PRIVATE TUTORING PARTICIPATION AMONG FORM THREE STUDENTS IN MALAYSIAN RURAL AND URBAN SCHOOLS

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ABSTRACT

Commencing 2014, the Malaysian Government has introduced a new school based assessment system (PT3) for Form Three students. The purpose of this study is to analyse the determinants of private tutoring (PT) among Form Three students and to determine whether changes in the assessment system affects the demand and dimension of private tutoring. Additionally, this study uses advanced econometric analysis to identify whether private tutoring helps to improve the performance of Form Three students. The study also examines reasons for students' participation in private tutoring for non-examination subjects (History and Geography).This research applied both quantitative and qualitative methodology. Stratified sampling was used to select students of different academic ability from ten schools in five zones in Malaysia. One school is chosen respectively from urban and rural area of each zone. Questionnaires were self-distributed to six hundred and sixty nine students. Interview was also conducted with one student from each school in the five zones. Descriptive and inferential statistics were used to analyze the quantitative data. Thematic analysis was used to analyse the qualitative data. Findings of the study suggested that ethnicity, quality of school and the types of tuition provider were important determinants for students' participation in private tutoring for examination and non-examination subjects. The results showed that location was a significant factor that determined students' participation in private tutoring for non-examination subjects but it was not a significant factor for examination subjects. Findings also revealed that participation in private tutoring was an important factor that determines the greater number of A's that students obtain in PT3 assessment. Ordered logistic regression showed that an increase in Malay ethnicity increased the log odds by 2.56

for obtaining a higher number of A's compared to Indian students, holding else constant. The qualitative result also suggested that students' participation in private tutoring for History was to enhance their understanding and as preparation for Form Five (SPM) examinations since History is a compulsory subject to pass to obtain certificate in SPM. The findings provide insights to policy makers in both developing and developed countries whether the demand for private tutoring is affected when the assessment method changes.

PENGLIBATAN TUISYEN SWASTA DALAM KALANGAN PELAJAR TINGKATAN TIGA DI SEKOLAH LUAR BANDAR DAN BANDAR DI MALAYSIA.

ABSTRAK

Pada tahun 2014, kerajaan Malaysia memperkenalkan suatu sistem pentaksiran berasaskan sekolah yang baru bagi pelajar-pelajar Tingkatan Tiga. Sistem pentaksiran ini dikenali sebagai PT3. Kajian ini dijalankan untuk mengenalpasti dan menganalisis faktor penentu tuisyen swasta dalam kalangan pelajar Tingkatan Tiga dan mengkaji sama ada perubahan sistem pentaksiran mempengaruhi permintaan tuisyen swasta di Malaysia. Kajian ini menggunakan kaedah analisis ekonometrik untuk mengenalpasti kesan tuisyen swasta ke atas pencapaian pelajar-pelajar Tingkatan Tiga. Kajian ini juga mengkaji tentang sebab-sebab pelajar masih mengambil tuisyen swasta untuk subjek yang bukan peperiksaan (Geografi dan Sejarah). Kajian ini menggunakan kaedah kuantitatif dan kualitatif. Persampelan Strata digunakan untuk memilih jenis sampel yang terdiri daripada pelbagai tahap pencapaian akademik. Sampel ini dipilih dari sepuluh buah sekolah dari lima zon di Malaysia. Bagi setiap zon, sebuah sekolah dipilih dari bandar dan sebuah dari luar bandar. Soal-selidik telah diedarkan sendiri oleh penyelidik kepada enam ratus enam puluh sembilan orang pelajar. Temuduga dijalankan bersama seorang pelajar dari setiap sekolah. Jumlah sampel temuduga ialah sepuluh orang pelajar dari lima zon di Malaysia. Kaedah diskriptif dan inferensi digunakan untuk menganalisis data kuantitatif. Kaedah Tematik digunakan untuk menganalisis data kualitatif. Dapatan kajian menemui bahawa jenis kaum, kualiti sekolah dan jenis tenaga pengajar tuisyen adalah faktor yang penting dalam mempengaruhi keputusan

pelajar mengambil tuisyen swasta bagi subjek-subjek peperiksaan dan bukan peperiksaan. Dapatan menunjukkan bahawa faktor kedudukan lokasi (Bandar dan Luar Bandar) adalah signifikan dalam mempengaruhi penglibatan pelajar dalam pemilihan subjek tuisyen swasta bukan peperiksaan . Namun begitu faktor ini tidak signifikan dalam penglibatan pelajar dalam pemilihan subjek-subjek peperiksaan. Dapatan kajian juga menunjukkan bahawa mengambil tuisyen swasta adalah faktor yang penting dalam menentukan bilangan A yang lebih dalam pentaksiran PT3. Dapatan dari analsisis kaedah regrasi logit"ordered" menunjukkan bahawa penambahan seorang pelajar Melayu meningkatkan peluang mendapatkan lebih banyak A sebanyak 2.56 nilai *odds* berbanding dengan pelajar-pelajar India, dengan andaian faktor lain adalah tetap. Dapatan kualitatif mencadangkan bahawa kepentingan untuk memahami subjek adalah sebab utama pelajar mengambil tuisyen swasta bagi subjek Sejarah. Tambahan pula, pelajar juga mengambil tuisyen swasta bagi subjek Sejarah sebagai persediaan menghadapi peperiksaan SPM (Sijil Pelajaran Malaysia) di mana pelajar wajib lulus Sejarah untuk memperolehi sijil SPM. Dapatan kajian ini diharapkan dapat memberi implikasi kepada perancang polisi bagi negara-negara membangun dan juga kepada negara-negara maju dalam mengukur kesan perubahan penilaian pentaksiran ke atas permintaan tuisyen sawsta .

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LIST OF SYMBOLS AND ABBREVIATIONS

Symbols/ Abbrevation	Definition
PT	Private Tutoring
SBA	School Based Assessment
MOE	Ministry of Education
PT3	Form Three Assessment
N	Total Number of Cases
∑	Total
VIF	Variance Inflation Factor
df	*D*egree of freedom
%	*P*ercentage
f	*F*requency
d	Cohen's measure of sample size
$\chi 2$	Chi-Square
sig.	Value of Significance

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CHAPTER 1

INTRODUCTION

Introduction

Globalization and the ever changing technology has increased mobility of workforce, good, information and energized the economies of countries. When an individual has distinguishable knowledge and skills obtained through education, he or she is not only able to find a high paying job (Becker, 1962) within the own country but also in other countries. According to Bray (2012), the economics of countries and greater mobility of labour has contributed to the increase and growing demand for private tutoring.

Private Tutoring (PT) has become more prevalent in the present competitive world (Bray, 2009 & Kenayathulla, 2013) leading to the perception that private tutoring can improve the academic performance of children. There are many reasons for the acceptance of private tutoring. In order to compete in a competitive world, an individual should acquire knowledge and skills that equips the person with skills and tools to be successful (Human Capital Theory). Knowledge and skills could be obtained through education and training. Hence, education is important to ensure an individual attains a general standard of living.

Some of the key factors that could have contributed to the increasing trend in Asians are discussed in this section. The shift towards market economies in China and Vietnam coupled with the government encouragement in the private tutoring services are some of the factors that contributed to the growth of private tutoring in Asians (Bray, 2012). Additionally, due to economic and social reasons, scholarships are highly sought after and even seen as a means to further higher education are in Asian countries.

The scarcity of financial resources, population and limited number of university seats has contributed to high competition to secure scholarships in universities. Also, expectations from parents for their children to get scholarships to further their studies either at local or university abroad is strong. Hence, this increases the demand for private tutoring as parents presume tutoring could help their children to achieve good results in the public examination (Silova, 2010).

Private Tutoring (PT) is very widespread in Asian countries compared to western countries like America. Despite this prevalence, not many studies are conducted in Malaysia. Most of the studies in Asian focus on private tutoring in Hong Kong, Korea, and Japan. One of the pioneer studies in Malaysia is done by Marimuthu (Extra-school instruction, social equity and educational quality, 1991).His study is a comprehensive study involving many aspects of private tutoring. The study reviews tuition industry in Malaysia and the effect of tuition on student academic achievement, teaching and learning process, on personal social/family life, health, leisure and parental perspective on tuition.

Like other Asian countries, private tutoring in Malaysia also becoming a growing trend in recent decades (Kenayathulla, 2013). Malaysian education system is very much focused on centralized examination like UPSR, PMR, SPM and STPM. School teachers drill the students with examination based questions to ensure the students score good results in public examinations. Parents also constantly push their children to excel in public examinations. Pressure to excel in public examination is one of the major reasons for the growing demand in Malaysia (Arshad, 2004).

Recently Malaysian government introduced a revamp in Malaysian education system with the implementation of Malaysian Education Blueprint (2013-2025). A new assessment system, School Based System (SBA) was introduced to reduce the emphasis

on centralised examination in Malaysia. Thus, the current research could contribute to find out the effect of the new system on demand for PT in Malaysia.

Background of the Study

An earlier study by Marimuthu, (1991) found that 59% students from form three received private tutoring. Jelani & Tan (2012) also found that students from upper primary classes had a higher enrolment in private tutoring compare to lower primary. Parents around the world are spending a big portion of their household disposable income on private tutoring. According to Bray (2012), the trend is particularly increasing in Asian countries. Examples in Japan, the number, doubled from 12.0 % in 1976 to 23.6 % in 1993 (Japan Ministry of Education, Science, and Culture, 1995). In Singapore the percentage increases from 26.0% to 49.0% within 1982 to 1992 (George, 1992).

Malaysia too is not left out in this phenomenon. Malaysians place a great emphasis on getting good results in public examinations. Following the trend in the rest of Asia, it is becoming a common practice in Malaysia to send children for private tutoring classes as it is perceived that private tutoring increases student performance in public examinations. Even though students taking private tutoring are not that excessive in Malaysia compared to other Asian countries such as Singapore, China, Korea and Japan, Malaysians are becoming dependent on it.

In the Republic of Korea, nearly 90% of the elementary students receive some tutoring. Korea has highest percentage of private tutoring in the world (Song, Park, & Sang, 2013). In Hong Kong, China, about 85% of senior secondary students and 60% of primary students in West Bengal, India, receive Private Tutoring. Whereas, 60% of secondary students in Kazakhstan received private tutoring (Asian Development Bank, 2012).

The demand for private tutoring creates opportunities for homemakers, teachers and business owners. It is widely observed that private tutoring has become a lucrative business in Malaysia, especially in cities to the extent that private tutoring tutors involve themselves on a fulltime basis. There is an abundant supply of private tutoring centers in cities and this forces them to compete with each other to attract students. In Malaysia, it is noted that tuition centers advertise their services by distributing the pamphlet to houses and schools. Some tuition centers even advertise online, especially the ones that have many branches through ought the country.

A study done by Kenayathulla (2013), found that approximately 93% of families in Malaysia allocate a portion of their income constituting up to a tenth of their total monthly expenditure. This shows that a significant portion of the Malaysian family budget expenditures goes to private tutoring. Even though there is no census taken to show the number of students attending private tutoring in Malaysia but a Survey on Consumer Purchasing Priorities (2009) by MasterCard Worldwide has some reported data.

The survey shows that 46% of Malaysian consumers rank the provision of private tutoring and extra-curricular activities for their children as one of the top three spending priorities. In addition, statistics from the Merdeka Center for Opinion Research (2005) found that 64% of Malaysian parents send their children to private tutoring classes.

English, Science and Mathematics are the three most popular supplementary subjects (Merdeka Centre for Opinion Research, 2005). An earlier study by Marimuthu (1991), found that 83.3 % of Malaysian students received private tutoring.

Parents in Malaysia are willing to spend a big portion of their disposable income on private tutoring (Kenayathulla, 2013) because they assume that in the long run, private tutoring shall help to save their disposable income. When children participate in

private tutoring, parents perceive that their children will excel in the public examination which eventually enables their children to pursue higher studies. Studies in public colleges and universities indicate that education is provided free in MARA (Majlis Amanah Rakyat) junior colleges, and other residential schools. However, there is intense competition to enroll in such institutions. When the children enroll in these schools or universities, parents save money in pursuing higher education. The tuition fees are relatively less since subsidised by the government.

Academic excellence is one of the key components in determining whether student will be able to get a scholarship from the Malaysian Government. Malaysian Government consistently provides a scholarship for Malaysians to pursue tertiary education abroad.

During to this criterion, and the availability of limited university places, cost of university education and competition for selected course had driven students and parents in to investing time and money in private tutoring. Parents also have a higher disposable income since the Malaysian government provides free education from seven years until seventeen years. Every student is eligible for free textbooks. Thus, they could use the extra money to enroll their children in private tutoring. However, parents still bear additional costs of education such as uniform, transportations, private tutoring and others. In this case, parents are willing to spend money for private tutoring since they believe it is an additional preparation or "edge over other students" can reap higher returns to parents (Tensel, 2006).

It is noted that parents who have higher disposable income are able to afford to send the children to private tutoring compare to parents with low income (Jelani & Tan, 2012). This will contribute to the increase of achievement gap between rich and poor students. Hence, it increases social inequalities (Silova, 2010). The rich students also could afford individualized private tutoring, which could enhance their results in the

examination. Lower income parents only could afford to send their children to group tuition.

Group tuition consists of a bigger number of students per class which could affect the quality of private tutoring that the students attain (Zhang, 2013). Given these factors in the disparity between private tutoring takers and their counterparts who could not take private tutoring, private tutoring is seen to contribute to social inequality among citizens of Malaysia. For this reasons, government policies to reduce the gap between rich and poor also could be less effective.

Apart from creating inequalities in population, private tutoring also has resulted in unethical practice among teachers in some countries (Silova, 2010). Studies found that school teachers with regular jobs comprise a large proportion of private tutoring tutors. Some teachers solicit their clients from their classroom. The practice is unethical as there is a tendency among teachers to intentionally teach less in school and give extra information during tutoring classes. This form of behavior in the classroom somehow coerces students into signing up for private tutoring and gives a perception that without private tutoring the student shall be in a disadvantage. Previous studies also show that there has been some corruption due to private tutoring (Jayachandra, 2014). Teachers, require their students to attend their tutoring classes if they need more information.

Geographical location also creates inequality in student's achievement. Children from cities have better access to tuition compared to the children from rural areas (Kenayathulla, 2013). Thus, the urban children may perform better compared to rural children. For this reason, it has become an obstacle for the government to achieve the objectives of National Education Blueprint 2013-2025 which strives to achieve equity and equality among the different races in Malaysia and also between rural and urban students. An increasing dependability on private tutoring also questions the quality of education in government schools in Malaysia. The current study intend to analyse the

the demand and dimension of private tutoring as a result of implementation of the new assessment system, School Based Assessment

Considering the effect of private tutoring on creating inequality among school children and creates unethical practices (Silova, 2010), the government of countries like South Korea and Mauritius had unsuccessfully tried to ban private tutoring (Kenayathulla, 2013). However, in Malaysia, government as a public policy maker should give attention to regulating private tutoring.

A detail and comprehensive policies are needed to reduce student dependency on private tutoring. The importance of private tutoring in Malaysia also increases as the children enter secondary schooling and become even greater when the children prepares for any important common examination. The public examination in Malaysia is UPSR, PMR, SPM and STPM.

UPSR[1] (Primary School Assessment), PMR[2] (Lower Secondary Assessment) and SPM[3] (Malaysian Examination Certificate) are several important examinations at primary and secondary level in Malaysia.

UPSR is the first public examination taken by the standard six students in primary schools. The number of A's attained in UPSR examinations become the ticket for Mara Junior Science Colleges, residential schools and other government control schools.

Form three students in lower secondary sit for PMR examination. Students also use PMR result to apply to Mara Junior Science Colleges, residential schools and other

[1] UPSR(Ujian Penilaian Sekolah Rendah): Assessment taken by primary school students in standard six. In Malaysian education system, UPSR is the only public examination in primary schools. It is usually held in beginning of September.

[2] PMR (Penilaian Menengah Rendah): The examination is taken by form three students. The students sit for the examination after 3 years in secondary schools. It is usually held in beginning of October. The results are released in December by the Malaysia Examination Board.

[3] SPM(Sijil Pelajaran Malaysia): Public examination taken by form five students. The syllabus covers form four and form five and is usually held in beginning of November.

government control schools. SPM examination held at the end of the secondary schools. SPM results are the admission requirement Mara Junior Science Colleges, residential schools, and other government controlled schools. These choices determine the student's entry to further education starting with the admission to pre-university studies. The important examination creates a competitive environment for students to achieve excellent results. Parents also want to make sure that they enrol their children at private tutoring to ensure their offspring produce excellent result that could guarantee a better future. Hence, it increases the demand for private tutoring in Malaysia.

