezien te worden als zij naar de school gaan om over de vorderingen van hun kinderen te praten. Gesuggereerd wordt dat veel ouders in Hong Kong over de noodzakelijke hulpbronnen beschikken om hun kinderen te helpen bij het begrijpend leren lezen, maar dat sommigen begeleiding nodig hebben van scholen over hoe zij hun invloed het beste kunnen aanwenden.

TREFWOORDEN: menselijke, financiële, sociale hulpbronnen van gezinnen, PIRLS, Hong Kong

Finnish

[Translation Katri Sarmavuori]

TITTELI. Perheen mahdollisuudet ja oppilaiden lukutaito: kotitaustan yhteys

ABSTRAKTI. Tutkimus kuuluu hankkeeseen *The Progress in International Reading Literacy Study (PIRLS) 2001*. Siinä on 5 050 hongkongilaista neljäsluokkalaista, 5 050 vanhempaa, 147 opettajaa ja 147 koulun johtajaa. Analyysissa selvitettiin yhteyttä perhetaustan (varallisuus, koulutus) ja oppilaiden lukemisen ymmärtäminen (tieto- ja kaunokirjallinen teksti). Positiivisia korrelaatioita oli lukutaidon ja perhemuuttujien välillä. Vanhemmat, jotka lukevat säännöllisesti lapselle, edistivät lasten lukutaitoa. Nämä vanhemmat tarjoavat stimuloivan oppimisympäristön lapsilleen ja toimivat myönteisinä malleina. Regressioanalyysi tukee oletusta, että lapset, jotka ovat tottuneet kirjoihin ja lukemiseen kotona, eivät kuormitu koulun lukemistehtävistä. Negatiiviset korrelaatiot kertovat kulttuurisesta idiosynkrasiasta, esim. kiinalaisten vanhempien haluttomuudesta mennä puhumaan kouluun lasten koulumenestyksestä. Monet vanhemmat Hongkongissa haluavat auttaa lastensa lukemaan oppimista. Muutamat tarvitsevat siihen ohjausta.

AVAINSANAT: perhetausta, perheen varallisuus, vanhempien koulutus, PIRLS, Hong Kong.

French

[Translation Laurence Pasa]

TITRE. Ressources familiales et réussite des élèves en lecture

RÉSUMÉ. Cette étude analyse des données extraites de *The Progress in International Reading Literacy Study (PIRLS) 2001*, se rapportant à des échantillons de 5050 élèves de 4^{ème} année de Hong-Kong, 5050 parents, 147 professeurs et 147 conseillers principaux. Les analyses portent sur la relation entre le capital familial (financier, humain et social) et la compréhension de textes informationnels et littéraires par les élèves. Des corrélations positives ont été trouvées entre la maîtrise de la lecture et la plupart des variables familiales, les parents qui lisent régulièrement à leurs enfants promouvant les compétences en lecture de ces derniers. Ces parents offrent à leurs enfants un contexte familial d'apprentissage stimulant et leur servent de modèles positifs. Des analyses de régression confirment l'hypothèse selon laquelle les enfants habitués aux livres et exposés à la lecture à la maison sont davantage susceptibles de satisfaire aux attentes relatives à l'enseignement de la lecture à l'école. Des corrélations négatives ont été trouvées qui reflètent des particularités culturelles, par exemple la traditionnelle réticence de parents chinois à se rendre à l'école de leur enfant pour parler de ses résultats scolaires. Cette étude suggère que beaucoup de parents à Hong-Kong possèdent les moyens d'aider leurs enfants à apprendre à lire en favorisant la compréhension, mais que quelques uns ont besoin que l'école les conseille afin d'optimiser leur guidage.

MOTS-CLÉS : capital familial humain, capital familial financier, capital familial social, PIRLS, Hong-Kong.

German

[Translation Ulrike Bohle]

TITEL. Familiäre Ressourcen und Leseleistungen von Schülern: Häusliche Faktoren nutzen

ZUSAMMENFASSUNG. Vorgestellt werden Ergebnisse einer Studie zur Entwicklung von Lesefähigkeiten in der Fremdsprache (The Progress in International Reading Literacy Study (PIRLS) 2001), an der 5.050 Viertklässler aus Hong Kong, 5.050 Eltern, 147 Lehrer und 147 Schulleiter teilnahmen.

Analysiert wurde die Beziehung zwischen dem familiären ökonomischen, menschlichen und sozialen Kapital und dem Leseverständnis der Schüler bei der Lektüre von Sachtexten und literarischen Texten. Zwischen den Lesefähigkeiten und den meisten familiären Variablen wurde eine positive Korrelation festgestellt: Eltern, die den Kindern regelmäßig vorlesen, fördern das Leseverständnis ihres Nachwuchses. Diese Eltern bieten ihren Kindern ein anregendes häusliches Umfeld und fungieren als positive Rollenvorbilder. Eine Regressionsanalyse der Daten bestätigt die Erwartung, dass Kindern, die an Bücher gewöhnt sind und denen zu Hause vorgelesen wird, von den schulischen Leseanforderungen nicht überfordert sind. Negative Korrelationen wurden gefunden, die kulturelle Eigenheiten reflektieren: so bspw. das traditionelle Unbehagen chinesischer Eltern, dabei gesehen zu werden, die Schule aufzusuchen, um über den Lernfortschritt ihrer Kinder zu sprechen. Die Ergebnisse sprechen dafür, dass viele Eltern in Hong Kong über die nötigen Mittel verfügen, ihre Kinder im Leseerwerb zu unterstützen, dass sie aber einige Anleitung seitens der Schule benötigen, um ihren positiven Einfluss auf die Kinder bestmöglich zur Geltung zu bringen.

SCHLAGWORTER: familiäres menschliches Kapital, familiäres ökonomisches Kapital, familiäres soziales Kapital, PIRLS, Hong Kong

Greek

[Translation by Panatoya Papoulia Tzelepi]

Τίτλος. Οικογενειακό κεφάλαιο και επίδοση των μαθητών στην ανάγνωση: Αξιοποίηση των οικογενειακών παραγόντων

Περίληψη. Παρουσιάζεται μια εξέταση των δεδομένων από την Διεθνή Μελέτη της Προόδου στο Γραμματισμό (PIRLS) 2001, με δείγμα 5.050 μαθητές 4ης Δημοτικού από το Χονγκ Κονγκ, με 5.050 γονείς, 147 δασκάλους και 147 διευθυντές σχολείων. Η ανάλυση εξετάζει την σχέση μεταξύ του οικογενειακού κεφαλαίου (οικονομικού, ανθρώπινου και κοινωνικού) και της κατανόησης στην ανάγνωση πληροφοριακών και λογοτεχνικών κειμένων από τους μαθητές. Θετικές σχέσεις βρέθηκαν μεταξύ της επίδοσης στην ανάγνωση και των περισσότερων οικογενειακών παραγόντων, με τους γονείς που διαβάζουν συχνά στα παιδιά τους, να προωθούν την κατανόηση της ανάγνωσης σε αυτά. Αυτοί οι γονείς παρέχουν προκλητικό οικιακό περιβάλλον στα παιδιά τους και είναι επίσης θετικά παραδείγματα. Ανάλυση παλινδρόμησης των δεδομένων υποστηρίζει την προσδοκία ότι παιδιά συνηθισμένα στα βιβλία και εκτεθειμένα στο διάβασμα στο σπίτι τους αντιμετωπίζουν με επιτυχία τις εργασίες ανάγνωσης του σχολείου. Αρνητικές συσχετίσεις βρέθηκαν που καθρέφτιζαν πολιτισμικές ιδιαιτερότητες, όπως π.χ. η

παραδοσιακή απροθυμία των κινέζων γονέων να πηγαίνουν στο σχολείο για να συζητήσουν την πρόοδο των παιδιών τους. Προτείνεται ότι, ενώ πολλοί γονείς στο Hong Kong κατέχουν τα εφόδια ώστε να βοηθήσουν τα παιδιά τους να μάθουν να διαβάζουν με κατανόηση, κάποιοι χρειάζονται καθοδήγηση από το σχολείο ώστε να χρησιμοποιήσουν την επιρροή τους για το άριστο αποτέλεσμα.

Λέξεις κλειδιά: Οικογενειακό οικονομικό κεφάλαιο, οικογενειακό ανθρώπινο κεφάλαιο, οικογενειακό κοινωνικό κεφάλαιο, PIRLS, Hong Kong.

Italian

[Translation Manuela Delfino, Francesco Caviglia]

TITOLO. Risorse familiari e il conseguimento di capacità di lettura degli studenti: Capitalizzare sui fattori familiari

SINTESI. L'articolo riporta un esame dei dati provenienti dall'indagine PIRLS (The Progress in International Reading Literacy Study) 2001, con un campione di 5.050 studenti del IV anno di Hong Kong, 5.050 genitori, 147 insegnanti e 147 dirigenti scolastici. Le analisi esaminano il rapporto tra le variabili del capitale familiare (economico, umano e sociale) e la comprensione alla lettura di testi informativi e letterari da parte degli studenti. Sono state trovate correlazioni positive tra il conseguimento di capacità di lettura e la maggior parte delle variabili relative alla famiglia, quali ad esempio il fatto che i genitori leggano regolarmente per i propri figli, contribuendo a promuovere la loro competenza nella lettura. Questi genitori sono in grado di fornire a casa un ambiente di apprendimento stimolante per i propri figli e a fungere come modelli positivi. L'analisi di regressione dei dati supporta l'aspettativa che i bambini abituati a casa ai libri e alla lettura non trovino al di sopra delle loro capacità i compiti di lettura assegnati a scuola. Sono state trovate correlazioni negative che riflettono idiosincrasie culturali, per esempio la tradizionale riluttanza dei genitori cinesi a farsi vedere a scuola per parlare del progresso scolastico dei loro figli. Si suggerisce che molti genitori di Hong Kong possiedano i mezzi per assistere i loro figli a imparare a leggere e a comprendere, ma che alcuni necessitino di una guida da parte delle scuole su come utilizzare la loro influenza per ottenere gli effetti migliori.

PAROLE CHIAVE: capitale umano familiare, capitale economico familiare, capitale sociale familiare, PIRLS, Hong Kong

Polish

[Translation Elżbieta Awramiuk]

TITUŁ. Zasoby rodzinne a uczniowskie osiągnięcia w czytaniu: kapitalizacja czynników domowych
STRESZCZENIE. Niniejsza analiza opiera się na danych z międzynarodowych badań osiągnięć w rozumieniu czytanego tekstu (PIRLS) przeprowadzonych w 2001 w Hong Kongu na próbie 5050 czwartoklasistów, 5050 rodziców, 147 nauczycieli i 147 dyrektorów szkół. Celem analizy jest zbadanie relacji między zmiennymi kapitału rodzinnego (finansowego, ludzkiego, społecznego) a rozumieniem przez dzieci czytanego tekstu informacyjnego i literackiego. Pozytywną korelację wykazano między osiągnięciami w czytaniu a większością rodzinnych zmiennych, z rodzicami, którzy czytają regularnie swoim dzieciom, by pomóc im osiągnąć kompetencję w czytaniu. Tacy rodzice dobrze nadają się do tego, aby stworzyć swemu potomstwu stymulujące do nauki środowisko domowe i służyć swym dzieciom jako pozytywny model do naśladowania. Analizy regresji danych potwierdzają przypuszczenie, że dzieci przyzwyczajone do książki i mające kontakt z czytaniem w domu nie są przytłoczone zadaniami dotyczącymi czytania, z jakimi stykają się w szkole. Wykazano też negatywną korelację, która wskazuje na idiosyncrazje kulturowe, na przykład tradycyjną niechęć chińskich rodziców, by chodzić do szkoły i rozmawiać o szkolnych postępach swych dzieci. Sugeruje to, że wielu rodziców w Hong Kongu posiada odpowiednie środki, by towarzyszyć swym dzieciom w nauce czytania ze zrozumieniem, jednak niektórzy potrzebują ze strony szkół porady, jak wykorzystać swój wpływ w celu osiągnięcia najlepszego efektu.

SŁOWA-KLUCZE: rodzinny kapitał ludzki, rodzinny kapitał finansowy, rodzinny kapitał społeczny, PIRLS, Hong Kong

Portuguese

[Translation Sara Leite]

TÍTULO. Recursos Familiares e Sucesso na Leitura: Capitalizar Factores Familiares

RESUMO. Examinaram-se dados retirados do relatório PIRLS 2001 (*The Progress in International Reading Literacy Study*), com amostras de 5.050 alunos do 4.º ano de Hong Kong, 5.050 pais, 147 professores e 147 directores de escolas. As análises incidem sobre a relação entre as variáveis do capital

familiar (financeiro, humano e social) e a compreensão dos alunos na leitura de textos informativos e literários. Encontraram-se correlações positivas entre o sucesso na leitura e a maior parte das variáveis do capital familiar, sendo o facto de os pais lerem regularmente aos seus filhos um factor promotor da competência destes últimos. Estes pais estão bem posicionados para proporcionar um ambiente familiar estimulador para a aprendizagem dos seus filhos e funcionam como modelos positivos. A regressão linear permite concluir que as crianças que convivem com livros e são expostas à leitura em casa não encontram dificuldades nas tarefas de leitura que lhes são propostas na escola. Foram encontradas correlações negativas que reflectem idiosincrasias culturais, como o facto de os pais chineses não gostarem de ser vistos a ir à escola para falar do progresso escolar dos filhos. Sugere-se que muitos pais em Hong Kong possuem os meios para ajudar os filhos na compreensão da leitura, mas carecem de alguma orientação por parte das escolas para que a sua influência possa ser utilizada da melhor forma.

PALAVRAS-CHAVE: capital familiar humano, capital familiar financeiro, capital familiar social, PIRLS, Hong Kong

1. INTRODUCTION

Many educational researchers regard the family as a key determinant of children's scholastic success in school, and several studies have shown that certain home literacy practices contribute positively to children's academic performance in the classroom (Garg, Levin, Urajnik, & Kauppi, 2005; Hung & Marjoribanks, 2005; Hvistendahl & Roe, 2004). It is also generally agreed that a supportive family can be a springboard to secure language and literacy development (Gadsden, 2000; Purcell-Gates, 1995, 2000). Coleman (1988) offers a conceptual model of the impact of the family and home environment on the academic achievements of children, proposing that it can be separated into three components: financial capital, human capital and social capital. Coleman suggests that family capital can be gauged in terms of the household's wealth or income; human capital reflects the parents' own education and involvement in their children's education; and social capital refers to the strength of attitudinal and emotional relationships between children and parents.