The Malaysian government introduced a change in the education system to reduce the emphasis on examination. The government proposes National Educational Blueprint (2013-2025) to improve the Malaysian education system. The government intended to raise the level of the Malaysian education system at par with other developed countries in Asia such as Japan and Singapore. The government also aspires to raise the ranking of Malaysia in PISA and TIMMS, which is currently at alarmingly low level. Malaysia's ranking in PISA and TIMMS is even below than other developing countries in South East Asia such as Vietnam and Thailand (Abd Ghafar Mahmud. (2013).

The nature of Malaysian curriculum structure (KBSR and KBSM) gives a greater emphasis on examination also becomes a prime factor to create a demand for private tutoring. It is supported by Bray (2012); "Education systems in which success on examinations can be promoted easily through preparation, those that are teacher-centered rather than child- centered, and those that are intolerant of slower learners all tend to promote use of supplementary tutoring."

Revising examination formats and reducing student pressure on major examination are the changes the government is implementing in National Blueprint (2013-2025). School Based Assessment is implemented to shift the emphasis given on

examination to continuous assessments that measure the student's performance throughout the year (Pulau Pinang, 2011).

The format of public examination in lower secondary (form three) is changed centralized system to a more school base system. It gives more power to school to choose examination questions and also allow the students to know their marks.

School Based Assessment system is introduced in 2010 to primary school (KSSR). Eventually, it was extended to Form one students in 2012 (KSSM), with the first batch of students sitting for the PT3 exams in October 2014.However, the examination format retains some element of exam-based outcome that promotes rote learning, but it is also seen to lower the pressure on primary and secondary level (Malaysian Examination Syndicate,2011) students.

The study involves form three students from public schools who sat for the PT3 exams in 2014. The students are the first batch of students who sat for PT3 exams which replaced the PMR exams. The form three students are selected because they appear for Form Three assessment examination. It is the new School Base Assessment system, which requires the students to sit for the examination for selected subjects in October.

The students need to sit for the PT3 examination for subjects such as Malay and English language, Mathematics, Science, Islam studies and Tamil, Chinese and Arabic language. However, students are required to complete coursework for Geography and history as there is no examination in these two subjects.

The school teachers marked the coursework and the marks are keyed in the on – line system of Malaysian Examination Board ("Lembaga Peperiksaan Malaysia"). The coursework is administered and completed during July and August. The other subjects such as civics, moral, physical education and art are evaluated based on School Based Assessment System. At the end of the year, the students are given 'Band' for their

ability to complete the themes. 'Band' 1 is the lowest score and 'Band 6' is the highest 'band' attained by a student. With the introduction of new exam format and assessment system, the expectation is to revitalize students such that learning outcome is not solely dependent on single final exam that often occurs at the end school year. This is anticipated to relive pressure on students.

The study aims to investigate whether the enrolment in private tutoring is affected by the implementation of school-based assessment system for PT3 students. It aims to identify any patterns or changes in the enrolment in private tutoring given the implementation of the new PT3 exam. The study focuses on four level factors, individual, family, community and school factors that effect the participation for private tutoring.

Past literature shows that four factors that have the most influence on the demand for private tutoring, individual factors, household, community, and school factors. Similarly, this study also will focus on the factors that affect the demand of private tutoring among form three students. However, this study establishes that student motivation, importance of educational value perceived by parent and peer influence as control variables.

Various references are also derived from analyzes of past literature and it is noted that these variables are difficult to measure and need a different paradigm. This will consume time and resources to study the variables. However, these variables will affect the outcome of the study. Hence, it is important to control these variables. The current study is intended to investigate the effect of the new assessment system (PT3) on private tutoring participation in Malaysia.

Statement of the Problem

School Based Assessment system has been introduced to reduce emphasis on

centralized examination (National Blueprint, 2013-2025). This is because it is observed that in Malaysian education system, there is an excessive emphasis placed on centralized examinations and that there are too many exams being conducted such as UPSR, PMR, and SPM. As such, the centralized examination system gives more attention for memorization and drilling that assumes are essential in scoring high marks in the examination.

The philosophy of education (National educational philosophy of Malaysian Education System) focuses on physical, emotional, spirituality and intellectual ("JERI: Jasmani, Emosi, Rohani and Intelek"). Thus, the School Based Assessment system is introduced. The system consists of various phases: psychometric assessment, PJASK (physical studies assessment), continuous assessment and examinations (PT3).

This study aims to analyze whether the implementation of school-based assessment helps to reduce the emphasis given by private tutoring. On the other hand, it is important to know whether this introduction has an impact on the investment pattern in private tutoring since the tutoring mimics the PT3 examination too (Kenayathulla, 2013).

In order to "survive" in examination oriented system, parents send their children to private tutoring to enhance their skills and knowledge to answer examination questions and eventually obtain good grades. Private tutoring classes also drill the students with exercises similar to examination questions. Thus, the students do not have any space to enhance their creative and critical thinking that is very important to survive in this competitive world.

The government realises that the system does not allow student's creativity and critical thinking to flourish. Furthermore, the government also realises that the assessment should be consistent with the philosophy of education.

Malaysian education system focuses on centralised examination as a way of

measuring academic performance. For this reason, UPSR, PMR, SPM and STPM examinations are the necessary examination that entails key ramifications of the student academic future. Each time, an examination result is released by the Malaysian Examination Board; the attention will be on the students who excel in the examination. News is splashed across the country on the background and details of students who scores the most 'A's in the particular examination. Scholarships and chances to further studies depend on the examination results. For these reasons, parents are willing to spend in private tutoring to ensure that their children excel in the examination and get scholarships to study overseas or chances to enter universities.

PMR (Lower secondary assessment) examination results are necessary to enrol in MARA junior colleges (colleges manage by Majlis Amanah Rakyat) or Government Science Boarding Schools. PMR results also determine a student's form four classes. Based on the PMR results, students are selected to follow science or arts stream starting from form four.

It is noted that parents have a prejudice towards arts stream classes. They are eager to send their children to science stream as they assume it could give a better future for their children. Even with the implementation of School-Based Assessment system, PT3 examination is still becoming a yardstick to select students to MARA junior colleges, Science boarding school and Technical or Vocational colleges. It is also used to stream students to form four classes. However with the reduced emphasis on centralized system and more autonomy to the school, School Base Assessment system and PT3 can reduce the pressure on students to produce excellent results.

The introduction of School Based Assessment system is intended to decrease the emphasis on centralised public examination and enhance student critical thinking or higher order thinking skills. School Based Assessment system is intended to allow each student to learn according to their phase. In relation to the introduction of School Base

Assessment system, this study is designed to observe the demand of private tutoring among PT3 students (post implementation of PT3).The study investigates factors, the individual, family, school and community level effect the demand of private tutoring among the PT3 students in Malaysia (Bray, Zhan, Lykins, Wang, & Kwo, 2014) The proposed study shall use Binary Logistic method to investigate the significant factors on private tutoring. Ordered logistic is used to analyse the result to answer the fourth research question. The study intends to identify the effect of SBA system on demand for private tutoring in Malaysia.

There were not much study done to investigate the demand for private tutoring in Malaysia unlike other Asian countries like Hong Kong and China. Most of the local studies in Malaysia (Jelani & Tan, 2012, Kenayathulla, 2013) were focused on expenditure of private tutoring in Malaysia. The local studies appllied hurdle model (Kenayathulla, 2013) and Tobit (Jelani, 2012). Therefore, an in-depth study is much needed to investigate and analyse the factors influencing demand of private tutoring in Malaysia. The current study intends to investigate how the new assessment system, School Based Assessment influences the demand for private tutoring in Malaysia.

This study applies logistic regression and it is focused on four level factors (individual, household, community and school level factors). The current study is a pioneer study to investigate whether school Based Assesment system influences the demand for private tutoring in Malaysia. The study could give an insight of the effect of the new assessment system on private tutoring among the form three students in Malaysia.

Theoretical Framework

In this section, three theories will be discussed: microeconomic theory of demand and supply, human capital theory and educational production function. The

study uses the three underpinning theories to explain the conceptual framework. Human Capital theory explains the reasons for parents sending their children to private tutoring. The basic microeconomic theory explains how the demand and supply curve for private tutoring is obtained from demand and supply curve of education. The educational production function helps to understand the school inputs that create demand for private tutoring.

Human Capital Theory. The human capital theory explains the demand for private tutoring. Capital is the input that can be used to generate output. The input can be machine, money or other tangible material that are used in production of outputs. Investment in capital yield income and useful outputs over the long run (Shultz, 1961; Becker, 1962; Lucas, 1988; Mankiw, Romer & Weil, 1992). There is another form of capital investment that is equally important in the economy. Expenditure on education, training, medical care are the important investments in capital (Becker, 1993).

Human capital is defined as an investment in human to improve their knowledge and skills to increase productivity (Olaniyan & Okemakinde, 2008). The investment on human capital will produce a workforce who have better knowledge, skills and health that in turn will contribute to increasing productivity.

According to Becker (1993), education and training are the most important investment in human capital. Expenditure increases in education and skills yield increasing returns on human capital (Becker 1962).

Economists consider education to possess consumer and capital good because it offers utility to consumers and also serve as catalyst that increases productivity. Education provides an avenue to upgrade the standard of living in a society and is a means to higher standard of living for an individual.

Sir William Petty (1690), is the first person to take stock of human capital of a country in his Political Arithmetic (1690) and subsequently Adam Smith in The Wealth

of Nation (Smith, 1777) introduces the notion human capital theory. Even though, he does not use the term directly, he identified the importance of individual ability as a fundamental source of wealth and economic progress of a country. He argues that most people perceive human capital with only physical aspects such as machines, factories, and tools, but he cautioned that productivity of human being is also an integral part of capital stock. The author emphasizes on training that develops the skills of an individual and staunchly believed that education could increase productivity (Machlup, 1982).

More than a century later, Alfred Marshall in his Principles of Economics (Marshall, 1920), identified the long-term investment in human capital and the role of family in undertaking them. However, Marshall is reluctant to put human capital in the same category as physical capital. Subsequently, prominent economists have contributed in extending the human capital theory to the economics of education; Theodore Schultz (1961) and Gary Becker (1962). This extension is seen to be important as this work has induced others to further the theory in education.

Theodore Schultz (1961) proposal suggests that output should be a function of labour, land and physical capital ("The origins of the human capital theory", 1961). The changes in resources (labour, land and physical capital), will influence the output level. The manner in which these three resources (input) combine referred as 'technology' and was established during the World War II. The output could be whether a person, household, school or country.

After World War II, economists began to realize that the model needs some improvement because the productivity of Japan and Germany was surpassing the predictions made by economists. It was realized that the existing model measures only the quantity of labor and not the quality of labor and counterproductive arrangements in the university education.

Jacob Mincer (1958,1962) is one of the pioneers in contributing towards human capital theory where he focuses on the distribution of "ability" among the population and distribution of earning (Haveman, Robert, Bershadker, Andrew, and Schwabish, 2003, p.58,). In this study, the author develops an economic model known as "human capital model" where the notion of how earning is depended on human capital is investigated and that is embedded on the individual ability. According to Mincer's model, it can be observed that years of schooling has a direct relationship with earning other than training and skills.

Mincer's model (1962) explains that every individual has an initial level of ability which is normally distributed among the population. Thus, the earning does not depend on the initial endowment of human capital in an individual. This implies that the model underlines that an individual can increase their earning by increasing schooling years and skills. The Mincer's model indicates that the number of schooling years is proportional to the earning and productivity.

Mincer's model shows that an employee with higher education qualification earns more than others. This observation is important because in the context of private tutoring as it enables students to stay longer in the schooling system by performing well in public examinations.

When the students perform better in the examination, it enables them to further their education at higher level. Hence, this increases the education level of individuals which in turn increases productivity. In conclusion, the proposal shows that private tutoring is an investment of human capital to increase the quality of students.

Thomas Johnsons (1970), also developed a model representing the investment of an individual towards human capital as a continuous process, rather than a series of discrete investments .He includes base earning capacity (return to the initial endowment of human resources) at the time individual makes the decision to invest in human

capital. He measured investment in human capital as a fraction of earning capacity which the author considers as a "forgone at each moment in time".

Johnson's model used race and region as a function to test hypotheses. The respondents to test this hypothesis are male only and investigate the effect of schooling years on the return of human capital on white and non-white racial lines across different regions. The author assumes that the rate of return is constant for all races and that the principal decision on schooling is to extend the time spent in schooling. However, the model argues that shorter time spent in schooling does not warrant as an investment. Moreover, if the average returns to schooling years do not change after a given age, then during the years, the marginal rate is equal to the average rate(Johnson, 1970). The model concludes that education is a good human capital investment.

The theoretical framework from different economists shows that education is an investment on human capital that translates to a higher return in the long run. The human capital model shows that the number of years spent in school has a direct relationship to earnings. When an individual obtains higher education, it generates higher income. Investment in education increases the potential of the workforce and improves productivity.

Economists argue that all individuals have an innate set of abilities and intelligence and it is not discriminated earnings between individuals. Knowledge, training and skills received by the person shall differentiate the potential earning among human capital. Economist of education insists that education improves skills and knowledge in human capital and increases the quality of human capital and is believed to provide quality education and serves as a conduit to students to receive additional information from their private tutoring tutors. The knowledge can be used to get good results in the examination and as well as for future careers. Private tutoring contributes

in cultivating quality human capital where one that gives a strong foundation for the students in future to compete in the labor market.

The human capital theory explains that the additional tutoring received by the student's gives additional knowledge and skills. The knowledge and skills received through private tutoring will be used to get good grades in PT3. Thus, the theory explains the effect of private tutoring on human capital. The human capital theory also explains that private tutoring could create the differences in quality human capital.

The theory explains that students who do not received private tutoring have less chances to acquire quality human capital compare to private tutoring participating students. However there were other factors which also could contribute to one's knowledge and skills. Example, help received by students for their revision at their home could contribute to knowledge and skills. Thus, it limits the logical explanation by the human capital theories.

Microeconomic Theory of Demand and Supply. Most of the economists classify private tutoring as goods. This allows to perceive the demand and supply for private tutoring from an economist perspective that uses the law of supply and demand of normal goods. In the microeconomic theory, the law of demand explains that when demand increases, the price also increases (with assumptions other factors that influence the demand remain unchanged or ceteris paribus). Demand has a direct relationship with the price of goods. However, the law of supply states that when supply increases, the price decreases (with assumption other factors remain unchanged). Supply has a negative relationship with the price of goods or services.

The study uses the basic microeconomic theory to explain the demand and supply for private tutoring. The study uses framework developed by Dang and Rogers (2008), to explain demand and supply for private tutoring. A detail of the theory will be discussed in chapter two.

Educational Production Function. Education is an investment in human capital. Hence, all the process that happens in the school effects quality of human capital in future. Educational production function is a method that represents educational production process in a school. It helps to understand the allocation of resources to achieve the optimal output. Productivity of labor in schools effects the development of cognitive and attitude of students (Bowles, 1970).

In order to understand the demand for private tutoring, we need to examine the relationship between inputs and outputs in schools. The productivity of labour, allocation of resources and number of students in each classroom, are some factors that can affect the output of a school (student's achievement). For this reason, it is important to understand the educational production function that measures the relationship between inputs and outputs in a school, especially when the quality of output is directly related to demand private tutoring.

The educational Production function is essential in the efficient allocation of the study focus on individual, family, community and school factors as determine of demand for private tutoring among PT3 students. The study intends to determine the factors that affect the demand for private tutoring upon implementation of School Base Assessment system. It also studies the effect of type of assessment (examination and non-examination base) on demand for private tutoring. The conceptual framework shows the relationships between the variables of the study and research questions.