Hong Kong's family structure has undergone many changes in recent years and, as in many other cosmopolitan cities, there is an increased incidence of working mothers, single-parent families and a diversity of family forms (Edwards, Franklin, & Holland, 2003). Other changes relate specifically to the distinctive socio-political environment of Hong Kong, and include the "cross-border" marriage between Hong Kong citizens and Chinese immigrants from the Mainland since Hong Kong's return to Chinese sovereignty in 1997. Concomitantly, there has been a renewed focus on parental involvement in children's reading literacy fuelled by new directions in educational reform set out in the 2000 Education Commission Report (Education Commission, 2000). To ensure success for this endeavour, the Hong Kong Government has assigned a significant amount of public expenditure to the field of education.

This paper presents analysis of data derived from the *Progress in International Reading Literacy Study* (PIRLS) 2001 study, and investigates the extent to which family capital influences reading attainment in Hong Kong primary schools. Before turning to the research, the concepts of financial, human and social capital are discussed together with approaches to reading education in Hong Kong.

2. FINANCIAL, HUMAN AND SOCIAL CAPITAL IN THE FAMILY

Coleman (1988) cautions that the impact of the family on children's academic performance should not be regarded as a single entity: rather, it should be viewed in terms of financial, human and social capital. Financial capital includes those physical resources that aid achievement and is usually gauged by the family's wealth or income and the presence of educational resources that positively influence children's schooling. Human capital refers to a family environment that is favourable to children's learning and commonly reflects the level of parents' end-stage education (Chow, 2000). A number of researchers have shown that children's attainment usually correlates highly with human capital (Downing, Ollila, & Oliver, 1975, 1977; Valenzuela & Dornbusch, 1994), and various studies (Chow, 2000; Kao & Tienda, 1995; Looker, 1994; Portes & MacLeod, 1996) have reported that financial capital and human capital, especially socio-economic status (SES), are significantly associated with students' academic performance. Students who come from families with higher SES often have ready access to educational resources and facilities, and their parents may even engage private tutors to assist with academic work completed in the home.

Within the family, social capital is reflected in the degree of observable positive parent-child interaction. Coleman proposes that such interaction helps children to convert the financial and human capitals present in the family into human capital and into attributes that increase their general well-being. In the absence of positive parent-child interactions, a key mechanism potentially facilitating the benefits of available human and financial capital is inoperative. Despite the wealth of empirical studies in this area, the evidence about the impact of parenting practices on children's academic achievements is often inconclusive. Although most of the pertinent research supports the claim that parental involvement enhances academic achievement (Coleman, 1991; Epstein, 1991, 1992; Francis & Archer, 2005; Ho & Willms, 1996; Majoribanks, 1979; Rock, Pollack, & Hafner, 1991; Topping, 1992; Walberg, 1984), other research claims that some aspects of parental involvement may actually depress levels of children's academic achievement (Horn & West, 1992; Milne, Myers, Rosenthal, & Ginsburg, 1986) or have at best a negligible impact (Keith, 1991).

Conceptually, capital denotes a scenario whereby something invested into a set of structural relationships under specific conditions influences academic achievement. However, it is important to recognize that, if capital is not employed in particular ways for specific purposes at particular moments, it may be of little value or may even have a negative impact. Sociologists and educationalists generally agree that home capital influences students' academic attainment (Purcell-Gates, 2000). However, there is less consistency in the literature about the precise nature of the various forms of capital. Many forms of capital overlap so much, particularly within cultures, that it is difficult to draw general conclusions about the nature of any apparent relationships (Bourdieu, 1986).

3. FINANCIAL CAPITAL IN THE HOME

The financial capital and resources of parents can be distinguished from aspects of human capital such as parents' highest level of educational achievement, their employment status and profession. Coleman (1988) describes it in terms of the physical and material resources provided by the family. Financial capital is typically indicated in terms of the family's total household income, general family well-being and material possessions. Investigations into the effects of poverty in the home have established that material deprivation usually hampers children's emotional, physical, educational and social development (Duncan & Brooks-Gunn, 1997; Duncan, Brooks-Gunn, & Klebanov, 1994; Garrett, Ng'andu, & Ferron, 1994; Huston, 1991). Although such deprivation usually depresses children's academic attainment, in some instances it may stimulate children to strive hard to escape the environmental trap (Coleman, 1988).

4. HUMAN CAPITAL IN THE HOME

According to Coleman (1990), human capital in the home refers to the parents' or extended family's intelligence, talents and skills and the highest level of academic achievement of the bread-winner. It is generally assessed at the family level and refers to home characteristics that influence the children's intellectual development, and the amount of support and aid that children receive from their parents. As indicated above, human capital usually positively influences children's learning (Coleman, 1988) and academic performance.

Research has found that the parents' own education impacts positively on children's academic attainment (Blau & Duncan, 1967; Ferguson, 2006; Sewell & Hauser, 1975). Economists such as Schultz (1961) have argued that investment in human capital will usually increase worker productivity and earnings, and that higher levels of human capital will usually result in greater family financial capital. It is generally accepted that educated parents have high expectations of their children's educational performance and that they will invariably communicate these expectations to their children (Coleman, 1988; Hoge, Smit, & Crist, 1997; Patrikakou, 1997; Seiginer, 1983). On the other hand, it is quite possible for families with low financial capital and low human capital in terms of parental level of education and income also to identify with these high expectations. Many parents in disadvantaged circumstances view education as the means by which children can escape the shackles that prevented the parents themselves from having a better life. It is hence unwise to apply generalisations without caution about the consequences of forms of capital and how these influence children's academic attainment.

5. SOCIAL CAPITAL IN THE HOME

Family social capital refers to the bonds, interactions and connections between schools, parents and children that promote socialization in school and encourage learning. It reflects the time and attention parents spend in interaction with children at home, monitoring their activities and promoting their educational achievements

(Coleman, 1990; Harvard Educational Review, 2004; Joussemet, Koestner, Lokes, & Landry, 2005; Schneider & Colman, 1993; Tam & Chan, 2005). It is generally accepted that parent-child interactions and parental help with homework positively correlate with children's academic success (Coleman & Hoffer, 1987; Ferguson, 2006; McNeal, 1999; Stanton-Salazar, 2001; Teachman, Paasch, & Carver, 1996, 1997). However, several studies have uncovered a negative relationship between parental help with homework and student achievement in school (Horn & West, 1992; McNeal, 1999; Milne et al., 1986). These scholars have also found that the positive impact of parental help seems to pertain to children's overall academic performance only, and is not subject-specific, relating to mathematics and reading test scores, for example. Some scholars have even found that social capital has no significant effect on children's academic attainment (Epstein, 1991; Keith, 1991). At the same time, it is important to differentiate between social and other types of capital because, although they both refer to parental resources, the first refers specifically to the socialization process. For example, a computer can be a form of family financial capital. However, children using a computer for studying and acquiring useful information and parents using the computer to help children learn make it social rather than financial capital alone.

In general, home environments reflect parental orientation towards providing types of interpersonal resources that promote child development. Parcel and Menaghan (1994) showed that forceful and secure home environments are usually associated with greater verbal facility and higher levels of reading and mathematics attainment in the child. It is also important to note that social capital in the home is not limited to relationships between parents and children. Social connections between schools, parents and students can be categorised into (a) school-parent (or teacher-parent) relationships (Musti-Rao & Cartledge, 2004) and (b) parent-student relationships (Israel & Beaulieu, 2004). With this in mind, educational authorities in Hong Kong have for many years sought to strengthen the links between schools and parents (Education Commission, 1992), for school-parent relationships are regarded as important social capital.

In light of the various inconsistencies in the research outcomes in studies carried out predominantly in the West, research is needed to see whether they also exist in countries in the East, for example China and Hong Kong. The present study set out to investigate the impact of human capital, financial capital and social capital in the home on children's reading performance. It was expected that the impact of family human capital on children's reading performance would be the greatest, for it is assumed that the financial capital of the family is dependent on human capital; the impact of social capital would be the least significant because it is assumed that it is dependent on human and financial capital.

6. READING LITERACY EDUCATION IN HONG KONG

Children are taught to read in school so that they may use this ability as a tool for understanding what people have written. Two very broad reading processes are taught: first, the decoding of what the text "says" and, second, what the text

“means”. Equipped with such ability, students can read for pleasure; interrogate the meaning in texts to see what people have tried to convey in their writing; and use their reading independently as a vehicle for learning (Lunzer & Gardner, 1979; Stanovich, Cunningham, & West, 2000). The ability to comprehend texts is a key determinant of children's scholastic success across the curriculum: being illiterate is usually a life-long handicap (Lyon, 1998).

Since 2000, Hong Kong has witnessed extensive educational reform, with reading as one of four key target areas of attention. The reforms stress the importance of reading literacy and the need to raise students' reading competence (Education Commission, 2000). The PIRLS 2001 survey found that the reading literacy of Grade 4 students in Hong Kong was only marginally above the average international level, and that it lagged behind that of many developed Western countries (Tse, Lam, Lam, & Loh, 2006). This triggered widespread public concern about the reading competence of Hong Kong students and generated heated debate about educational standards.

Hong Kong is a cosmopolitan city determined to transform itself into a knowledge economy (Tung, 2000). The importance of reading as a tool for learning is widely accepted (McMahon, Rose, & Parks, 2004) and both the Government and the general public are willing to invest heavily in resources that promote reading. However, the precise mechanism by which family resources act in concert to enhance student achievement is not at all clear, and society and parents as stakeholders would welcome a clearer understanding of ways in which they can effectively intervene to boost students' literacy. Researchers maintain that progress in reading is closely related to the extent to which the contributions of the home environment and family resource are exploited (Casanova, García-Linares, de la Torre, & de la Villa Carpio; Joussemet et al., 2005; Tse et al., 2006). Chinese parents are passionate about their children's education (Chao, 1994; Fuligni, 1997; Li, 2004), and those who accept the notion that reading is an essential facilitator of learning will purchase children's books and pay for private tuition in an effort to elevate their child's academic performance. If the generosity and input from such parents is not to be wasted, a clearer picture is needed of the exact ways in which the home and family can positively influence reading attainment. The research reported below examined evidence gathered as part of the PIRLS endeavour, particularly whether the impact of family, human and social capital on students' reading comprehension was being exploited to the best effect in Hong Kong.

7. METHOD

Data were gathered during the 2001 Progress in International Reading Literacy Study (PIRLS 2001) conducted in Hong Kong by Tse et al. (2006). The instrumentation and design of the Hong Kong PIRLS 2001 study followed specifications set by the organizing committee of PIRLS 2001 (Mullis, Martin, Gonzales, & Kennedy, 2003). Hong Kong and 34 other countries and regions participated in the study. Two of the objectives of this comparative study were to examine how well children in

different countries are able to read, and how large an effect, if any, family and schooling have on children's reading attainment (IEA, 1999).

Sample

The target population was all the pupils enrolled in Grade 4 in Hong Kong in 2001. Grade 4 pupils are aged 9 to 10 years and have been in primary school for almost 4 years. A 2-stage cluster sampling procedure was used to achieve a representative sample. First, a random sample of 150 primary schools was chosen. Then, one Grade 4 class from each school was randomly selected. A total of 5,050 Hong Kong students and 5,050 parents participated in the study. Chinese language teachers and school principals from 147 schools also participated in the study. Three schools dropped out of the study.

Research instruments and data gathered

The PIRLS 2001 assessment data (Mullis et al., 2003) were derived from eight different texts, 1,000 to 1,200 words in length: four literary and four informational. Students were given different combinations of one literary and one informational text. The lack of equivalence in terms of the texts read by different students was adjusted using item response theory (Lord, 1980). Tests used in Hong Kong were approved Chinese versions of measures used in the PIRLS 2001 survey. They were subjected to rigorous comparison procedures until they were deemed as demanding and difficult as those used in English-speaking PIRLS countries. The dependent variables were the three measures of reading comprehension: a score on the informational text; a score on the literary text; and a weighted sum of the first two scores using computer software PARSCALE (Muraki & Bock, 1991).

Questionnaires were administered to the students, asking about their reading activities at home and in school. Parents of participating students answered a questionnaire soliciting information about family background and perceptions of their child's experiences in learning to read. Teachers of Chinese language in the sampled classes answered a questionnaire about their own background and the educational practices they employed. School principals or administrators of the sampled schools also completed a school questionnaire seeking information about school resources and organisation. It needs to be pointed out that the PIRLS questionnaires did not purposefully set out to assemble family capital data per se. However, the wealth of evidence gathered readily allowed the family capital clusters associated with Coleman's analyses to be gauged.

From the immense amount of information collected in the PIRLS 2001 study, the present study selected for scrutiny data that reflected financial capital, family human capital and family social capital in each family.

Family financial capital

- 1) The "Index of General Family Financial Capital", reflecting the socio-economic status of the family, was based on the type of housing in which the children

were living, the parents' self-reported financial status, and their monthly household income¹.

- 2) The "Index of Family Financial Capital (General Educational Resources)", was based upon family possessions available at home for the student. These included the frequency of access to and use of a computer at home, and the students' awareness of family access to literacy facilities such as leisure reading resources and public libraries.
- 3) The "Index of Family Financial Capital (Reading Resources)" was based upon the family's general well-being and monies spent on cultural activities and literacy-based home facilities. In particular, the Index was derived from each student's awareness of the number of books and other reading material in the home; their parents' estimation of the number of books in the home, the type of reading material made available to the children, the average expenditure on reading books for children, and on the types of newspapers, magazines and journals taken regularly into the home.

Family human capital

- 4) The "Index of Family Human Capital (Father and Mother)" was based upon the father and mother's highest education levels, their employment status and profession and whether they were born in Hong Kong or were immigrants from the Mainland.
- 5) The "Index of General Family Human Capital" was based upon family size, student's gender and adaptation to life in Hong Kong, the number of household members and number of adults making up the extended family.