Conceptual Framework

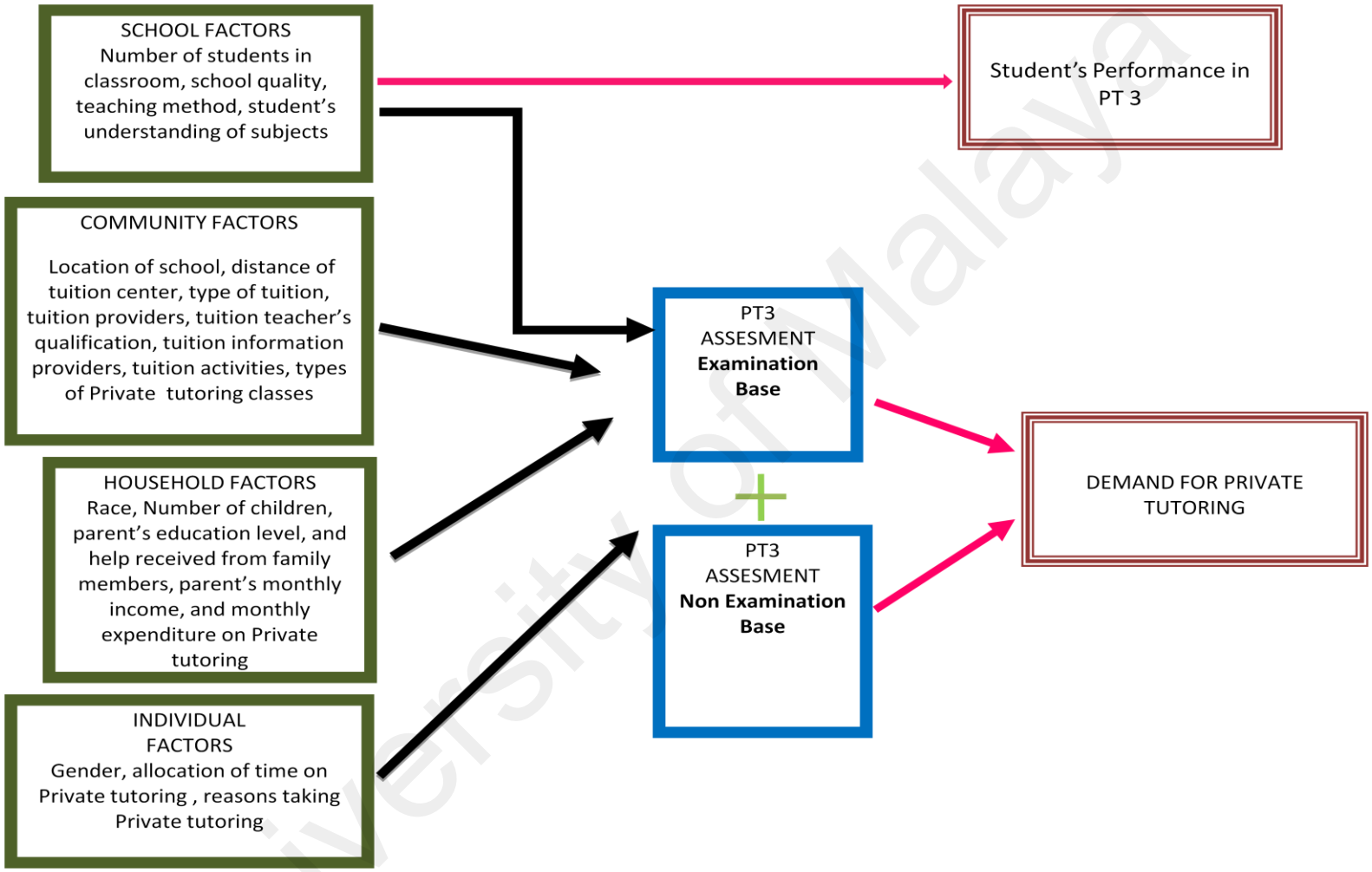


Figure 1.1 Conceptual Framework

Conceptual Framework.

Figure 1.1 shows the framework between independent variables (IV) and the dependent variables of this study. The framework highlights the influence of the IV on the dependent variables. Individual factors, household factors, community factors and school factors are the IV in this study. The dependent variable for the first research question is the demand for private tutoring (taking private tutoring or not). Total time spent in private tutoring for the PT3 subjects is the dependent variables for second research question. The dependent variable for third research question is type of private tutoring classes and private tutoring 3 results are the dependent variable for fourth research question. The framework is developed base on the three theories that underpinning this study. The human capital theory shows the relationships of private tutoring participation and student's achievement. The microeconomic theory of demand and supply explain how does the School Based Assessment affect the demand for private tutoring. Lastly the educational production function explain how does resources (example: school resources) influences the demand for private tutoring among the PT3 students. The conceptual framework shows how the variables were connected base on the three theories that is applied in this study.

Purpose of the Study

Becker (1962) argued that investment in education is deemed an investment in human capital. The author claims that investment in human capital increases productivity which in turn increases income of an individual. Investment in private tutoring is considering an investment in human capital (Bray, 2012) because it enables the students to acquire additional knowledge and skills.

Parents believe that sending their children to private tutoring ensures their children receive extra coaching with the hope that it will aid excelling in public examination. In

most of the countries around the world, the public examination result is an important determinant to enrol in higher educations. Even though it is presumed that private tutoring increases student performance in the public examination, there are other factors that have influenced the parent decision in sending their children to private tutoring. The current study intends to analyse the factors that determine students participation in exam-based and non-exam based in private tutoring and how does it differ from other past studies in the same field.

This study reviews the determinants of private tutoring among the PT3[4] (form three assessment) students and how does PT3 affect the demand and dimension of private tutoring. The study also compares private tutoring effect on PT3 student performances in. It is important to consider the effect of on demand for private tutoring in Malaysia. It is because the PT3 is a new format introduced by the government to reduce the examination-oriented environment in the Malaysian education system at lower secondary level. The government also intends to inculcate creative and critical thinking among Malaysian students by revamping the present education system. Tutoring centers focus on memorizing facts, rote learning, and drilling exercise to score in the examination. Tuition centers hardly emphasise skills such as creative and critical thinking that are essential in the development of problem-solving abilities. Hence, this study strives reveal a different paradigm in demand for private tutoring as a result of policy changes in the assessment system in Malaysia.

In a recent research, Jelani (2012) and Kenayathulla (2013) conducted studies on determinants of private tutoring and private tutoring expenditures in Malaysia. Jelani used survey method to collect data whereas Kenayathulla used national household expenditure data. The combination of past studies shows that there are four main

[4] PT3 (Pentaksiran berasaskan Tingkatan tiga): Taken by form three students in form three. It is the first assessment after three years in secondary school.

determinants factors that influences demand private tutoring. This study also intends to focus on the four dimension factor of private tutoring, namely an individual, family, community, and school. These factors are studied using survey and interview methods as a means for data collection. Regression models are applied to anlyse the data.

Research Objectives

This research is carried out to achieve the following objectives.

i. To investigate the factors affecting demand for private tutoring among PT3 students.
ii. To analyse the differences in participation for private tutoring in exam based subjects and non-exam subjects in PT3
iii. To investigate the determinants that influence decision on a different type of private tutoring.
iv. To investigate and analyse whether private tutoring improve student performance in PT3.
v. To identify reasons for students participating in private tutoring for Geography and History.

Research Questions

The study addresses the effect of the individual, household and school factors on demand for private tutoring among PT3 students. The study is intended to answer the following questions:

- What are the factors that influence PT3 student participation in private tutoring?
- What are the factors that influence student participation in private tutoring for examination and non-examination based subjects?

- What are the factors that influence decisions on different types of private tutoring classes?
- Does private tutoring improve student performance in PT3 examinations?
- Why do the students continue participate in private tutoring for geography and history?

The following null hypotheses are formulated to test the above research questions.

Research Question 1:

What are the factors that influence student participation in private tutoring?

1. Individual factors (such as gender) do not influence PT3 student participation in private tutoring?
2. Household factors (parental income, ethnicity, and number of school siblings) do not influence PT3 student participation in private tutoring?
3. Community factors (urban/rural) do not influence PT3 students to enroll in private tutoring?
4. School factors (school resources, school band, and quality of teaching, number of students in classroom) do not influence PT3 students to enroll in private tutoring?

Research Question 2:

What are the factors that influence student participation in private tutoring for examination and non-examination subjects?

Null Hypothesis:

1. Individual factors (such as gender) do not influence PT3 student participation in private tutoring for examination and non-examination subjects?

2. Household factors (parental income, ethnicity, number of school age siblings do not influence PT3 student participation in private tutoring for examination and non-examination subjects?
3. Community factors (urban/rural) do not influence PT3 students to enrol in private tutoring for examination and non-examination subjects?
4. School factors (school resources, school band, and quality of teaching, number of students in classroom) do not influence PT3 students to enrol in private tutoring for examination and non-examination subjects?

Research Question 3:

What are the factors that influence the decision on different types of private tutoring classes?

Null Hypothesis:

1. Individual factors (gender) do not influence different types of private tutoring classes?
2. Household factors do not influence different types of private tutoring classes?
3. Community factors do not influence different types of private tutoring classes?
4. School factors do not influence different types of private tutoring classes?

Research Question 4:

Does private tutoring improve student performance in PT3 examinations?

Null Hypothesis:

Private tutoring does not significantly improve student performance in PT3 examination

Research Questions 5:

Why do the students continue participating in private tutoring for geography and history?

Significance of the study

Even though private tutoring is believed to be a method to boost the academic achievement, it also creates different types of disparities among the students. According to Bray (2013), private tutoring creates social inequalities and hampers government effort to give universal access to equal education. In fact the first shift in the Malaysian Education Blueprint (2013-2025) is to attain common access to education among Malaysian students. Thus, private tutoring will hamper the effort of the government to achieve equity and equality. It is imperative for the government to monitor and implement policies that could help to check and balance the private tutoring sector in Malaysia.

The implementation of School-Based Assessment is one of the policies introduced by the government to reduce the emphasis on a single centralized final examination that has seen to increase the demand for private tutoring in Malaysia. The findings of the study may give important ramification to the students, parents, teachers, schools, and nation. It can give insights to the policy makers to determine whether School Base Assessment system helps to reduce the emphasis on private tutoring.

The study could also provide suggestion to reform private tutoring in Malaysia. For example, conducting extra classes at school could reduce emphasis on private tutoring as it could supplement the purpose of private tutoring. Thus, parents could save on their expenditure on private tutoring and students could have time to focus on other extra –curricular activities. It also decreases pressure on the students.

This study also uses ordered logistic method to see whether private tutoring contributes to increase PT3 student performance. The study could reveal the effect of

School Based Assessment on the demand of private tutoring in Malaysia. Parents could use the findings to determine the importance of private tutoring in enhancing their children's academic achievement in PT3.Students could rationalize the importance of private tutoring in improving their performance in PT3 examination. The finding may help the Government (education department) to measure the effectiveness of School Based Assessment on influencing the demand for private tutoring. The study shall contribute to the newest data on the determinant of private tutoring in Malaysia.

Delimitation of the Study

The study is conducted on selected schools in five regions in Malaysia. The sample consists of students who took PT3 last year (2014). From the onset, the students are not informed that they need to sit for written examination in form three. At the end of April only the students were informed by the Malaysian Examination Board that they need to take written examination. Thus, the findings of the study could not be generalized for all the PT3 students in other than 2014 students and is limited to national secondary schools in Malaysia. The study also excludes students from schools which are predominantly single gender, race and private schools.

The student motivation and parental emphasis on education value might affect participation. However the study does not include these factors. This study only focuses on four factors: individual, household, community and school factors influencing demand for private tutoring among PT3 student. The study only focuses on regular government secondary schools. It excludes other type of schools such as single gender schools, religious schools, national-type schools, all type of boarding schools and private schools. The study sample consists of form four students who participated in last year PT3 examination. It is noted that some students could not supply reliable data

due to the variance in time. The students also could not reveal their parent's income level.

The education department issued circular notifying that form three students are required to sit for written examination in May 2014. Prior to that, the students' preparation was that they are only assessed through the school-based assessment that is done during teaching and learning periods. This latency in the announcement and preparation might have affected their decision to enrol in private tutoring especially since form one.

Definition

Private Tutoring. Existing literature refer private tutoring as shadow education (Bray & Lykins, 2012, de Castro & de Guzman, 2014) because of mode of coaching resembles the main stream. (Bray, 1999; Lee, Park, & Lee, 2009).Stevenson and Baker (1992) refer the shadow education as 'a set of educational activities outside formal schooling'. It is designed to improve student chances of successfully moving through the allocation process within the school (p. 1640). The authors suggest that the expansion of shadow education operating in relation to allocation and mobility of students.

This dynamics could occur within the formal school system or in relation to their transition from high school to university. As the mainstream curriculum in changes, it is reflected in the shadow education and give rise to its increase in line with corresponding growth in the changes in the mainstream system (Bray,2013) .

Shadow education coexists with mainstream schooling and mimics the regular school system. Each time the school system expands, so does its shadow. Similarly, the curriculum in the shadow education also changes when the curriculum changes. (Bray, 1999: 20; Marimuthu et al., 1991: vi, cited by (Bray et al., 2014).

The study adapts definition of private tutoring as coaching academic and non-academic subjects which are provided for a fee and that take place outside school hours.(Bray, Zhan, Lykins, Wang, & Kwo, 2014) , private tutoring is defined as shadow education because it coexists with mainstream schooling and mimics that of the regular school system.

The definition of shadow education that is adopted in this study excludes the non-academic domains though a growing industry provides tutoring in sports, music, and even interpersonal relationships. The nature and implications of this industry deserve a separate study, especially given the evolving nature of university admissions, in which examination scores are just one of the components of the overall application process. Meanwhile, it may be observed that the expansion of academic supplementary tutoring is commonly at the expense of these other domains. One commentator in Hong Kong, China (Liu 2010) has expressed the view that:

"In the past, the aim of education was to impart knowledge to students so that they could develop their talents and hone personalities. It was hoped they would grow up to be morally upstanding, responsible and respectful. The goals seem to have changed, and now it is replaced by getting good exam results at the expense of personal development."

This author believes that this change is due to the growing trend of tutorial classes which have due to the commoditization of education. Society now appears to equate success with good results and students seek the skills to do well in exams rather than engage in the genuine pursuit of knowledge.(Bray & Lykins, 2012)

In this study, private tutoring can be described by three parameters: supplementation, privateness and academic subjects (Bray et al., 2014). Supplementation referred to tutoring regular schooling subjects beyond school hours

and delivered by paid tutors. In Malaysia, private tutoring is commonly known as "tuisyen swasta " in Malay language.

School Based Assessment. School Based Assessment is a new assessment system which was introduced in 2014. In form three, the students sit for PT3 examination. Examination is decentralized. School teacher print the examination questions and marked the student's script. External examiners will check the validity and consistency of marking by school teachers.

Subjects. The study only focused academic subjects in PT3. It compromise Malay, English, Mathematics, Science, Living Skills, Geography, History and Mother tongue languages.

The study does not includes academic subjects like music, arts, arithmetic, English language proficiency class (KUMON, Cambridge English) that are not directly related to examination and learn for self-development purposes.

This study focuses on private tutoring in academic subjects that are provided for a fee that take place outside school premises and excludes tutoring that take place within the schools system. Tutoring services provided voluntarily (free of charge) by teachers, family members or other on- governmental bodies are not included in this study. Such tutoring services need the different dimension of study and could cause different implication to the study (Bray & Lykins, 2012). It is also a concern on academic subjects that are taught in mainstream schooling and feature in the public examination (PT3). The objective of a non-governmental tutoring organization is different from private tutoring centers. It is mostly non-profit, and the implementation is different from tutoring centers. It also includes motivation and religious teaching in these types of tuition. Hence, it is not suitable to include this type of tuition because it will provide different data for the study. Thus, non-governmental tutoring organization

requires a different dimension of the study. Subjects taught in regular schools are referred as academic subjects and are included in PT3 examination.

Determinants Factors. The study focused on four level factors that influences demand for private tutoring. The four level factors were adapted from a study by Bray, Zhan, Lykins , Wang & Kwo,(2014). Gender is individual factor that could influences demand for private tutoring. Race, number of children, parent's education level, and help received from family members, type of house are the household factors.

Location of schools, distance of private tutoring center and tuition providers are community factors that influences demand for private tutoring. The school level factors compromise number of students in classroom, quality of school and subjects understanding.

PT3. PT3 ('Pentaksiran Tingkatan Tiga ") is a new assessment format which adapts School Based Assessment. PT3 (Form Three Assessment) still maintains some of the public examination procedures. The geography and history assessment begins in July and finishes in August. The written examination is held in October for other academic subjects. Examination Board formulates the questions and issues the results. However history and geography subjects are 100% evaluated based on assignment assessment. The PT3 question adapts HOTS (higher order thinking skills) questions and students need to synthesize and solve problem-based questions.

Chapter two will discuss in detail about the definition of demand and supply of private tutoring. It also will discuss in detail about the four level factors that influence private tutoring participation. The school Based system and Malaysian educational system also will be explained in chapter two.

Organization of the Study.

The study is conducted to identify the determinants of private tutoring and the effect of PT3 assessment on private tutoring in Malaysia and intends to provide the latest data on private tutoring in Malaysia. In Malaysia, like other Asian countries, private tutoring becomes an essential service. Thus, for the various identified reasons much needs to be done by the government to monitor the services provided by tutoring centers especially tutoring services conducted by school teachers.