Family social capital

- 6) The "Index of Family Social Capital (School-parent Relationship)" relates to the interactions and connections between schools and parents. The Index was based upon parents' perceptions of the scale and quality of school-parent relationships, the frequency of teacher and parent encounters, the school principal's report of activities done by the school and the percentage of students' parents participating in school activities.
- 7) The "Index of School-Family Social Capital (School)" was based upon parents' evaluation and impressions of the efforts the school devoted to enhancing their children's reading performance and development.
- 8) The "Index of General Family Social Capital", reflects the variety and frequency of parent-child activities especially devoted to boosting the child's reading ability. The Index took account of the frequency of parent-child home reading activities before the child began primary schooling; the frequency of parent-reported, parent-child reading activities at home; whether students with reading

¹ According to the report of the Census and Statistics Department (2002), the Median Monthly Domestic Household was US\$ 2,243, therefore, the segmentations of monthly household income were categorized as "Less than US\$897", "US\$898-US\$1,794", "US\$1,795-US\$2,692", "US\$2,693-US\$3,589", "US\$3,590-US\$4,615", and "US\$4,616 or more".

difficulties seek help from parents; and the parents' views on difficulties faced in raising their child's reading ability.

The Hong Kong Census and Statistic Department (2002) conducted a population census in 2001. To verify the validity of the data collected in PIRLS 2001, the data regarding "monthly household income", "number of household members", "number of children in the household", and "educational level, working status and profession of the parents" were checked against the data reported in the official population census.

Data analysis

Because of the large number of variables addressing family capital (9 subsets, 39 items, 98 variables), there was a need to gain an overall picture of how the 3 forms of family capital might have influenced attainment in reading, whilst simultaneously obtaining a picture of how the specific instances of the different forms of family capital impacted reading attainment. To this end, two approaches were adopted: (a) correlational analysis between reading attainment and the 98 family capital variables; and (b) the 98 variables were grouped logically into 9 subsets; and an index was calculated for each subset. Correlational analysis and stepwise regression were conducted on how these 9 indices related to reading attainment.

8. RESULTS

Family Financial Capital and Reading Attainment

As can be seen in Table 1, the reading comprehension scores on the literary and informational texts were highly statistically significantly correlated, with a coefficient of .57. Seventy-one of the 98 variables have statistically significant inter-correlations, probability levels ranging from $< .05$ to $< .001$ with all three measures of reading attainment. Nine had statistically significant correlations with at least one of the 3 measures of reading comprehension, probability levels ranging from $< .05$ to $< .001$.

As can also be seen in Table 1, the core factors of family financial capital are, in general, positively correlated with the 3 reading scores for type of housing, monthly income, books and children's books at home, daily newspapers edited in modern standard written Chinese, children's magazines and the purchase of reading books. It is interesting to note that certain core factors of family financial capital are negatively correlated with the reading scores. These include key home possessions (mobile phone, room of one's own, DVD player, very large TV set and private tutor). They also include Chinese language newspapers in the vernacular Cantonese dialect. The general picture is that the school's influence on reading attainment has been greater than that of certain trappings of social status for the sample as a whole. It is also interesting to note that the effect of private tuition has been negative rather than positive. In other words, it may be that the type of work drilled and practised in tuition

sessions is not the type of instruction that improves students' PIRLS reading attainment. On the other hand, it may very well be that the children who needed extra tuition were poor readers anyway.

Table 1. Correlation between family financial capital and achievement scores

Family Financial Capital	Correlation		
	Overall	Informational	Literary
<i>Index of general family financial capital</i>			
Type of housing ^o	0.11***	0.10***	0.10***
Financial status	0.10***	0.08***	0.10***
Monthly income ^o	0.108**	0.068**	0.128**
<i>Index of family financial capital (general educational resources)</i>			
Student's use of computer at home	0.03	0.02	0.03
Student's estimate of possession at home:			
(a) computer;	0.07***	0.06***	0.06***
(b) child's own mobile phone ^o ;	-0.06***	-0.07***	-0.06***
(c) child's own room ^o ;	0.00	-0.01	-0.00
(d) DVD player ^o ;	-0.02	-0.03	-0.03
(e) car;	0.00	-0.02	0.01
(f) over 34" TV set ^o ;	-0.03	-0.04*	-0.02
(g) notebook computer;	0.01	0.00	0.01
(h) domestic helper	0.07***	0.05**	0.07***
<i>Index of family financial capital (reading resources)</i>			
Student's estimate of books at home ^o	0.13***	0.11***	0.13***
Student's estimate of possession at home:			
(a) child's own study desk;	0.06***	0.05**	0.06***
(b) child's own bookcase ^o ;	0.16***	0.14***	0.14***
(c) daily newspaper ^o ;	0.11***	0.11***	0.10***
(d) private tutor ^o ;	-0.06***	-0.05**	-0.06***
Parents' estimate of books at home ^o	0.15***	0.13***	0.15***
Parents' estimate of children's books at home ^o	0.14***	0.11***	0.15***
Type of reading books for children ^o	0.11***	0.09***	0.10***
Average expense on buying reading books for children	0.06***	0.04*	0.06***
<i>Methods to raise child's reading literacy:</i>			
(a) buy stories on tapes or videos;	-0.02	-0.00	-0.03
(b) buy reading books ^o ;	0.13***	0.11***	0.13***
(c) buy exercise books;	0.02	0.02	0.02
(d) buy learning software;	0.02	0.00	0.03*
(e) tell stories	0.04*	0.01	0.06***
Types of newspaper at home:			
(a) N1 ^o (Dialect style);	0.01	0.01	0.02
(b) N2 ^o (Dialect style);	-0.05**	-0.06***	-0.0*

Table 1. Correlation between family financial capital and achievement scores

Family Financial Capital	Correlation		
	Overall	Informational	Literary
(c) N3 ^o (Dialect style);	-0.01	-0.03*	0.02
(d) N4 ^o (Modern Chinese style);	-0.01	0.00	-0.01
(e) N5 ^o (Modern Chinese style);	0.052***	0.05***	0.06***
(f) N6 ^o (Modern Chinese style);	0.06***	0.05**	0.06***
(g) N7 ^o (Modern Chinese style);	0.02	0.01	0.03
(h) N8 ^o (Modern Chinese style);	0.05***	0.03*	0.05***
(i) N9 ^o (Modern Chinese style);	0.01	-0.00	0.02
(j) N10 ^o (Modern Chinese style)	0.01	0.02	0.01
Types of magazines at home:			
(a) current affairs;	0.05**	0.0*	0.04**
(b) entertainment;	0.02	0.03*	0.03
(c) professional;	0.01	0.01	0.02
(d) kids' world ^o ;	0.06***	0.05**	0.06***
(e) comics and animation;	-0.01	-0.01	-0.02
(f) fashion, home, food and drink	0.04**	0.06***	0.0

*** 0.001 level (2-tailed). ** 0.01 level (2-tailed); * 0.05 level (2-tailed).

^o Item significantly correlated with all three achievement scores.

Family Human Capital and Reading Attainment

Table 2 summarises the correlational analysis between human capital items and the three attainment scores. Important core factors of family human capital that positively correlated with the reading scores included parents' education level and their employment status. This is not surprising, giving weight to the generalisation that the better educated in society are able to find better paid work and good positions. The negative correlations support other generalisations in the literature (Casanova et al., 2005; Walker, Petrill, & Plomin, 2005), for example, that children from larger families tend not to perform as well, and that girls outscore boys on reading tests (Tse, Lam, Lam, Chan, & Loh, 2006).