The study intends to discuss the direction and dimension of private tutoring in Malaysia. The findings of the study could give inputs to the future researchers in the field of private tutoring in Malaysia and highlights the impact of policy changes in the school-based assessment system on demand for private tutoring.

CHAPTER 2

LITTERATURE REVIEW

Introduction

The chapter explains the prominent literature on determinants of private tutoring and explains the type of private tutoring undertaken by students around the world. Detailed explanations on the theories that are used to explain the basis of private tutoring phenomenon are discussed further in this chapter.

In recent years, private tutoring has become more salient in East Asia. The Confucius culture in East Asia is a dominant factor in spreading private tutoring and instigates the desire to excel in the examination and promotes competitive educational environment are the reasons seen for stronger demand in private tutoring in East Asia countries such as Hong Kong, Japan, South Korea and Singapore. Recently, the trend becomes more visible in Malaysia.

According to Kenayathulla (2012), approximately 93% of Malaysian families allocate up to a tenth of their total monthly expenditure and income on private tutoring. This indicates that Malaysian families are spending a sizable portion of their income on private tutoring. Even though private tutoring enrolment does not include census, but existing data indicates the number of students attending private tutoring in Malaysia, based on which an approximation could be obtained from studies done by researchers in this area. For example, the MasterCard Worldwide Survey of Consumer Purchasing Priorities (2009) reports that 46% of Malaysian consumers rank the provision of private tutoring and extra-curricular activities for their children as one of the top three spending priorities.

In addition, statistics from the Merdeka Center for Opinion Research (2005) found that 64% of Malaysian parents send their children to private tutoring classes. The

survey found that English, Science and Mathematics as the three most popular supplementary subjects (Jelani, & Tan,2012).

Marimuthu (1991) also found 83.3% of Malaysian students received private tutoring by the time they reach the lower secondary. (Marimuthu at,1991). Mori and Baker (2010), describe the relationship between private tutoring and formal education as "symbiotic" which means private tutoring supports the formal curriculum (Mori & Baker, 2010). The authors contend that formal education "intensifies and private tutoring and heads toward becoming universal practice". The authors also predict that shadow education eventually will be absorbed into education culture in general((Mori & Baker, 2010).

The local study uses the metaphor tuition in Jelani & Tan (2012) and Kenayathulla, 2013 uses private tutoring. The study prefers to adapt the metaphor private tutoring rather than 'shadow education'. The term, 'Shadow education' seems like more informal and possesses a negative connotation than private tutoring. In reality, private tutoring is a billion dollar business that is rapidly growing (Crotty, 2012) Any changes in formal education effects the shadow education (Bray, 2013) and this is seen necessary in order to meet the demand of the clients. Zhan,2014, argue that private tutoring becomes supplementary, complimentary, and or competitive to formal education(Zhan, 2014).

Bray et.al. (2014) also justify that shadow education grow as the school system. Bray (1999) points out that when the curriculum of formal education changes, so does the curriculum of shadow education (Bray, 1999: 20; Marimuthu et al., 1991: vi).

The paid tutor could be the teachers from school, professional tutors or part-time tutors. The study excludes tutoring done by the school teachers in school after school hours. The study also excludes tutoring by a non-governmental organization that provides tutoring without a fee or with minimal fees. Examples of such exclusion are

tutoring provided by the SMC (Sri Murugan Centers), Village or Mosque committee in villages for Malay students or by other non-governmental organizations in Malaysia.

Private tutoring is considered an important supplement to the main stream schooling that provides a flexible and efficient tutoring catering to specific needs of the students. However, Budiene, Silova & Bray (2006) argue that private tutoring actually increases the time of spent on learning because the private tutoring mimics the curriculum of main stream. Thus, it shows that time spent on private tutoring has an effect on student achievement in school. The study uses time spent as a dependent variable on different subjects taken by the student. The definition of time spent which is applied in this study refers to as the average time spent per a week by the students in participating private tutoring for PT3 academic subjects.

Types of tutoring refer to type of private tutoring classes students enrolled. Most of the previous literature on type of tutoring refer as one –one tutoring classes, small group, Lecture by tutor (Live), Lecture by recording and online tutoring (Bray, Zhan, Lykins ,Wang & Kwo ,2014) & Bray & Suso (2008). The current study uses this definition as type of private tutoring classes students enrol.

Most of the literatures on private tutoring, focuses on expenditure(Kang, 2011b,Kenayathulla,2013,) and effect of private tutoring on student achievement (Bae, Oh, Kim, Lee, & Oh, 2010; Bray, 2014; Byun & Park, 2012; Choi, Calero, & Escardíbul, 2012; Dang, 2007; Park, Byun, & Kim, 2010; Ryu & Kang, 2013. The researchers are interested to measure the effectiveness of private tutoring on student achievement partly due to the multi-billion business and at the same time researchers are interested to find out the effect of private tutoring on student performances. Researchers use Tobit (Tansel & Bircan, 2005, Kim & Park, 2010, Dang, 2007) and regression models (Byun & Park, 2012) to measure the effectiveness of private tutoring.

Theoretical Background

Human Capital Theory. Demand for private tutoring can be seen as a basic human desire to increase their knowledge and skills (Lee, 2013).The demand for private tutoring increases when there is an incentive to gain and motivation to learn from the private tutoring. Higher exam grades and higher rate of success from private tutoring becomes a motivation for parents and students to enrol in private tutoring. In order to understand the demand for private tutoring, it is important to understand the basic concept of human capital theory.

Many developing nations realize the importance of education to improve knowledge and skills of the citizen. Thus, many nations including Malaysia progressively increase bigger budget for education (Budget Report, 2014). In fact, economist regards education as consumer and capital good (Okemakinde, 2008).

Okemakinde (2008) also argue that education as a capital good is used to develop human resources and reiterates that education create an improved citizen and help to increase the standard of living in a society. The argument shows the important of human capital to upgrade knowledge and skills in a person and that investment in human capital will upgrade the general standard of living of a citizen in a country.

The human capital model is a basic microeconomic analysis used in economic education research to measure returns on investment in education. Experts in the field of economic education usually use the human capital model as a basic structure in their research to study the effectiveness of an educational program in terms of economic returns. The human capital theory has successfully predicted the returns to investment in an educational program implemented by IMF (educational arm).

The rate of returns in education determines parental expenditure in their children education. Parents tend to willingly spend their income to educate their children to

ensure they received a quality education which would give higher chances for the child to accept by universities.

Investment in human capital uses the same principle as business capital. In the business capital, investment in inputs increase when there is a possibility of higher returns to the inputs (profit = total revenue – total cost). The human capital theory uses the same law as the business capital .

Parents and government invest in education with assumptions that the investment will give higher returns (Eide, 2010). Private tutoring is considered an investment in human capital because it increases the ability of students to perform well in education. Student performance in the examination is the yardstick to secure a place in higher education.

According to human capital theory (Shultz, 1961; Becker, 1962; Lucas, 1988; Mankiw, Romer& Weil, 1992), investment in education fuels human capital growth. Schultz argues that education has a strong effect on society by eliminating inequality while Woodhall, (1995) argue that people who invest in education or training will increase their future income, and increases the income as whole for his entire life. Based on Schultz model, countries around the world like America begin investing heavily in education to eliminate poverty. The UN and Bretton- Woods institutions (World Bank and IMF) began emphasis education for economic progress. Schultz's solution to the "population problem is if you invest in human capital theory by providing better education, people will become more productive. They also discover innovative and will come up with solutions to solve the population problem."

Becker (1962) defined that human capital investment as any "activity that influences real income through the embedding of resources in people" (Becker, 1962, p.9). Example when individual attain a higher education, he or she will receive a higher income in future. Thus parents considering that investing in private tutoring will

increase their children performances in the public examination have a greater chance of getting a higher degree.

Knowledge, training and skills (Human capitals) affect the earnings of a worker. Gary Becker and Barry Chiswick establish a link between knowledge, skills, and individual choices in schooling or training and work experience and relate productivity to labor market returns. Gary Becker and Barry Chiswick (1966) extended the original human capital model to include many choices of human capital investments which an individual can choose. Their framework explains the individual lifetime earning as the sum of returns on human capital.

The model assumes that individual annual earning is equal to annual labor market return on human capital. Becker and Cheswick's framework showed that the return on human capital depends on the rewards (net of investment cost) from the increment of knowledge and skills.

The model explains that the annual net investment on the human capital depends on the marginal rate of returns on the investment and the supply of resources available for human capital investment.

This model follows the distribution of market earnings. It reflects that the level of human capital also depends on the return and cost (demand and supply) factors (Haveman, Robert, Bershadker, Andrew, and Schwabish, 2003,p.62.).

Becker's (2008) model summaries that education and training give higher earnings and concludes that amount of schooling is highly correlates between parents and children but earning are relatively less correlated (Rouse, William B., and Drawbaugh, 2010).

Becker (1962) defined school as an institution that specializes in training. Schools provide the basic knowledge and skills (general or specific) that are imperative for future labour market. Therefore, schooling is considered as an institution that

provides training for future labours. Similar to schools, private tutoring also considers an investment in human capital because it is intended to increase knowledge and skills. Private tutoring also provides extra information that could enhance a student's knowledge and skills. Such enhancement shall benefit the students who participate in tutoring.

Bray (2001), argues that advocates of human capital theory might consider that supplementary tutoring firmly related to economic enhancement. It is because, it closely related to the prevailing market demands and the potential to enhance economic returns is the foremost reason pupils and their parents invest in private tutoring(Bray, 2001).

Parents have the impression that the longer their children stay in education, and the better quality of the education and that their children shall have a better prospect to earn a higher salary.

Parents also know that weaker education can lead to a lowest standard of living (Bray & Lykins, 2012) and this fear drives them to spend for private tutoring to ensure their children have a better standard of living in future. For example, Filipino parents perceive shadow education participation as an assurance to a better life in future and instil students with the mind-set that education can provide a better prospect in life.

Hence, every student should strive to achieve it (de Castro & de Guzman, 2014). Castro and de Guzman's (2010) also contend that the individual desire is to enhance academic achievement and obtain the best possible education is the foremost motive for Philippine shadow education participation.

Heyneman (2011), justify that the investment in education as an investment in human capital. The author argues that private investment (such as private tutoring) add into public investment. For example, in Japan and Korea, more than 50% of education expenditure constitutes from private sources, New Zealand, Australia, and Austria is 37%, while in Germany it is 27% and in United States it is 23% (Organization for

Economic Cooperation and Development [OECD], 2009, p. 232 . The public sector will benefit from these private investments in the innovation of pedagogical and curriculum innovations (Heyneman, 2011).

The standard Microeconomic theory of Demand and Supply Theory. The standard microeconomic theory of demand and supply can be used to explain the demand and supply for private tutoring. The theory explains how the quantity of demand for private tutoring is determinant for the interaction between demand and supply of education.

The study uses a framework developed by Dang and Rogers (2008) to explain the demand and supply for private tutoring. Figure 2.1 shows demand and supply curve for education (public and private education) and private tutoring. There are three supply curves; S_0 , $S_{1,}$ S_2 that represent supply for private education, public education, and public education with private tutoring. S_0 is placed high up, further to left side of the diagram compare to $S_{1,} and\ S_2$ because of the high cost of private education. $S_0$is relatively inelastic because of the nature of the private education .

Parents are willing to send the children to private education regardless of the price. They are less sensitive to the price of private education but more sensitive to quality of education(Lee, 2013). $S_{1,}$ is in upward vertical slope and it shows a perfect inelastic curve . S_2 is a diagonal curve. $S_{1,} and\ S_2$ Intersect at point A. The inelastic $S_{1,}$curve shows that after certain level the public education reaches its maximum capacity and prevents from offering much education in quantity and quality as parents and students require. S_2 shares a common solid upward-slopping curve with $S_{1,}$, but it includes a dashed diagonal line starting from point A. This dashed line is less steep than the vertical curve of $S_{1,}$implying that private tutoring can meet students and parents demand for education as opposed to public education. The curve is indicating that the cost of public education.

D_1 or D_2 is the household demand curve. Even though the public education is free, every household spends some portion of their expenditure to send their children to school such as transportation cost and forgone earning by being at school instead of working (opportunity cost). D_1 shows low demand whereas D_2 represents a higher demand for two households. A higher demand is assumed to have higher income, higher educational preferences and expectation from child return to education. The differences denotes that at every price, household in D_2 will spend more for education than household in D_1 .

The quantity of education received is determined by the intersection between demand and supply curve. If the demand of the household is in D_1 , the amount of public education is Q_2, the amount of private education is Q_0 and the demand for private tutoring is $Q*_2$. The quantity of $Q*_2$ is higher than Q_2.The "standard framework" shows the determinants and welfare consequences of private tutoring .The framework incorporates certain assumptions that may not be valid (Rogers, 2008).

One such assumption is a market for private tutoring is always competitive, and household are free to choose to enrol in private tutoring.

Second assumption is that public education reaches a capacity constraint beyond a certain threshold. This is likely to an accurate description in the near term after which the assume may not hold

- An increase in education units through private tutoring increases the student human capital

However, these assumptions are not always valid in practice and are subjective to varying settings even within a country let along with other countries (Lee, 2013).

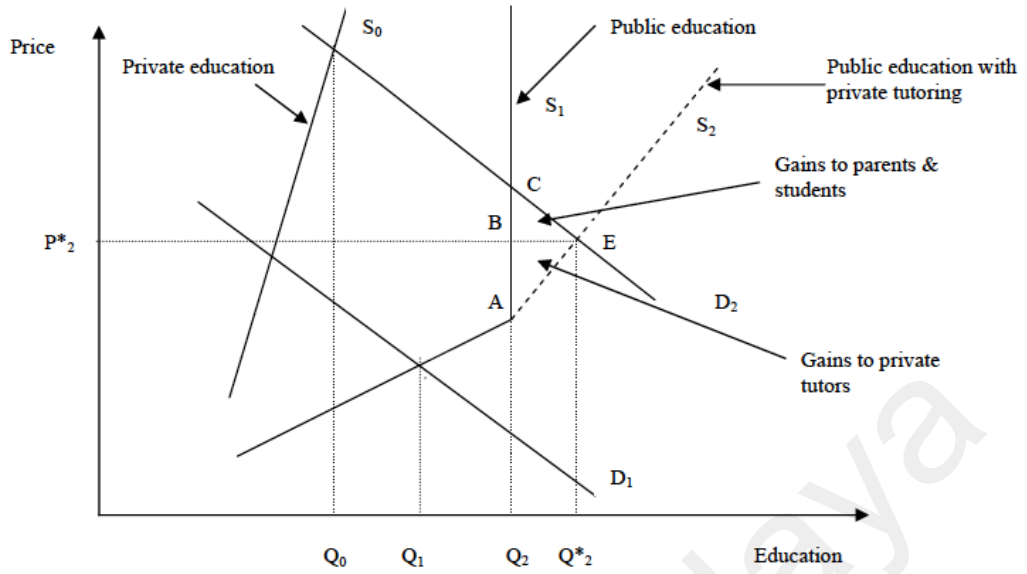


Figure 2.1: Demand and supply of education with private tutoring

The market for private tutoring is not entirely competitive. In a typical market, households are free to make decisions to spend on private tutoring and choose the type of tutoring services. However, in some developing country school teachers offer their tutoring services and supplement their classroom teaching (Dang & Rogers, 2008, Silova & Bray, 2006) and this strains the students and parents as they are left with limited empowerment to demand for private tutoring and in choosing one based on their needs. For this reason, countries like Korea prevent public school teachers to conduct private tutoring. Even in Malaysia, the government is attempting to control the tuition activities of public school teachers (SPP Bil 1/2006).

Even though this framework has several limitations, it explains the interaction between demand and supply for private tutoring and how it could increase the prevalence of private tutoring among local students

Education Production Function. Educational production function helps to estimate the effect of private tutoring on student performance. The education production function explains the relationship between inputs such as labour and capital through the process (using technologies) resulting in outputs. In private tutoring, the inputs are

student factors, school factors and household factors while the output is student performance in examination. Type of activities in private tutoring refers to the processes in educational production function. The education production theory shall explain how the investment in private tutoring interacts with student performance in examination.

According to Hanushek, (1986) a typical production function indicates the level of capital and labor needed to employ in producing some specific output. According to him, the knowledge of production function and the prices of each of the inputs determines the combination of inputs to produce any given outputs at minimal cost (Hanushek, 1986).

In education, inputs are students, household, and school factors while outputs are test scores or performance in examination, graduation rates, or dropout rates. In education, gender of student, race, motivation, educational level of parents, school facilities, school quality, location of schools are examples of inputs.

Some researchers include other factors such as peer influence, and student ability as input factors((Lee, 2013). The educational production function model shows that output is a function of inputs (Wilson. K., 2001). An individual makes decisions realted to education based on expected return and characteristics of school and family effect the decision on education. There are two assumptions applied in this function:

i. A given set of inputs always produce the exactly same set of outputs.
ii. All inputs are freely varied.

Base on Hanushek (1986), education production function model, the statistical relationship between inputs and outcome (student achievement) of a school is as follow:

$$At = f (It ,Ft, Ct, St)$$

The At is the achievement of students at t period, It, represents student factors such as gender, reasons for taking private tutoring and allocation of time for private

tutoring. Ft represents characteristics of family factors, such as education level of parents, income, number of children and race. Ct is community-level factors such as distance from private tutoring center, qualification of tuition teachers and other private tutoring activities. St represents schools factors. An example of school factors is teaching qualities, number of students in a classroom and school resources.

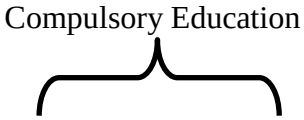
Many researchers modify the educational production function to include other factors such as peer factor and student ability. In this research, Ct is included in Hanushek (1986) model to fit into the research questions. Some researchers also include Ct as neighbourhood factors (Lee, 2013). But this study will examine the participation of private tutoring with the various educational production functions.

The theoretical framework of this study clearly indicates that education is an investment in human capital. Increasing schooling years gives a corresponding increase in the earnings. Knowledge and skills increases as individual attain higher education. Parents assume that private tutoring increases their chances of children in getting higher education and this dynamics in demand creates supply. The interaction between demand and supply determine the price of private tutoring in the market. The study is using the Educational production function to investigate the relationship between inputs of schools and the achievement of students in PT3 examination and manner it effect the participation for private tutoring among the PT3 students. The inputs that are examined in this study are individual factors, household factors, and community and school factors.

Introduction to Malaysian Education System

In Malaysia, the government provides free education up to Form five (eleven years). All the students are provided with free textbooks and poor students enjoy assistance like a free meal for students (primary school), free on-off co-curricular

uniform and scholarships. There are two types of private schools in Malaysia: International private schools, and Independent Chinese High schools. The international school has two systems. Parents have a choice of choosing a national or international syllabus for their children. Those who chooses national syllabus will follow the same syllabus as the public school and sit for the public examination. In this system students study the common syllabus and assessment as the government school but the difference is the education is not free. The international system follows the international syllabus and students sit for GCE. On the other hand, the Chinese private schools follow the IGCSE 'O' Level, G9CE 'A' Level, International Baccalaureate Diploma, Grade 1 to 12. Independent Chinese high schools offer three syllabus systems. It conducts common international system in English and the students sit for IGCSE 'O' Level, GCE 'A' Level, International Baccalaureate Diploma, Grade 1 to 12. Second, the students follow the national curriculum, and third the Chinese curriculum and the students sit for UEC (Unified Examination Certificate) standardize examination. Some students take both national and international curriculum and national and UEC. The Diagram below explains the Malaysian Education system in detail.



	Types of School	National National C Type National T type Special Education	Academic	Regular Technical & Vocational Sports Religious Special Education Fully residential	Form Six Matriculation Colleges Institutes
Level 1	Preschool	Primary 1-6	Lower Secondary Form 1 -3	Upper Secondary Form 4-5	Post Secondary & Pre-University
Age	4 +to 5 +	6+ to 11+	12+ to 14+	15+ to 16+	17+ to 18+
Assessment		Primary School assessment (UPSR)	Lower Secondary School Assessment (PMR)	Malaysian Certificate of education (SPM/SPVM)	Higher School Certificate (STPM)-for form six only

Source: Adapted from Hussein Ahmad (2012).

Figure 2.2: Malaysian Education system

Demand For Private Tutoring

Existing literature shows that there are few factors that create the demand for private tutoring. These factors will be discussing detail in the following section. These are the factors that will be included in the current study.

Gender. Past studies have identified that parents favour boys than girls as boys form a higher percentage of those seeking employment and those who require higher education. Studies in India, Pakistan, Japan and Taipei, China, reported a pro-male bias in attending private tutoring((Bray & Lykins, 2012). According to Bray & Lykins (2012), males are the preferred choice because they are required to seek employment that can sustain the family. In countries like India and Pakistan, women are expected to remain at home and care for the family upon marriage. However, Bray & Lykins (2012), cited a survey by Bagdasarova & Ivanov (2009) in Kyrgyz republic, indicting females having a higher enrolment of one-to-one and small group private tutoring comprising of 65.4% and 67.9% respectively of enrolment.

This is an interesting observation which might even be considering an outline given that Kyrgyz Republic is an Islamic country, which might be considered to be conservative. At the same time, it can also be interpreted as parents prefer their daughters to attend one-to-one or smaller groups that have less number of boys compared to bigger groups of tutoring. The finding is coherent with Kim & Lee's (2010) finding in Republic of Korea. Kim & Lee (2010) where a bigger percentage of private tutoring expenditures is allocated for girls in Republic of Korea (Bray & Lykins, 2012).

The study also revealed that the boys have 0.51 income elasticity for private tutoring compared to 0.57 for girls. In economic theories, essential goods have less elasticity than luxury goods- This is because private tutoring is considered a necessity for boys compared to girls.

According to Kim & Lee (2010), in Korea, human labor participation is lower for women than men. Castro & de Guzman (2014) also found that labour market favour men than women. However, Hamid et.al (2009) in Bangladesh did not find any significant differences between male and female. It could be probably because in this study female participation is higher than the boys, and it focused on private tutoring for English in a rural area (Hamid et.al, 2009). A study conducted on private tutoring in Mathematics for Korea, Taiwan, Philippines and Romania, the findings show that gender do not affect demand for private tutoring(Song et al., 2013).

Tensel & Byrcan (2006) found that there are differences for demand among students who stay in developed places compared to less developed and poor areas. This study indicates that socio-economic status and location affects the demand for private tutoring. In less developed states, it could give a different result. For these reasons, tt is important for the researcher to identify the reason for the girls or boys not attending private tutoring in the survey.

Jelani and Tan (2012) found that gender does not possess any significant differences on demand for private tutoring in Malaysia. Respondents of Jelani and Tan's study are from Penang. Penang is one of the developed states in Malaysia and has many industrial factories that provide job opportunities for women. A safe environment in factories with good working condition encourages parents to allow their daughters to work in factories

It will be interesting to study the effect of gender variables across different ethnicity in Malaysia among PT3 students. So this study proposes that in addition to analysing the effect of gender variable on demand of private tutoring but also analyzes the demand of private tutoring between girls and boys between different ethnicity in Malaysia.

Ethnicity. Ethnicity is usually a significant indicator of demand of private tutoring. However, in some countries it does not show any significance in results because a significant portion of ethnicity may reflect on the economic and cultural factors. Past literature shows that Chinese parents form a higher percentage of those sending their children to private tutoring. In Malaysia, a study by Jelani and Tan , (Jelani & Tan, 2012), found that Chinese students (33.8 %) are more likely to attend private tutoring compared to Malay, Indian and indigenous students. Kenayathulla (2013) also found that race is significant indicator in her study in Malaysia. The finding is supported by earlier findings by Marimuthu et.al, 1991 which is heavily influenced by the Confucius culture. Bray (2014) explained that Confucian belief in the importance of diligence and meritocracy. This explains why East Asian students (Chinese descendants) constitute a higher percentage of students attending private tutoring.

In Malaysia, Malay students have larger quota to obtain scholarships. MARA, the Public service department, PETRONAS, Central Bank of Malaysia, KHAZANAH and State scholarships are offered at a higher quota to Malay students for higher education.

Chinese and Indian students need to compete since they are allocated a lower percentage of the quota. Hence, this creates competition among the Chinese and Indian students since most of the scholarships are offered based on merit.

It is vital for the Chinese and Indian students to excel in their examination. Likewise, the parents resort to private tutoring in order to ensure their children obtain excellent results in the public examination. Most of the scholarships provided are based on merit, so students from the wealthy background compete in getting the scholarship.

Scholarships for critical courses especially for medicine and dental are very scarce. Thus, there is intense competition prevails to obtain such scholarships. Parents also ensure their children attend private tutoring to get a good results that enable them

to obtain scholarships to study critical courses or abroad (Jelani & Tan, 2012, Kenayathullah, 2013).

Other Chinese majority countries also show ahigher enrolments in private tutoring. Examples; Singapore (97 %), Taipei, China (72.9%), Korea(72.5%), Hong Kong (85.5%) and China (65.6%) illustrate a higher percentage of secondary school students attending private tutoring compared to other countries in the world (Bray, 2012,). In Sri Lanka, a study by Gunasekara (2009) and Pallegedera(2011) found ethnicity differences factors in the demand for private tutoring. Ethnic differences also reported in Vietnam (Bray et al., 2014). In certain countries like Sri Lanka and Malaysia, research indicates that a higher percentage of minority students involved in private tutoring.

School types: private versus government. There are two type of schools in the education system; Private schools and public school. Private schools charge fees for the education and do not enjoy any government subsidy for the education. Students in private school also required purchasing their textbooks. On the other hand, the government is the sole supporter for the public schools. Each year government allocates a large sum of the national budget to provide free education to the children. Most of the country in the world provides free education for 12 years of schooling. Past studies show that there is no standardized pattern on the issue of the type of school and its demand for private tutoring. Some previous studies show that public school students spend more on private tutoring, and there are also studies shows that private tutoring students have a higher enrolment in private tutoring.

A Study by Nath (2011) in Bangladesh, found that 38% of government primary school students attend private tutoring compared to 12% of private school students. In West Bengal, Pratham (2011:2140), a higher percentage of students attend private tutoring, which shows a greater percentage of the government school students attending

private tutoring compared to private school. However, the same study also found a different pattern in Uttar Pradesh. In Utter Pradesh, 10.1% of grade one students from the private school attend private tutoring compared to 3.8% from government school in 2010. According to the author, the disparity is across all reported grades. A recent study by Jayachandran (2014), found that government schools teachers teach less during the regular school day and students achievement is lower (Jayachandran, 2014).

Bray (2014) found that the Band of the school (quality of the school) play an important role than the type of school on the demand of private tutoring in Hong Kong. According to Bray & Lykins,2012, parents from private schools have a higher disposable income and willingness to provide a higher quality education. However, for the same reason the demand for private tutoring is higher in a government school whereby teachers from the government school are not supervised closely by the superiors like a private school. Thus, teachers tend to teach less or the teaching methodology is ineffective. Since parents send their children to public schools that are free, they have an extra disposable income to spend on private tutoring. Parents also desire their children to have a quality education by attending private tutoring. While this is true for middle and high of income group but the poor students in public schools could not effort to attend private tutoring which creates inequality among the students. Students from poor family struggle to compete with other students, and eventually lose out in the competition and enter the work force earlier than their peers from middle and high-income groups. This can widen the gap between the poor and other income groups from public schools and private schools.

School factor is not much-researched factor in Malaysia. Jelani (2012) and Kenayathulla (2013) studies does not examine the effect of private and public school on private tutoring in Malaysia. So, this study intends to examine and justify the effect of type of school on demand of private tutoring in Malaysia.

Urban vs Rural. Most of the past literature indicates that there are higher percentages of urban students who attended private tutoring, compared with their counterparts from rural. Previous studies show a big gap between urban and rural. It was found that there is a 24% gap between urban and rural students participation on private tutoring in Kyrgyz Republic (Bray & Lykins, 2012) found that 61.9% of urban students and 37.7% of rural students received private tutoring . The same trend also found in Croatia, Lithuania, and Poland. The study also noted that a 17% differences in Lithuania between urban and rural students. Kim & Lee (2010) found that urban students, particularly from high-density middle-class residential area, spend more on private tutoring in South Korea regardless of subjects and grades. A study by (Tansel & Bircan (2006) in Turkey also found that residential area with more than 20,000 population spends 66% more in private tutoring compared to undeveloped or squatter neighbourhoods.

According to Bray (2003), most of the rural students attend private tutoring with their teachers. He added, the students are induced by their teachers to attend their private tutoring and also as a result of poor quality of teaching in the classroom.

The rural students have limited choice and resources on private tutoring (Bray & Kwok, 2003). As a result, the private tutoring in rural areas may not be effective and with higher quality. Bray (2003) also found out that the rural students are less satisfied with their private tutoring.

Another reason for a higher enrolment in private tutoring in urban is, because the cost of private tutoring is cheaper in urban, and transportation is easier (S. Kim & Lee, 2010).Kim also found that the culture of urban parents as a reason for a higher percentage of urban students.

Parents from urban areas place a great emphasis on the importance of their children's education. Some of the subjects are not accessible for rural students, for example, the preparatory courses (Silova, 2010).

Kenayathulla (2013) found that there are significant results in urban students compared to rural students. The author uses a Malaysian nationally representative survey. The study applies hurdle model and shows that households in urban areas are more likely to spend a positive amount for private tutoring.

Regional and community level factors do influence the demand for private tutoring. Students in the urban area the expenditure is more on private tutoring compared to the rural area. In Malaysia, there will be differences in demand between West Malaysia rural area and East Malaysia rural area. Even West Malaysia rural students have a lower percentage of attending tuition, but they are still accessible to private tutoring. Unlike the rural students from East Malaysia, it will be very difficult attend private tutoring where a person has to take boats or unconventional means of transportation.

It is noted that most parts of the interiors rural area are not easily accessible by roads. Most of the parents from the urban area work in the more stable economic sector such as factories and firms. They have more disposable income to spend on their children education. The urban parents also have more awareness and the importance of education and the competition the public education system.

The parents are willing to spend for private tutoring to ensure their children get excellent grades and able to further education at tertiary level. Since transportation in the urban area is easy and affordable, urban students are more mobile than the rural students.

Most parents in rural areas are involved in the primary economic sector. The income in a primary sector like agriculture is low and not stable. Parents are more

cautious to spend on other essential items than food, clothing and basic education. Most parents also depend on the public transportation to move around. It is more convenient and cheaper for parents if their child attends private tutoring in nearby places as parents are not keen to send their children to attend private tutoring in bigger towns which have quality private tutoring centers.

Zhang (2013) found that student participation in private tutoring is correlated with student characteristics. Factors such as academic track, family background influence student decision to enrol in private tutoring. IV method is used to analyse the effect of private tutoring participation on student achievement finds that time spent in private tutoring gives significantly negative effect on rural student achievement scores.

Family Size. Family size becomes a determinant of expenditure of private tutoring. Studies indicate that when a family has a number of children, parents are more selective on their spending. Hensel (2006) found that when number of children increases, the expenditure for private tutoring decreases. Some of the researchers attribute this to the culture which emphasis the importance of education on boys than girls because the boys enter the employment sector once they complete their studies.

According to human capital theory (Theodore Schultz), the higher the education level, the higher the quality of individual improved productivity and the wages. In some studies not only size of family affects expenditure on private tutoring, but the gender of first born and second born children in a family also effect the expenditure on private tutoring. Kang (2011b) found that in Korea, a second born girls received less tutoring if she has more than one sibling compared to if she has one sibling.

His study also confirms that second born boys received higher investment in private tutoring if first-born is a girl. However, if the first born is a boy, there is no significant differences in money spend for them in private tutoring investments (Kang, 2011b). The findings also confirm earlier studies that per capita human capital

expenditure decreases as a household size decrease (Tansel & Bircan, 2006). Tansel and Bircan (2006) studies also found that the average family size of 3.17 has no private tutoring expenditure, but 2.51 household sizes have positive tutoring expenditures. Castro and de Guzman(2014), a study in Philippine also aligned with earlier research that when number of children increases, family expenditure on private tutoring decrease.

In the Malaysian context, Jelani (2012) and Kenayathulla (2013) also studies the effect of number of children as a determinants factor of expenditure of private tutoring. Jelani &Tan (2012) found the number of children not significant. However Kenayathullah (2013), found number of children is statistically significant.

Subjects and Mode. Demand for private tutoring differs by subjects. Parents will invest in subjects that are crucial for advancement in the education system and the ones they perceive can bring their children increased benefits. This usually includes subject like Mathematics, Science, English (in countries where English is second language) and national language.

Bray & Lykins (2012), found that in Georgia, 48% of students received private tutoring in Mathematics and that 23% students enrol in national language and 78% in foreign language. Bray & Lykins (2012), also found that in Sri Lanka, 73% students from grade 10 takes private tutoring in science, 91% in Mathematics) and 68% in English. Similarly, in Kazakhstan, Kyrgyz Republic and Tajikistan also indicate a higher percentage students demand private tutoring in Mathematics(Bray & Lykins, 2012). Bray (2013), also reported Mathematics and English have a higher demand for private tutoring compared to other subjects (Bray, 2013). Jeyachandran (2014), found that in Nepal, mathematics and science are most tutored subjects (Jayachandran, 2014). However, Kim & Lee, (2010) in South Korea found that Mathematics and English subjects have higher demand for private tutoring.