Interestingly, having a parent born outside Hong Kong was associated with inferior reading. The PIRLS 2001 survey was conducted at a time when there was a large influx of students into Hong Kong accompanying their immigrant parents from Mainland China. Their educational standard was variable and their parents had come to Hong Kong to improve their living standards. For the most part, their parents were unfamiliar with the Hong Kong culture. They did not know how to improve their children's reading and meet local cultural expectations. In other words, having parents who were unfamiliar with the local culture may have hindered the children's reading. The immigrant parents had not been to school in Hong Kong and were un-

sure about cultural expectations vis-à-vis education. Li (2004) points out that, with different political, historical, cultural and economic backgrounds, Chinese immigrants from Mainland China and Taiwan possess parental expectations about their children's education that differ from those held by the majority of the population in Hong Kong. They also have parenting strategies associated with experiences in their own homeland.

Table 2. Correlation between Family Human Capital and achievement scores

Family Human Capital	Correlation		
	Overall	Informational	Literary
Index of family human capital (father)			
Father's highest level of education	0.14***	0.10***	0.15***
Father's employment status ^o	0.10***	0.10***	0.10***
Father's profession	0.11***	0.08***	0.11***
Father's birth in Hong Kong	0.04**	0.05**	0.04*
Index of family human capital (mother)			
Mother's highest level of education ^o	0.13***	0.11***	0.14***
Mother's employment status	0.06***	0.05**	0.07***
Mother's profession	0.09***	0.08***	0.08***
Mother's birth in Hong Kong	0.04**	0.03*	0.05**
Index of general family human capital			
Household members ^o	0.13***	0.11***	0.11***
Household number of children ^o	0.14***	0.12***	0.12***
Student's sex ^o	-0.16***	-0.15***	-0.14***
Student's birth in Hong Kong	0.08***	0.06***	0.08***

** 0.01 level (2-tailed); * 0.05 level (2-tailed). ^o Item is significantly correlated with all three achievement scores.

Family Social Capital and Achievement Scores

Tables 3 and 4 summarise the correlational analyses between the two sub-sets of Family Social Capital (School-Parent and Parent-Student) and the three attainment scores. The core factors of family social capital positively correlating with reading scores are such behaviours as provision of a reading environment at home, a willingness to attend school activities/events, having a parent willing to volunteer to help with school work, having parents impressed by the school, and parents who read books, tell stories, write characters and words and go to the library. In other words, parents who positively and actively encourage the child to develop academically.

There are negative as well as positive correlation coefficients for each sub-set of capital items. Good school-parent relationships and school-parent discussions about progress are associated with good reading. On the other hand, attending teacher-parent conferences and having the teacher visit the home are negatively correlated. Hong Kong parents will instinctively associate such interactions with the school as evidence that the teacher has summoned them because the child is not learning well or has misbehaved. There is also evidence implying that parents are quite unsure about ways to help their children master reading, both for information and for pleasure. Parents do not know which books they should buy and many parents asserted that the children spend so much time on homework that there is insufficient time to devote to encouraging literacy in a wider sense.

Table 3. Correlation between Family Social Capital (School-Parent) and achievement scores

Family Social Capital: School-Parent	Correlation		
	Overall	Informational	Literary
Index of family social capital (school-parent)			
School-parent relationship			
(a) ensure child's completion of assignments;	0.04**	0.04*	0.03
(b) provide child's classroom work for parents;	0.06***	0.05**	0.07***
(c) provide child's performance for parents ^φ	0.10***	0.09***	0.10***
Teacher-parent relationship			
(a) discuss child's progress ^φ ;	0.07***	0.08***	0.06***
(b) provide child's classroom work for parents	0.00	-0.01	0.01
Work done by school			
(a) teacher-parent conference ^φ ;	0.03	0.03	0.02
(b) provide information about school;	0.03*	0.03*	0.02
(c) provide written reports of child's performance;	0.06***	0.05**	0.04**
(d) teacher home visits ^φ ;	0.06***	0.06***	0.05**
(e) invite parents for school events;	0.05***	0.05**	0.04*
(f) invite parents for school activities ^φ	0.08***	0.08***	0.07***
Percentage of students' parents to participate			
(a) volunteer regularly for school work ^φ ;	0.05**	0.04*	0.05**
(b) attend teacher-parent conferences;	0.00	-0.00	0.01
(c) attend school events ^φ ;	0.09***	0.08***	0.08***
(d) do activities to support school ^φ ;	0.08***	0.07***	0.07***
Index of school family social capital (school)			
Impression of school			
(a) school makes an effort to include parents in the child's education;	0.10***	0.09***	0.09***
(b) school cares about the child's progress in school ^φ ;	0.12***	0.12***	0.10***
(c) school does a good job in helping the child become better in reading ^φ	0.12***	0.12***	0.10***

** 0.01 level (2-tailed); * 0.05 level (2-tailed); ^φ Item significantly correlated with all three achievement scores.

Table 4. Correlation between Family Social Capital (Parent-Student) and achievement scores

Family Social Capital: Parent-Student	Correlation		
	Overall	Informational	Literary
Index of general family social capital			
Student reports activities at home			
(a) child reads aloud to someone at home;	0.05***	0.05***	0.04**
(b) child listens to someone's reading aloud ^φ ;	-0.03*	-0.02	-0.03*
(c) child talks with family about what he is reading ^φ	0.11***	0.09***	0.11***
How often did parents do the activities with the child before his/her primary schooling began?			
(a) read books ^φ ;	0.13***	0.12***	0.13***
(b) tell stories ^φ ;	0.13***	0.12***	0.13***
(c) sing songs;	0.08***	0.09***	0.07***
(d) do reading activities on the computer;	0.06***	0.07***	0.04*
(e) play word games;	0.10***	0.09***	0.09***
(f) write characters or words ^φ ;	0.13***	0.13***	0.11***
(g) read aloud signs and labels;	0.12***	0.11***	0.10***
(h) watch television programs that teach reading;	0.08***	0.09***	0.04**
(i) watch television programs or films with subtitles;	0.12***	0.12***	0.09**
(j) play word games	0.09***	0.10***	0.08***
Parents report activities at home			
(a) read aloud to the child;	0.05**	0.06***	0.06***
(b) listen to the child reading aloud ^φ ;	0.10***	0.09***	0.10***
(c) talk with the child about what he/she is reading on his/her own ^φ ;	0.10***	0.10***	0.10***
(d) talk with the child about what parents are reading;	0.04**	0.05**	0.04*
(e) discuss the child's classroom reading work with him/her;	0.08***	0.08***	0.08***
(f) go to the library or a bookstore with the child ^φ ;	0.12***	0.11***	0.12***
(g) play or work on the computer with the child;	0.06***	0.07***	0.05**
(h) encourage the child to write ^φ	0.12***	0.12***	0.11***
If the child finds difficulty in reading, he/she will seek help from father or mother.	0.06***	0.04*	0.06***
Difficulty faced by parents in raising child's reading literacy			
(a) lack of suitable reading materials ^φ ;	0.10***	0.10***	0.08***
(b) family members do not know how to guide the child in reading ^φ ;	0.12***	0.10***	0.10***
(c) family members do not have time to guide the child in reading;	0.07***	0.07***	0.05***
(d) there is a lot of homework so that the child has no time to read ^φ	0.10***	0.11***	0.08***

** 0.01 level (2-tailed); * 0.05 level (2-tailed); ^φ Item significantly correlated with all three achievement scores.

Multiple Regression Analysis on the Three Types of Capital

The results of a multiple regression analysis of reading literacy on the 3 types of family capital are reported in Table 5. A stepwise regression analysis was used. As

mentioned above, human capital was entered first because it was assumed that the financial capital of the family would be dependent on the family human capital, namely, the educational levels and the employment status of the parents. Social capital was entered last because it was assumed that it would be dependent on human capital, which includes parents' educational achievements, and such financial capital as the social economic status of the parents.

Table 5. Correlation of the indices

	Overall	Informational	Literary
<i>Financial capital</i>			
General Family Financial Capital	.14***	.12***	.12***
Family Educational Financial Capital	.02	.00	.02
Family Reading Financial Capital	.17***	.14***	.18***
<i>Human capital</i>			
Family Father Human Capital	.15***	.12***	.15***
Family Mother Human Capital	.12***	.10***	.12***
General Family Human Capital	.12***	.10***	.10***
<i>Social capital</i>			
School-parent Family Social Capital	.11***	.10***	.10***
School Family Social Capital	.12***	.12***	.10***
General Family Social Capital	.15***	.15***	.14***

***, $p < .001$; ** $p < 0.01$ level (2-tailed).

The results in Table 6 indicate that family human capital by itself explained 3% of the differences among students in terms of reading attainment. Family financial capital added a small but significant effect to the explanation of why some students read better than others. The r-square change was 2% and the effect of the family social capital was less important. The change in r-square was only 1%. The beta weights associated with the regression of reading literacy on the 9 indices of family capital provide an additional understanding of the correlation results. The most important human capital was not so much the educational and employment status of the parents, a beta weight of .5% for father and a 3% beta for mother, but more on the size of the family and the gender of the child, a beta weight of -12%.

The beta weights for the indices of the family financial capital were among the largest of the 3 types of capital. In particular, quantity and quality of household possessions of the child or of the family were not positively related to the child's reading literacy, the beta weight being -15%. Instead, it was the extent to which the family created an environment of reading that had a relatively large and positive effect on the child reading literacy, a beta weight of 10%.

The only beta weight that was statistically significant for family social capital was school-parent interactions, a beta weight of -7%. In general, one would have expected that social interactions between the parents and the child to have a strong

and direct effect on building the reading literacy of the child. But the beta weight of 3% associated with these family social interactions was small and not statistically significant.

Table 6. Result of the stepwise regression analysis

	beta	Multiple R ²	R ² Change
<i>Family human capital</i>		.03*	-----
1. <i>Father human capital</i>			
highest level of education, employment status, profession, place of birth	.05*		
2. <i>Mother human capital</i>		.03	
highest level of education, employment status, profession, place of birth			
3. <i>General family human capital</i>			
child's sex; child's place of birth [†] ;			
no. of household members, no. of household children	-.12*		
<i>Family financial capital</i>		.06*	.02*
4. <i>General family financial capital</i>			
monthly income, type of housing, financial status	.06*		
5. <i>Family educational financial capital</i>			
pupil's possession and use of computer at home;			
possessions of study desk, mobile phone, room, DVD, car, TV set, note-			
book computer, domestic helper	-.15*		
6 <i>Family reading financial capital</i>			
pupil's estimate of books at home,			
pupil's estimate of possessions at home (study desk, bookcase, daily			
newspaper, private tutor),			
parents' estimate of books at home, children's books at home, type of			
reading books for children,	.10*		
parent's average expense on buying reading books for children and oth-			
er methods for raise child's reading literacy,			
types of newspaper at home, types of magazines at home			
<i>Family social capital</i>		.06*	.01*
<i>School-parent family social capital</i>			
school-parent relationships, teacher-parent relationships,			
work done by school, percentage of parents participating in school	-.07*		
<i>School family social capital</i>			
impression of school	.02*		
<i>General family social capital</i>			
child's report of activities at home,			
frequency of reading activities parents did with the child before his/her			
primary schooling began,	.03*		
parent's report of reading activities at home,			
parent's report of difficulties in raising child's reading literacy;			
help from parents when child has reading difficulties			

n.b. † denotes that the variable was reverse-coded; * denotes statistical significance at 0.05 level.

The results indicate that it was the father's rather than the mother's educational level and employment status that was more important in terms of influencing the reading attainment of the child. The beta weight, given in Table 6, for the fathers was statistically significant, that for the mothers was not. A similar finding was reported by Parcel and Menaghan (1994) who discovered that unemployed fathers were often associated with poor academic attainment in children. The results also support the research of Casanova et al. (2005) who showed that poor socio-economic status plays an important role in predicting students' academic performance, especially students with low academic achievement.

9. DISCUSSION

Family Human Capital

The correlational and regression analyses support a common observation (Blau & Duncan, 1967; Sewell & Hauser, 1975) that the educational level and employment status of the parents may have a marked influence on a child's reading attainment. The multiple r-square associated with family human capital was statistically significant, in line with previous research findings (Coleman, 1988; Downing, Ollila, & Oliver, 1975, 1977; Ferguson, 2006; Valenzuela & Dornbusch, 1994). However, its effect was not large in the present study, explaining only 3% of the total variation in the reading attainment of students. The small effect of family human capital offers hope that a deficiency in this area may not be critical for raising the attainment of children in reading and that factors that are more under the control of schools and the Government can be targeted to compensate for those children with low family human capital.

A less obvious but important factor in family human capital was the parents' place of origin. The statistically significant correlations between parents' place of origin and the reading attainment of the child indicated that this is not a negligible item of family human capital, and one that schools should address.

Family financial capital

The results indicate that the financial capital of the family in the present study was associated with the reading attainment of the students, the multiple r-square change being significant and supporting other research findings (Chow, 2000; Coleman, 1988; Duncan & Brooks-Gunn, 1997; Duncan, Brooks-Gunn, & Klebanov, 1994; Garrett, Ng'andu, & Ferron, 1994; Huston, 1991; Kao & Tienda, 1995; Looker, 1994; Parcel & Menaghan, 1994; Portes & MacLeod, 1996). Surprisingly, it was not how much money the family earned that was important; rather, it was what the family did with the money. The beta weights, given in Table 6, were 6% for general family financial capital (family income, type of housing, and financial status), -15% for family educational financial capital (desk computer; notebook computer; study desk; mobile phone, DVD player, car, TV; domestic helper), and 10% for family reading financial capital (books at home; bookcase; daily newspapers). Children who did well on the reading tests tended to come from families that invested income in creat-

ing a good reading environment in the home, such as stocking up on books and newspapers and having bookcases on display. The correlational analyses also indicate that the presence of books in the home, daily newspapers, children's magazines and the purchase of reading books by parents were associated with higher levels of reading attainment.