Past literatures show that Mathematics, Science and English have a higher demand for private tutoring. Brehm et al. (2012); Suraweera (2011); Zhang (2014); justifies that these subjects have higher demand due to utility and essentiality for social and economic advancement and the subject weight in examinations. In most of the countries, these subjects are a pre-request subject to advance in higher education. Even PISA (Program for students International Assessment) is rated according to students test achievement in Mathematics and Science subjects.

Science and Mathematics are two crucial subject students need to master to compete globally with fast changing technologies. Most of the parents are eager to send their child to science related field that is considered to be high paying salary.

In Malaysia, Mathematics and Science subjects also yielded increased participation and drive to excel. The Malaysian government spends a substantial amount of money to enhance student performance in Mathematics and Science. Even though, the PPSMI (teaching Science and Mathematics in English) policy was scrapped, the government implements various other methods to enhance student achievement in Mathematics and Science. The Education Ministry of Malaysia needs to take remedial steps to improve student performance in Mathematics and Science. This can improve the Malaysian ranking of PISA among Asian countries. Currently Malaysia is behind most of the countries in South East Asians countries such as Singapore, Vietnam, Philippines, Indonesia and Thailand (Malaysia Education Blueprint, 2013). Thus, the government has implemented initiatives to improve Malaysia ranking in PISA and TIMSS could affect the demand for private tutoring in Mathematics and Science subjects.

Even though Malaysia is a multi-racial country and every ethnic is given freedom to study their mother tongue, but it is compulsory for every student to pass their Malay language paper in UPSR, PMR and SPM. The failure to obtain a credit in

Malay language subject could prevent the students from furthering their education to a higher level. Chinese, Indians, and other ethnicity students need extra coaching to improve their proficiency in Malay language subjects because the students use mother tongue to communicate at home. In such cases, it is difficult for them to achieve excellent results compared to Malay students. So, this could be one of the reasons for Chinese and Indians students to have a higher demand in private tutoring for the Malay language subjects (Jelani & Tan, 2012; Kenayathulla, 2013).

Culture. Private tutoring is rapidly growing phenomena in South East Asia and Central Asia. Countries like Singapore, Korea, China, Taiwan and Hong Kong are among countries with higher percentages of expenditure on private tutoring. Due to this prevalence, the Cultural context is said to be a strong influence on private tutoring (Kwok, 2010; Rohlen; 1980; Silova, 2009).

Existing literature often express the influence of Confucianism as a reason for the higher demand for private tutoring in South East Asia and China to a stage where this is even extended to Chinese communities in United States (Bray & Lykins, 2012). Bray et.al, (2014) contends that Confucianism that beliefs in diligence and meritocracy might be a better reason for the widespread of private tutoring in these countries (Bray et al., 2014).

Bray & Lykins (2012) argued that the forces of globalization are increasingly shaping the culture. Demand for private tutoring in other South East Asia countries, examples Vietnam, Malaysia, Sri Lanka and India is also a rapidly growing. A study in Sri Lanka found that private tutoring has been passed down for several generation, dated back from 1940s (Suraweera, 2011), A study by Pallegedara (2011:16), which used empirical data from national household surveys to calculate the elasticity of demand for private tutoring, found that in 1995/1996 private tutoring was consider a luxury, but in 2006/2007 it was viewed as a necessity.

School Quality. Insufficient resources, qualification, experience of teacher and inadequate facilities in schools are other contributors to private tutoring. Developing countries spend most of the education budget to upgrade facilities and schools infrastructures, yet it is not sufficient in providing a quality education. Much is needed to attain a better quality of facilities and coaching at school that could eventually reduce the demand for private tutoring. The quality of school could be identified with band or grades.

In China, a study by Yu and Ding (2011), concluded that a shortage of educational resources, inadequate dedication by school teachers and the pressure to score high exam score to be the underlying reasons for the demand of shadow education (Manzon & Areepattamannil, 2014). A multilevel econometric study by Saha and Saha (2009) also highlight that poor schooling infrastructure and lack of quality teaching by school teachers, are two factors that correlate the rising demand of private tutoring. He argues that even when salary of teachers increase, shirking by teachers will be less but the infrastructure factor still affect the demand for private tutoring(Saha & Saha, 2010).

Castro & de Guzman (2014) argue that even with adequate facilities at schools and resources some students still attend private tutoring to maintain competency. Byun & Park (2012) indicate that children in Vietnam from lower self-reported school quality were more likely to attend tutoring classes.

In Philippines and Romania a similar results by Song et.al (2013) are also observed i.e. low quality of school education indicate a high level of private tutoring participation. Whereas the study observes that in other countries, high quality of school education also indicates a high level of participation in private tutoring.

The author justifies the variance in the findings with the chosen sample from a different level of institutionalized private tutoring in the selecting countries.

In Romania and Philippines, private tutoring tends to be more informal and conducted by single tutor with limited number of students. Whereas in Korea and Taiwan private tutoring is very much a corporate sector(Song et al., 2013).

A study by Brehm et.al (2012) in Cambodia, explain that government school are "under-funded and structurally deficient" and that the student-teacher ratio is high and teachers are overloaded with work. Students attend one shift of regular classes and continue tutoring classes with the same teacher in the same classroom on school days. School quality and quality of coaching can also influence the demand for tutoring. The study also criticizes that demand for private tutoring is not necessarily greater in schools of lower quality.

Teacher's quality and student-teachers ratio also inter-related to school quality. Saha & Saha (2010) analyzes the shirking effect on demand of private tutoring. They identify blatant absenteeism and underperformance that drive to demand of private tutoring. They identify attitude of teacher in not completing the curriculum or helping students adequately as shirking from the responsibilities of teacher. Bray et.al.(2014) also found a study in Georgia (EPPM 2011:28) and in Armenia, only 11.9% secondary school graduates surveyed felt teaching in school is enough to gain admission to higher education(UNDP 2007:45) which also support Saha & Saha (2009) arguments.

In Bangladesh, Hamid et.al (2009) also concur in his studies that one student reported that he needed private tutoring because of the failure by their English teacher to provide adequate coaching guidelines. The students also justify that if their English teacher teaches satisfactorily, there is no need to attend private tutoring for English subject.

In Sri Lanka, more than half of students surveyed (53%), stated that their teachers do not give sufficient exercise and fail to complete the intended curriculum. In

fact, 50% of students observe that they have difficulty to understand the subject (Bray & Lykins, 2012). Teaching quality dominantly affects students learning in subjects.

However, there are studies that found that higher achieving schools students also spend more on private tutoring (Lee & Shouse, 2011; Shen, 2008; Zhan, Bray, Wang, Lykins, & Kwo, 2013). High-quality school students have high expectation to enter an elite University (Bray et.al. 2014). Thus, this could force the students to attend private tutoring.

Past literature justify that if teaching quality is satisfactory, school has sufficient resources, and a good infrastructure shall reduce the demand for private tutoring. The students incapability to understand and low school quality prompted the students to find alternative ways to enhance their academic ability(de Castro & de Guzman, 2014).They also state that higher order (i.e. difficult) questions in examinations are prompting students to enrol in private tutoring.

In Malaysia, schools are classified into Bands. Band one shows a highest quality of the school and Band seven is lowest. The band is according to their excellent results in the examination and co-curricular achievement of a school. Some research shows that there is a direct relationship between school quality and demand for private tutoring. However, there are a few studies that show that there is no significant difference between private tutoring expenditure and school's band (Bray et al., 2014).

The important objective of Malaysian Education Blueprint (2013-2025) is to upgrade schools infrastructure and resources. The government is aware that physical facilities and resources are key factors to increase the quality of a school. The blueprint also introduces a new assessment system to improve the quality of education system under Malaysian education blueprint (2013-2025). Higher order thinking skills is integrated into PT3 and SPM examination questions. The combination of government

effort to upgrade the quality of education in infrastructure, resources and assessment has are seen to have an impact on demand of private tutoring in Malaysia.

Class Size. Most Asian countries have a higher number of students in a classroom. Insufficient infrastructure and resources are the important factors that lead to a cramped classroom. Most classroom have an average of 40 students per classroom (Bray & Lykins, 2012). Bray & Lykins (2012), argue that parents always associate quality education with smaller class size. Bray (2013), also confirm that class size also partly determining demand for private tutoring.

In Malaysia, most schools have dual session schooling system. Students have to share their classrooms. Each session has limited school hours compared to a single session schooling system. It places greater obstacles to quality of teaching.

The limited time becomes constrain to the teachers to complete the syllabus. It also limits revision classes by school teachers all of which gives rise to increase in demand for private tutoring in Malaysia. Kenayathulla(2013) highlighted that National Union of the Teaching Profession secretary-general, Lok Yim Pheng argued that oversize classes are a key reason to growing number of students attending private tutoring in an urban area in Malaysia (Kenayathulla, 2013). According to Lok, parents had no choice than enrolling their children in private tutoring to comprehend what was being taught.

Wealth of Family and Family Size. In most Asian countries, the number of children (i.e population growth) is decreasing (Bray et.al, 2014) while there is a marked increase. Castro and de Guzman (2010), indicate that in the Philippines the amount of shadow education is inversely correlated with family size. A Castro and de Guzman study also shows that children with fewer siblings received more tutoring than children with more siblings.This is because more children can put additional strain on family expenses, which in directly influences the number of children in the family.

Bray et.al (2014) also found that in Japan, more than one-third (38.6%) of parents indicated that increasing number of one-child families was a factor in increasing demand for Juku. Parents are willing to allocate all the resource to the child's education. Dang and Rogers (2009) also found in Vietnam decreasing family size was also a factor in increasing demand for private tutoring. The findings also supported by Liu (2012:47) in Taipei, China. This implies that less number of children translates to adequate allocation for the children private tutoring expenses.

However, Bray et.al (2014) found there is no significant correlation between the number of siblings and the probability of taking private tutoring in Hong Kong. Bray theorizes that Hong Kong parents somehow find a way to secure enough resources to send their children to tutoring regardless of number of children in a family(Bray et al., 2014).

Coincidentally, the Bray study (2014) found significant relationships between family income and demand for private tutoring. The findings show that when a natural log of family income increase by 1.0, the probability of taking private tutoring increases by approximately 0.5(Bray et al., 2014). The finding is consistent with the empirical studies by Chu (2009); Ho & Kwong, (2008); Kenayathulla(2012); Tansel & Bircan(2006).

Bray (2014) also explained that wealthier students prefer to enroll in one to one private tutoring, while poor students choose video lectures that are less expensive. Dawson (2010), also confirmed the positive correlation between income and private tutoring expenditures. It is highlighted that according to Korean National Statistical Office (2005), the wealthy family spend eight times more than poor families on private tutoring. The upper 10% income earners spent an average of 292,000 Won a month while the bottom 10% spent just 36,000 Won a month in 2005 (Dawson, 2010). The

study also identifies that the upper 10% income earners go to private institute after school whereas among the bottom 10% earners only 9.2 % attend private tutoring.

The table on next page shows Factors that Contributed to "Heating up" of Juku Attendance, Japan (Parental Response Rates).

Table 2.1:

Factors Contributing to Juku in Japan

FACTORS	%
Insecurity arising from sending children to school only	66.5
A society that places emphasis on academic credentials	59.9
Increases in educational investment per child due to the decreasing birth rate	38.6
Diversification of services in the private education sector	14.5

Source: (Dawson, 2010)

Other studies in East Asians societies also shows that higher income families spend more on private tutoring compared to poor families. As a trend, predominantly high income earners also have higher education level who emphasise the importance of quality education(e.g., Jelani & Tan, 2012; Pallegedara, 2012; Safari ´ska, 2013; H. Shen, 2008; Silova, 2010; Tsang, Ding, & Shen, 2010 cited by W. Zhang,2014.) This observation is also concurred by similar studies conducted in France and Egypt. In more established social classes, families enjoy a better quality of tutoring (Hartmann, 2013; Oller& Glasman, 2013). A recent study by Li & Choi (2014), also finds that higher income from the gambling industry in Macao and less time for parents to supervise their children homework has increased demand for private tutoring in Macao. However, the studies also show that poor and single parents spend more on private tutoring. This is because they were working for longer hours, thus could not help in their children

homework. Another reason is it is also a way single parents keep their children safe and occupied in their absence.

Parents Education

Educated parents emphasis more on the importance of good education to their children. They realize the good quality of education shall be a determining factor in the academic excellence of their children. The education level of parents also affects the family income level. According to the human capital theory, higher education increases the income of the individual.

Children whose parent has a higher education have a higher percentage of demand for private tutoring than less educated. In Korea, children whose father completed tertiary education have a higher percentage (1.7 times) in seeking private tutoring than children with fathers who have a lower level of education(Song et al. 2013).

The study also argues that parent's education level is a more powerful factor than family income in affecting demand for private tutoring. Kim & Lee (2010) , found that fathers with master degree and mother with degree spend more (10% of household expenditure) for private tutoring than parents who have a secondary school education.

In Kazakhstan, Kyrgyztan and Tajikstan, Silova (2010), found that private tutoring is more widespread among students whose parents have received a higher education (degree or incomplete higher education). These students' compromises of 48% of all students in private tutoring compared to 28% of students whose parents have less education. Silova (2010) also found similar findings in other countries like Azerbaijan, Mongolia, Slovakia, Ukraine and Poland. Even though, these countries show minimal differences but the results explain that educated parents recognize the potential benefits from investment in private tutoring (Silova, 2010).

Some studies analyze the effect of education level of mothers on demand for private tutoring by their children. The results vary with some showing a positive and some have a negative relationship between education level of mother and demand for private tutoring. Bray et.al (2014) found in Hong Kong that the probability of seeking private tutoring is 45.4% higher for students whose mother has an undergraduate degree than students whose mother obtained only matriculation education. However, the study shows the probability is 45.0% lower among students whose mother has a postgraduate level degree.

Bray et.al (2014) justifies the reason for a negative result is because the postgraduate degree level mothers has a different view on private tutoring and this leads them to coach their children by themselves instead of external tutors. Also, it is noted that the parents practice this approach to nurture self –reliance in their offspring.

The above findings are consistent with Tensle and Bircan (2006) study in Turkey. Tensle & Bircan's study explain that an additional year of education by the father, the expenditure for private tutoring increases by 5% while an additional year in the mother's education, the expenditure of private tutoring increases by 8% .

The finding suggests that education of mother has a bigger impact on expenditure for private tutoring than the education level of the father (Bray et.al, 2014). Tensel (2006) also notes that parental education is more important for girls than boys in Turkey.

Lirio and de Guzman (2007), explain that Filipino mothers have a bigger influence in their children's education, which could be attributed to the amount of time they spend with their children. Hence, they are more likely to influence their children to attend private tutoring because they value and understand the economic and social benefit of a good education (de Castro & Guzman, 2014). Castro & Guzman's (2014)

study found that students who seek private tutoring have parents with a higher academic degree (80% of fathers and 85% of mothers have higher academic degrees).

Motivation Theories. Most of the motivational theories on private tutoring focus on the theories that affect a student learning new languages (mostly a foreign language). Examples are studies by Oxford & Shearin (1994), Lamb (2007; 2012), Mathews (2008) and Kim (2009). There are a few motivational theories that effect learning attitude of students. Intrinsic and extrinsic motivation, attribution theories are some of motivational theories that can apply in general across subject areas in learning a language (Mathews, 2008).

Expectancy value theory explains how a student belief to success and their value placed their success could motivate students academically. This theory explains that each student has different belief and value; hence it affects their motivation level to success.

Self-Efficacy theory explains the student ability to influence their academic achievement. The theory explains that students with high self-efficacy demonstrate lower anxiety, they put in greater effort in learning strategy, they are able to handle obstacles in their task and self-evaluate their academic achievement correctly (Mills, 2007). These types of students need less guidance to achieve their success. They are able to attain higher intellectual achievement (Bandura, 1997). In- contrast, students with low self-efficacy tend to complete easy tasks first where they put in minimal effort or avoid completing any academic assignment (Mills, 2007). Bandura (1997) said that self-efficacy belief is better predictor of student achievement than their initial ability.

The literature shows that student motivation is an important factor in influencing their achievement. However, it is quite difficult to measure student motivation. It needs a different dimension to study the motivational factor that creates demand for private tutoring. So, the study applies the motivation factor as a control variable.

Type of Tutoring.

There are a few types of private tutoring classes available in the market. One-to-one, groups, lectures and online tutoring services are some of types of tutoring classes. Among these, one-to-one and small group tuition services are popular among the students (Bray, 2014).

Bray notes that in Hong Kong, about one-quarter of students in Grades 9 and at least half of Grade 12 students received more than one type of tutoring, but very few used online tutoring. 38. 0% and 41.8% of the grade 9 and grade 12 students in Hong Kong received one-to-one and small group tutoring services

In Malaysia, there are two types of tuition services, institutional tuition, and private tuition. Institutional tuition refers to tuition services provided by tuition centers that operate as a registered establishment. The venue is mostly in shop lots or separate building. Private tuition is tuition services provided by a tutor for a small group students and one-to-one (Malaysian Tuition Guide). Private tuition is usually conducted in tutor house. These two types of tutoring services are very popular in Malaysia.

Juku. Juku is the core provider of private tutoring in Japan. Juku is bridging the gap between the shortcoming of the public school system and the expectation of parents for good quality education.

Roesgaard (2006) quotes that a representative of one of the largest junk chains in Japan, states that it "fills the holes left by the public system".

Some literature highlights the 'overreliance' on private tutoring may bring a bad impression on the quality of school education system. It is also argued that private tutoring is blocking any reforms on the education system in Japan (LeTendre 1994; Dang and Rogers ,2008;Russell, 2002; Dierkes, 2008 and(Dawson, 2010). Japanese government is considering measuresto reduces the pressure upon it students due to its education system. Dawson (2010), stated that public schools eliminated Saturday

classes to reduce the "pressure cooker" feel of Japanese education system. However many argue that the government move to relax the training has resulted in declining academic quality and achievements of students. This has becomes a driving forces to increases the demand for private tutoring.

"Juku" teach students materials that are not taught in schools. It also enables students to learn curriculum before it is being taught in schools(Dawson, 2010). Juku accelerates the student learning while school is relegated to be just a place for review. The Juku becomes a threat to public education (Russell 2002). The eagerness of parents and obsession on their children to excel creates demand for "Juku" services.

In Japan, the private tutoring or JUKU is controlled by the Ministry of Economy, Trade, and Industry (formerly MITI). But it has become difficult for the education ministry to monitor and control the Juku. The government approach is "laissez faire" (Bray, 2009). The industry is subjected to demand and supply of market as a determinant to compete and to thrive.

Hagwon (Korea). Private tutoring centers in Korea are called hagwon. The Korean education system is examination oriented which has resulted on heavy reliance on private tutoring in Korea. Kim (2002) and cited by Dawson, 2010, examine the reasons for "mushrooming" of private tutoring in response to "under-provided and overregulated formal schooling in Korea. According to Dawson (2010), this situation causes anxiety for Korean parents whose emphasis on the higher value on education, and the private tutoring utilize the opportunity. Dawson also highlights the finding by Kim (2002) which is coherent in Japan, that hagwons also teach the students in advance than public schools.(''sun-having-has-soup'- learning in advance'). The students in hagwon learn rapidly during school holidays, ahead of the school curriculum (Dawson, 2010).

In the 1980's, the Korean government tried to ban the private tutoring, but it was unsuccessful. Instead gradually, the services were legalized in Korea. Now, the Government is taking measures to counter the effect of private tutoring system.

A shift in policy began from the year 2000 with the Comprehensive Report on Prevention of Overheated private tutoring and Plans for Strengthening Public Education (Lee and Jang, 2008a). They also argue that the shift in policy signals a change from "resolution of overheated private tutoring" to "reduction of private tutoring cost".

After 2004, the government took a step to provide private tutoring for all students and especially to those who cannot effort them. Unlike Japan, the Korean government is strictly regulating policy to control the hagwon and prohibiting the teachers to engage in private tutoring (Kim & Lee, 2010). Byun (2008) found that the program reduces the expenditure on private tutoring. The programs benefitted rural and poor students in Korea cited by Dawson (2010).

Internet Tutoring. The Internet is also increasingly become a media for other forms of tutoring at a distance. Such tutoring may be conducted live, using Skype and other software, or it may take the form of self-service lessons (Bray & Lykins, 2012). Online tutoring is getting popular with the fast and easy accessibility of technologies. An example of Internet tutoring is Tutor Vista Global. Internet tutoring offers the US students less expensive tutoring.

Similar to one- to-one tutoring in America, the cost for online tutoring is between US$100 per hour and US$ 40 per hour for online tutoring, but Tutor Vista offers the service just US$2.50 per hour of tutoring. For example, StudyLoft4 created in 2005 in Chicago by an Americans of Indian origin operates from an office in Bangalore reports to conduct private tutoring to 5,400 American students (Bray, 2006 a,b). Tutor.com in America through University Libraries runs free tutoring services for 4th to

12th-grade students. The company with the office in New York has a network of over 2,200 private tutors (Ventura & Jang, 2010b).

In South East Asian countries, Internet tutoring is relatively a new approach compared to a traditional private tutoring. However, it is fast gaining popularity because of the low price and easy accessibility of Wi-Fi technologies. In Korea, the government is providing on- line tutoring through educational Broadcasting Station (EBS). The government tutoring helps to benefit the students who do not attend any private tutoring with the objective to reduce inequality in education.

Internet tutoring in Malaysia is very new and remains less popular than the traditional methods. There is not much demand for Internet tutoring as one of the reasons is the lack of extensive availability of the Internet. However, the government is introducing web base resources for students and teachers to master subjects like English, Malay, Science (also pure sciences subjects) and Mathematics (also additional mathematics).

Aggressive advertisement by private tutoring centers attracts parents and students. Bray & Lykins (2012), state that in PRC, Korea and Thailand companies stoke students and parents' anxiety through aggressive advertisement. Most of the tutoring centers use advertisements to promote their services and this could be through school students, parents, notices, poster, and banners or through mass media. Mostly the advertisements are placed in strategic locales where the parents and students could view examples in billboards or notice boards such as near traffic lights, schools, shopping centers or even distributed directly to houses. Some of the private tutoring centers readily highlight their past achievement of their students in the public examination to attract demand. These are a few reputable and highly sort after tutoring classes that need to be booked months in advance. The success of tutoring companies is measured by the many 'A's their students' scores in public examinations.

According to Bray(2013), most of the provider of private tutoring are pre-service teachers, unemployed teachers and university professors (Bray, 2013). School teachers are involved in private tutoring to supplement their income.

Most of the South East Asian teachers are paid with lower salary as it is in the case of Cambodia, where low salaries are listed to be one of the reasons for teachers offering private tutoring (Dawson, 2010). The Cambodian government has issued directive to ban the private tutoring by school teachers, but the directive lacks enforcement and sue to the low salary offered to teachers there is inadequate political will and support from the society to enforce.

Changes in Curriculum.

Many countries have undergone rapid changes in the education sector, significantly in the curriculum. The findings of PISA and TIMMS become one of the major reasons for the changes in the education sector for many developing countries including Malaysia.

Most governments are concerned about the deteriorating quality of their education system. Thus, many changes have been implemented in the education system to assess the system. The changes in formal education system bring changes to the private tutoring too.

The change in direction in demand for private tutoring depends on how parents perceive the changes in formal education. Demand for private tutoring will decrease if curriculum changes emphasis more on learning activities and effective pedagogical methodologies. However, if the changes brings in more students centered learning activities and less emphasis on examination oriented activities, demand for private tutoring will increase.

In Japan, 50% of grade 3 to grade 9 respondents in a 2008 Ministry of education survey stated that they like JUKU because they can learn materials which are not taught in their schools. (Dawson, 2010 p.18.) private tutoring services also concentrate on learning advanced course content than school syllabus. Lee et.al.2004, Dawson, 2010, terms this as "learning in advance". For example, in Korea, parents send their children to hagwons during school holiday to learn before commencement of the academic year with the intention that advanced preparation will keep ahead of the school curriculum compared to their peers.

Kwo & Bray (2014), also emphasize that students seek private tutoring because they do not receive adequate focus on examination preparation techniques. They also criticize that the majority of students attend private tutoring to improve examination scores (Kwo & Bray, 2014).

Private tutoring is focuses on improving skills to answer examination questions as opposed to schools which focus on learning. Teaching in schools is more holistic rather than solely acquiring specific examination skills.

The pedagogical methodology also affects students demand on private tutoring. Teacher centered pedagogical styles do not provide sufficient competency to meet the competitive economy market (Silova, 2010).

Silova (2010), also argue that Eastern Europe and central Asian students are weaker in learning skills required for problem- solving because the school curriculum is less connected to real life problem. The depths of teaching and learning material used in the school are considered to be inadequate to score in the examination. These factors culminate to create demand for private tutoring.

School teachers are seen to be preoccupied to cover the syllabus within the stipulated timeline. Kwo & Bray (2014), highlight a dichotomy of one student that a school teacher, over-teach by 120%. They also justify that teacher focus on teaching the

concept for proper understanding results in less emphasis on examination skills (Kwo & Bray, 2014).

Changes in assessment system results in teachers preoccupied with covering contents and assessing skills under School Based Assessment((Kwo & Bray, 2014).They focus less on revision or remedial activities. Most of the students could not understand the content of subjects because lack of such activities (Li & Choi, 2014). The School Based Assessment focuses on conceptual understanding a concept and rote learning rather than promoting independent thought, analysis that can give the ability to drill down to answer examination questions.

School Based Assessment System. Introduction. In 2012, the Malaysian curriculum was revamped, and a new policy was introduced. It is KSSR for primary school and KSSM for secondary schools. The new policy was intended to decrease and eventually change the examination-oriented syllabus to a holistic approach. School-based assessment (commonly referred to as PBS- "Pentaksiran berasaskan Sekolah" in Malay) was introduced to replace the UPSR and PMR, which is a summative format examination. In UPSR and PMR examination, student performance are measured by the number of "A" students obtained.

The examination oriented approach decreases students ability in critical and creative thinking. It could be one of the reasons why Malaysian students performed below the par in PISA and TIMMS. KSSR and KSSM is a holistic approach that evaluate the student ability in a school-based assessment from a period of 3 years, and it is formative. Students are evaluated individually, and each student is given a "Band" on their performance evaluation range from one to six. The highest band is six, and is awarded to excellent students who are articulate in every aspect (creative, critical, intellectual and good values).

The Malaysian examination system is adapted from the British public examination system, such as LCE/ PMR, MCE/ SPM and HSC/ STPM (Lower certificate of examination, Malaysian Certificate of examination and higher school certificate). The system is considered to be excessively examination oriented as it tests the student memory power rather than thinking and problem- solving skills. For this reason, it is seen to be very centralized. Examination questions were developed by the Malaysian Examination Syndicate (Lembaga Peperiksaan Malaysia) and the Malaysian Examination Council (Majlis Peperiksaan Malaysia). External examiners (teachers from the different school) are appointed to supervise the examination process. Answer templates marked by the appointed teachers, who do not have any knowledge of the candidates. The whole process places much pressure on the students where the teachers, parents and the school principal, also contribute to the pressure. To celebrate the success of this process, students and schools result are compared and published in newspapers.

The first shift in the Malaysian National Educational Blueprint (2013-2025) is to provide equal access to quality education of an international standard. One of the objectives is to revamp examinations and assessments that emphasizes on testing higher –order thinking skills by 2016 (National Educational Blueprint, 2013). Hence to achieve the objective, the government implemented School Based Assessment System that is to replace the PMR examination. The School Based Assessment comprises of four components:

(a) Written examination (conducted in Form three for Malay, English, Mathematics, Science, Islam studies, Tamil or Chinese language and living skills subjects)

(b) Project or folio based assessment for geography and history (which will be conducted within teaching and learning period in July and August during the Form three)

(c) Psychometric (assessing students careers and attitude)

(d) PAJSK (Assessment of physical activity, sport and co-curricular) and continuous school base assessment for all the subjects from form one to form three.

School Based Assessment system, introduced in 2010 to primary school (KSSR). Eventually, it was extended to from one student in 2012(KSSM). The system is aimed to retain the examination system but to a lower level on primary and secondary level (School Based Assessment as Transformation in Educational Assessment, the 4th international conference on measurement and evaluation in education, (University Science Malaysia, 2011).

Previous literature confirms that examination increases demand for private tutoring (Bray & Lykins, 2012; Bray et al., 2014; Heyneman, 2011; Jelani & Tan, 2012; S. Kim & Lee, 2010; Lee, 2013; W. Zhang, 2014). The studies found that the students seek private tutoring to enhance their performance in pubic examinations and it has becomes an indicator to gain entry to higher level education.

Chan & Bray (2014) argue that School Based Assessment system reduces the emphasis on public examinations. They lament that the private tutoring centers tend to take advantage of students and parental reservation and apprehension towards public examinations to secure their market. One of the marketing technique to attract students in Malaysia is the tuition providers advertise that they mimic PT3 curriculum. Few tuition centers also provide assistance in geography and history assessments.

Chan & Bray (2014) also found out that reporting of assessment results plays a role in reducing demand for large tuition classes that create competition from peers

compared to tuition centers focusing on one-on-one services. They hope that the implementation of School Based Assessment system could reduce the dependability of private tutoring.

Although School Based Assessment system aims to bring significant changes in the Malaysian education system, the PT3 (Form Three Assessment) still maintains some of the public examination procedures. Examination Board formulates the questions and issues the results. However history and geography subjects are 100% evaluated based on assignment assessment. Due to this mode of assessment, it might affect the demand for private tutoring for these two subjects. The National Blueprint (2013-2025) adapts HOTS (higher order thinking skills) questions in PT3 questions. Students need to synthesize and solve problem-based questions.

Private tutoring and Students Academic Achievement (Effectiveness of PT).

The effectiveness of private tutoring is always measured with student achievement in school grades and examinations. There are also other effect of private tutoring like improving self-confidence and child minding (Zhan, Bray, Dang, Lykins & Kwo, 2013). Thus, there are many ways in which private tutoring can be effective (Zhan, et.al, 2013). However, existing literature focuses the effect of private tutoring on student achievement.

Most of the students seek private tutoring for either remedial or enrichment purposes. For example, studies in America found that students seek private tutoring for remedial classes to understand the classroom teaching (Byun & Parker, 2012.).

Weaker students enrol in private tutoring classes with the intention to obtain a pass in a subject while academically inclined students participate in private tutoring to achieve better grades.

Butchman (2010) found that low scoring students are more likely attend tutoring classes in America to improve their performances. Whereas, the prime reason for high achievers enrol in private tutoring is to obtain better grades. A study among East Asian Americans found that, high achieving students seek SAT coaching to enhance their academic achievement. Baker et.al,(2001) found in Korea that high achieving students also seeking private tutoring, but the need for students for taking private tutoring are different. High achievers seek tutoring to compete and maintain good grades. Hence, it is paramount for parents to choose private tutoring services that provide according to their children need.

Most of the existing literature applies regression analysis to study the correlation between the effects of private tutoring on student achievement. Past literatures were divided over the correlation between academic achievement and private tutoring. Byun & Park (2012) in a study among American youth found that East Asian American students show a positive relationship between SAT preparation course and SAT achievement. However, the study shows that there is a negative relationship among whites and no significant observation among black and Hispanic students.

The study also identified a negative relationship with one-one tutoring and SAT. Byun & Park (2012) apply logistic regression analysis to study the correlation between private tutoring and SAT achievement of students. Zimmer, Hamilton & Christina (2010) also found that after school tutoring shows significant results in Mathematics achievement using regression analysis among students in Pittsburg. However the study also found that the after school tutoring program does not portray any significance in reading achievement among the students.

In Korea and Taiwan, Song et.al (2013) found that motivation and achievement have an effect on demand for private tutoring in Mathematics. The study also does not

find any significant result between motivation and achievement on private tutoring for Mathematics in Philippines and Romania.

Some literature refers to a positive correlation between student achievement and private tutoring. The correlation varies in subjects like English, Mathematic, and other preparatory courses. Choi, Calero & Escardibul (2012) studied the effect private tutoring on Korean students' achievement in PISA, 2006.

The authors establish that one or two hour per week in private tutoring shows an increase in PISA (Program for International Student Assessment) performance in Mathematics (Choi et al., 2012). Even though, the trend is different but the study finds tutoring increases student achievement in reading. However, the same results cannot be applied for science subject. Choi et.al (2012), found one or two hour per week of tutoring in science does not show any significance on PISA (2006) achievement.

Choi et.al (2012) used Hierarchical linear model and instrument variable method to study this effect. According to Choi et.al (2012), the finding corresponds with Park and Lee (2005) but contrast with Sung & Kim (2010). Both Park & Lee (2005) and Sung & Kim (2010), also apply Hierarchical linear model is used to measure the effect of private tutoring on student achievement in Korea. Even though the effect of private tutoring on the achievement of the subject is difficult to compare, private tutoring in Mathematics might give positive results as repetition will enhance the achievement but in science it needs understanding of theories and facts.