The presence of expensive home possessions (mobile phone, room of one's own, DVD player, car, large TV set, private tutor and domestic helper) did not seem to result in noticeably high levels of attainment. Indeed they might actually be seen as distractions. In the PIRLS questionnaire responses, many parents indicated that they thought that entertainment devices would distract children's interest away from reading. The children, they argued, had little time to devote to reading after finishing all the homework given. Having a private tutor who focused on preparation for tests and examinations rather than reading had a non-significant affect on reading (Tse et al., 2005). Materialistic ambitions achieved without following accepted routes to success (by becoming pop singers, for example), might not in themselves help children's reading performance. Kao (2004) has argued that parents who had experienced financial success without educational attainment might provide youth with an example that schooling is not necessarily essential for a future comfortable lifestyle.

Family social capital

As pointed out earlier, research studies suggest that family social capital is usually closely associated with educational outcomes (Coleman, 1991; Epstein, 1991, 1992; Francis & Archer, 2005; Ho & Willms, 1996; Majoribanks, 1979; Rock, Pollack, & Hafner, 1991; Topping, 1992; Walberg, 1984), although the direction and nature of the relationship is not always clear (Epstein, 1991; Keith, 1991). Dika and Singh (2002) reviewed 14 studies that examined the relationship between social capital and educational achievement, all but one reporting a positive association between attainment and parent-child discussions, parental expectations, parent monitoring of progress and parent-school involvement. However, one study indicated a reverse relationship between attainment and parents' monitoring and parent-school involvement. It may be that parental monitoring and involvement may have a greater influence on behavioural rather than academic targets.

The correlational analyses reported above appear to suggest that family social capital was related to the reading attainment of the children. Some of the positively correlated variables included parental interest in the child's performance, positive responses to school activities and events, parents volunteering to assist in school work and parent-student conversations about reading. The latter includes reading books to the child, telling stories, writing Chinese characters, using a public library and encouraging the child to write. These behaviours reflect the presence of trust, cooperation and involvement between teachers, parents and students. These findings corroborate the findings of Chao (1994), Smith, Beaulieu and Seraphine (1995), Hoge and others (1997), Patrikakou (1997) and Israel, Beaulieu and Hartless (2001), which highlight the quality of parents' nurturing activities and their positive impact on children's educational attainment. When children are provided with a nurturing

environment and guidance about study behaviours deemed appropriate, the effects on educational progress are usually powerful.

Negative correlations were noted for school-parent discussions about the child's progress, teacher-parent conferences and teacher home visits. These are usually found to be positive factors in schools in Western countries (Hung & Marjoribanks, 2005; Musti-Rao & Cartledge, 2004), but not in Hong Kong. As mentioned earlier, when there are learning problems or issues about children's conduct, parents are required to come to school to discuss matters with the class teacher or principal. Few parents will disclose that they have been called for such an interview, so it was not surprising to see questionnaire responses of a negative character.

The child listening to someone reading aloud is also a negative influence. This is surprising but one must accept that Hong Kong children themselves do not like this as they would sooner play games or watch television. Surprising at first glance is the finding that having a computer on which to practise reading seems to have no bearing on attainment. Sadly, there is a dearth of suitable software to help children to read in Hong Kong, and the applications that do exist consist of "drill and practice" comprehension exercises. Most children find these exercises very boring (Cheung, Hong, & Ip, 2000).

Although the correlational analyses indicated an association between social capital and reading attainment, the regression analysis indicated that when using human and financial capital factors to explain differences in reading attainment, the effects of social capital were minimal, the change in multiple r-square being .01. A possible explanation of the lack of importance of social capital is that Hong Kong has a serious problem in that few parents have a clear understanding of how to teach children to read. The teaching of reading and associated writing of Chinese characters is often beyond the parents' expertise, and there is a lack of suitable reading materials for parents to use. Another negative factor is that children in Hong Kong are usually given lots of homework, leaving little time for reading for pleasure (Cheung et al., 2000). As Duke (2000) points out, children who have few opportunities to choose what they read are also less likely to have opportunities to write for audiences beyond their own teacher. As a result, reading literacy is likely to be underdeveloped.

Integration of Financial, Human and Social Capital on Educational Outcomes

The study found that family financial capital positively influences children's reading performance and that the building up of a supportive reading environment and reading materials stimulates the child's progress in reading. Family human capital plays a positive role, and caring parents who themselves are well educated are solid family social capital. An IEA study of reading literacy analyses of reading in Western countries has found that parents who read to children and provide books for children to read in their leisure at home have a marked impact on children's reading development (Elly, 1992).

A major implication derived from the present study, for school and home, is in expanding a general awareness of the impact of family capital on children's reading literacy. The relationship between socio-economic background and student perfor-

mance is well known. The study's findings resonate with outcomes reported in other research, particularly in supporting the importance of a nurturing home environment and a rich reading culture that is conducive to elevating children's interest in reading (Chao, 1994; Hoge et al., 1997; Israel et al., 2001; Patrikakou, 1997; Smith et al., 1995).

Books are key ingredients in creating a literacy-rich home environment. Hong Kong families can support language and literacy learning by providing a home atmosphere in which reading is a natural part of everyday life. This sends children a dual message: reading is valued in the family and everyone in the family reads. In fact, families do not need to invest a lot of money in materials to have a literate home. It is essential, however, for them to invest time and involvement in their children's literacy education. Tse et al. (2006) have shown that it is parental support that is crucial, and that it does not particularly matter whether this takes the form of reading to children, telling them stories or letting them spend time with books independently.

10. CONCLUDING COMMENT

The findings of the present study indicate that factors that enhance students' reading performance can be placed in five categories: (1) the educational level and work status of the parents; (2) the building of a positive reading environment; (3) the establishment of a reading culture; (4) the use of strategies that help to encourage reading; and (5) the degree of collaboration between home and school.

Reading with comprehension is a complex activity involving eye movement (Clifton, Staub, & Rayner 2007; Radach & Kennedy, 2004; Radach, Reilly, & Inhoff, 2007), automatic recognition of words (Rasinski, 2004), and reading problem solving strategies (Leong, Hau, Tse, & Loh, 2007; Leong, Tse, Loh, & Hau, 2008; Leong, Tse, Loh, & Ki, in press). It is also influenced by the prior knowledge the reader brings to the text (Rayner & Pollatsek, 1995; Tse et al., 2005). As a result, students' reading success is not dominated or determined by any single factor alone. A key objective of the present study was to ascertain the correlation between financial, human and social capitals and students' reading attainment.

In Hong Kong, the studies conducted by Tse and his research team (2006) and Lam, Cheung and Lam (2009) have shown that parents are increasingly taking an interest in promoting the academic achievements of their children. More and more parents are willing to purchase leisure books, school practice texts, and computer software. They will pay for extra tuition for their children and send them to training camps and for educational visits. However, there is disturbing evidence that parents are unaware of steps that they themselves should take if they are to assist their children. There is a need for a public advertising and information-giving campaign to educate and train parents in how to encourage literacy in their children. Such a campaign should capitalise on the strengths that parents already possess. Parents who themselves read frequently are likely to have the very linguistic and cognitive skills that are rewarded in school. They need advice on how to pass these skills on to their children. For a start, they need guidance on how to provide their children with a

stimulating learning environment in the home, and the kinds of books that they can purchase to advise them about how to help their children.

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