Student anxiety over getting good grades is also a driving factor for private tutoring take-up (Byun, 2014; Dawson, 2010; Zhan, Bray, Wang, Lykins & Kwo, 2013; Byun &Park, 2012). However the literatures does not show any significance between achievement and private tutoring (see e.g. Byun, 2014; Liu, 2012; Pramount & Domazlicky, 2006; Zhang, 2013; Zimmer, Hamilton, & Christina, 2010 (Bray et al., 2014).

Hamid et.al (2009) surveyed 228 grade 10 students from eight schools in a rural agriculture sub-district in Bangladesh. He used multivariate logistic regression, a specifically ordered logistic regression to investigate factors that independently affect the students score for the English subject. The regression analysis shows positive results among private tutoring in English and their grades in English.

Parents Involvement and Student's Achievement. According to Park, Byun, & Kim (2010), parental involvement is divided into two dimensions. The first dimension refers to involvement at home that can influence their children education. These are for example, discussion about school activities and monitoring the children educational progress and behaviours. The second dimension is parental involvement in school activities like volunteering at school programs and attending teacher-parents meeting. Park et.al(2010), argue that the decision in sending their children to private tutoring also can be considered as a form of parental involvement. To augment this observation, it must be noted that parents are spending a big portion of their disposable income on their children's tutoring classes (Kenayathulla, 2013).

West, Noden, Edge & David (1998) found that helping in school trips, attending parent-teachers association meeting and involve in open meeting and informal discussions with teachers are some examples of parental involvement in school.

Parents underline falling in school grade, preparing for examinations, supplement for school teachings and assist in learning difficulties are among the reasons to employ tutors (West, Noden, Edge & David, 1998).

Yang & Chang (2008) found in a Korean study that parents regardless of level of education feel that university degree is important for their children to attain better social standing and wealth. Thus, parents are sending their children to private tutoring to improve their examination grades and increase the chances of getting into universities (Yang & Chang, 2008).

Policy

Policy to Control PT. According to Bray (2003, 2009), there are four basic policy patterns in government responses to private tutoring. The government is either ignore, prohibit, recognize and regulate or actively encourage private tutoring. For example, in Korea the government attempt to ban private tutoring in 1980, but it failed. Subsequently, the government introduced a policy to monitor and control the private tutoring whereby the government took control of provision and finance of private tutoring (Dawson, 2010; Lee et.al,, 2010). Mori & Baker (2010), justified the measure by the government as a transition from an "outsider" to an "insider".

Some government like Taiwan set up a special administrative office to monitor private tutoring industry (Taipei Education Bureau, 2012a). The tutoring centers must be registered, and list the details of the centers on the bureau website. Officials from the Bureau regularly visit and supervise tutoring centers. The government has the right to cease the operation of centers that violate the regulations. The transparency provides information to parents on making wise decisions pertaining private tutoring services. The rules also enable the private tutoring centers to provide quality services to the students(Zhan, 2014).

Unlike Korea and Taiwan, in Japan, the private tutoring industry is being monitored by the Ministry of Economy, Trade and Industry. Even though the Ministry of Education monitor the development of private tutoring, but it is subject to market forces (Mori & Baker, 2010) which has resulted in the private tutoring industry monitored by the MITI. In Philippines too, the private tutoring centers registered as industry and not as an educational entity. It could serve as a barrier to control and monitor the private tutoring(de Castro & de Guzman, 2014).

In Malaysia, the private tutoring industry is controlled by the education department under the 2006 regulations. All the private tutoring centers must be registered with the private education department. It does not include private tutoring provided by an individual or one- to-one private tutoring. This has implication for the value and quality of the private tutoring services and government. There is no regulation that controls the individual tutors. They also could avoid paying taxes on the income received from the tutoring services. Silova (2010), identify four reasons why private tutors operate in the shadow economy and avoid registering themselves legally. Firstly, the bureaucratic procedure to legalize their services, burden the tutors. Most of the individual tutoring centers are reluctant to register as they deem the procedures to be tedious and lengthy. Lack of enforcement, the absence of implementation mechanism and insufficient taxation incentive, are other factors contributing to the legalization of private tutoring. The government should set up a special bureau that could improve the implementation of regulations, supervision, and control of private tutoring. The government should monitor private tutoring to ensure it becomes a supplement rather than the competition to the school system.

The public policy on PT. The education act 1996 (Act 550), is mainly focused on institutional private tuition.(Bahagian Pendaftaran dan Piawaian; Jabatan Pelajaran Swasta; Kementerian Pelajaran Malaysia., 2003). The department of private education also issues regulations to private tutoring institutions. The department has issued detailed and comprehensive regulations for establishing the institutions and having some quality control.

However until 1999, there is no policy or regulations from the department of private education which could regulate and monitor private tutoring in Malaysia. Education Ministry issued a circular on 1999(SPP 1/1999), a guideline to education department employees defining their involvement in outside employment. According to

the circular, teachers must apply for approval from the head of the department to conduct activities that generate income other than current employment. Government servant should get the written approval from the head of the department to conduct any business outside. In 2006 (SPP Bi.l 1/2006), education ministry issued a specific circular on a guideline to give approval to teachers to teach private tuition. It is because the practice has become rampant that many employees are not complies with the earlier regulation. The department received many complaints about teachers' involvement in tuition classes without the approval of the head of the department (SPP Bil 1/2006) and have received complaints that teachers give priorities to tuition than their teaching and learning at school. The circular indicate that the teachers are not allowed to conduct private tutoring not more than four hours per week.

Teachers are prohibited from promoting their tuition services among school students and involve in private tutoring institutions operated by close relatives. Teachers also need to apply yearly for approval to conduct private tutoring from the head of departments. The private tutoring teachers also should ensure they attain at least eighty percent performance score. Teachers are also required to hav their job confirmation (as opposed to being on probation period) before they involve themselves in private tuition. Approval is given to the teachers to give tuition only at centers registered with the state department. Teachers also prohibited from using any resources from the school for the tuition purposes.

Teachers are not allowed to provide their tuition services not more than twenty-five km from their working place. Teachers are given approval to conduct tuition only for one year. However, they could extend their services using the previous application.

1. Application requirement:
2. The document required to submit the application is as below:
3. Two application copies(Appendix A)

4. A photocopy of service book
5. A photocopy of school timetable
6. A photocopy of license of tuition center registered with state education department
7. A photocopy of offer letter as tuition teacher from tuition center.
8. A photocopy of tuition class timetable

The head of the department must ensure that the applicant complies with all the regulation before the approval is given. It is the responsibility of the head of the department to monitor the applicant tuition activities and ensure that it does not affect the productivity of teacher at school. The head of the department also should advise that the applicant to comply with the terms of Rule 5 (3) of the Rules of Public Officers (Conduct and Discipline) Regulation 1993. The rules are as below:

1. The job is not performed during office hours while ensure that the officer is required to perform his official duty with prudence.
2. Not in any way misused his position as a public servant.
3. Not in any way conflict with the interest of department or inconsistent with her/his current position

The implementation process. Application from officers with job grade DG 48 and above must be approved by Secretary General. Applications from officers below DG 48 are approved by the head of the department. However, the school level application is approved by the Director of state education department. Application from teachers institute lectures, approval, is given by the Director of teachers' education section. Application for Matriculation lectures and support is given by the Director of Matriculation section. Director of technical and vocational division will approve an application for technical and vocational school teachers. A copy of approval letter is forwarded to the head of the department.

The outlined policy on private tutoring is a top-down approach. Education Ministry formulated the policy and imposes them on the teachers. The head of the department is instructed by ministry to monitor the teachers at school level. The principal is not given sufficient information on the policy. Schools are instructed to implement the circular. However, it depends on the school to choose the implementation process. The district or state education department does not monitor the implementation of the circular at the school level (SPP Bil 1/2006). Even at the ministry level, there is not much emphasis on following the implementation process of the policy. It depends on principal to implement and monitor the policy. When there is a lack of monitoring from the stakeholders, the policy fails to implement successfully (Haddad, 2012). The success of a policy depends on certain factors. These are identified, according to the implementation theoretical framework; a success of a policy depends on the interaction between people, policy, and place.

Summary .

Most of the literature above revolves on two aspects: demand for private tutoring and factors which influence growth and take up in private tutoring. The demand of private tutoring is either measured by time spent on private tutoring or expenditure for parents due to private tutoring. Individual, household, and school factors are the three dimensions commonly discussed by researchers in private tutoring. The literature analysis also shows that private tutoring is very salient in South East Asia countries where private tutoring has become an essential service with elasticity less than one.

Researchers also argue that private tutoring is becoming a parallel service to school curriculum, and the even government may consider legalizing private tutoring and adapt them into the education system. Past studies found a correlation between

demand for private tutoring and examination such that student's enrolment for private tutoring increases when they sit for public examinations.

In order to alleviate the pressure on students, school Based Assessment is introduced to reduce the pressure of examination on students. Chan & Bray (2014), anticipate that the implementation of School Base Assessment would reduce demand for private tutoring. This research aims to study the demand for private tutoring among private tutoring 3 students. PT3 is a new assessment system implemented in Malaysia to reduce the emphasis on examination.

CHAPTER 3

METHODOLOGY

Introduction

The objective of the study is to investigate the determinants of private tutoring and the effect of private tutoring on student achievement among Malaysian students specifically among PT3 students. The research applies an economic approach in examining the effect of PT3 examination on the participation of private tutoring. The study uses ordered logistic regression, binary logistic, ordinal logistic and multinomial regression to answer research questions. Respondents of the study are Form three students who sat for PT3 examination at 2014. The study will select respondents from four regions in the country. The chapter explains the methodology of the study in detail.

The first part of this chapter explains the research design. The second part describes the sampling procedure and sampling frame of the study. The third part of the methodology, explain the variables of interest and design of the research instrument. The fourth part of this chapter shows an overview of data collection procedures, validity and reliability issues. Finally, the last part explains the statistical analysis technique and the qualitative data analysis technique.

Research Design

Epistemology and Ontology Methodology. The epistemology and ontology shape the approach to theory and method that is applied in a research (Marsh & Furlong, 2002). Most of the social science which apply quantitative method practise positivism which observes everything that happen and try to understand without any changes. Conversely, the qualitative parts apples relativists. The mixed method research design needs to find a balance of both to form an appropriate methodology for the research.

The study is a mixed approach research design that uses explanatory sequential design. According to Creswell (2012), the mixed methodology approach requires a mixture of qualitative and quantitative data collection procedure and analysis at the different stage of the research process. The explanatory sequential design is a two phase method which the researcher first collect quantitative data and subsequently collect qualitative data. The benefit of this method is, it will provide a general view of research question and the qualitative data will refine, extend or explain the general view (Creswell, 2012). The method also clearly differentiates the quantitative and qualitative parts. In this method the researcher place a major weightage to quantitative data than qualitative.

The weakness of this data is the researcher needs to identify the scope of quantitative findings which require further refine from qualitative data and correct samples and questions to ask. Usually in explanatory sequential design, the quantitative data analysis will be reported and subsequently the qualitative data analysis.

The mixed approach gives a rich data to understand better the research problems (Creswell & Plano Clark, 2007, p. 5). The qualitative data triangulate the quantitative findings of the study.

Bray & Kwok (2003) proposed a mixed approach methodology in private tutoring. According to Bray & Kwok (2003), the survey research provides an 'overall picture of patterns' but it limits students information. However, even when students are given space and time to write their comments, they are unwilling to provide further information.

Zhan, Bray, Wang, Lykins & Kwo (2013), explain that interview data will triangulate and illustrate the findings of survey. Moreover, the mixed approach is also used to increase the validity and reliability of research data (Cresswell, 2012).The

interview process also enables the researcher to discern whether the students have the ability to understand questions on private tutoring.

Validity and reliability of both methods will be established in this research. In the data collection process, first the survey will be conducted, and respondents for the interview randomly chosen from the survey respondents.

The research applies the second order of mixed method approach suggested by Creswell & Plano Clarke (2007), in merging, connecting and embedding the data. The data set is connected, and the connection is sequential (Hamid, 2009). The interview needs to be conducted at the school on the same day as the survey to ensure the validity of the student answers.

According to Creswell (2005), the survey method helps to identify beliefs and attitude of the individual. The research will conduct a cross-sectional survey design with Likert scale. The study applies a cross-sectional survey because the data is going to collect one point in time. The study will use interview method because certain construct such as behavior and feelings cannot be measured by observation (Merriam 2009, p. 88,). Meriam (2009) also add that interview is the best technique to use when conducting intensive case studies on a few selected individuals. If students are reluctant to write down their comments as it takes time and they are weak in constructing sentences, the interview will help to collect more reliable data.

School samples for the study are chosen from five sates of different region in Malaysia. A district is chosen from each state according to the proportion of Malaysian population. Example, the chosen district does not predominantly any particular race. This is important to ensure the samples consist of Malay, Chinese, Indian and other races. An urban and rural school from same district are chosen from the list given by the district education department. The rural schools chosen are consistent in distance from

each other's. Furthermore the rural samples are not very far from the nearest town. Parent's permission is obtained through the school's Counsellor..

Even though the research uses a mixed method approach but in terms of weight, the study focuses more on quantitative approach than qualitative. The reason for the focus on quantitative method is because most of the existing literature focuses on quantitative method to answer the research questions. Multiple regression (Song, Park, & Sang ,2013),hurdle (Kenayathulla,2013) and instrument variable method (Lee, 2013) are some examples of quantitative methodology. The methodology will discuss further in instruments.

In the most of the literature review, two models are used to measure the demand and expenses for private tutoring (Bray et al., 2014).Tansel and Bircan (2006), used Tobit model (base on Engel curve framework) to estimate the relationship between family variables and private tutoring expenditures. However Kenayathulla (2013) used Hurdle model to measure the relationship.

The choice to use which model lie on whether demand and expenditure for private tutoring is measured separately or combined together ((Bray et al., 2014). The Tobit model assumes the factors that affect demand for private tutoring and factors that influence the money spent for private tutoring are as same. Whereas in Hurdle model, the factors are independent of each other and psychological factor plays an initial role in affecting demand for private tutoring but economic factors influence expenditure on private tutoring (Bray et.al, 2014.). Hurdle model consists of two steps. The first part of the hurdle model is a binary logistic model that estimates the parameters of student decision on participation of private tutoring. The second part of the hurdle models a linear regression model to estimate parameters of student decision on private tutoring expenditures (Kenayathulla, 2013; Bray et al., 2014). The current study applies regression models to answer the research questions.

The research focuses on the possible determinant of demand for private tutoring at four levels namely individual, household, community, and school factor (Bray, Zhan, Lykins, Wang, & Kwo, 2014; and Kim &Lee, 2010). First, the empirical data will be collected from students who were not well equipped to answer broad questions that would have permitted comparison between societies and communities. Second, the effects of urban and rural factor on private tutoring have been studied before in prior research in Malaysia, and the study found that the effect of urban is significant (Kenayathulla, 2013; Jelani & Tan, 2012).

The study focuses on participation of private tutoring in two different categories of subjects. The first group refers to academic subjects (Kim & Lee, 2010) that students need to sit for the examination in PT3such as Mathematics, Malay language, English, science, living skill, Islamic studies and languages spoken by the student. The second category is history and geography that is a non-examination subject at PT3 level. Private tutoring refers to any tutoring services provided with charges to students. The study excludes tuition services provided in lecture styles with the help of LCD projector and microphone. This is because these styles need a different dimension. The study also excluded tuition provided by the non-governmental organization (charges no fees). The tuition provided by the non-governmental organization has different objective and direction.

Sampling

Population and Sampling The population of the study is the regular national secondary schools in Malaysia (refer to Table 3.1). It is because the national secondary school has the student's population resembles to Malaysian population. It also because the students do not stay at hostel as it will influence the demand for private tutoring. Students who stay at hostel probably have little chance of going out for private tutoring

classes. The school normally conduct free extra classes for the students with no additional charges. The study also excludes schools that have an enrolment of one gender only (all boys and girls schools) because this type of schools does not represent a good selection of the sample for the study. Table 3.2 shows the number of PT3 students in 2014.

Table 3.1

Regions in Malaysia and number of schools

Sates	**Regions**	**Number of schools**		**Total**
		Urban	Rural	
Perlis Penang Kedah Perak	Northern	188	222	410
Selangor Wilayah Persekutuan Negeri Sembilan	Central	279	53	332
Johor Melaka	Southern	142	122	264
Terengganu Kelantan Pahang	East Coast	144	255	399
Sabah Sarawak Labuan	East Malaysia	84	225	309
Total		837	877	1 714

Source: MOE, 2012.

Table 3.2:

Total Number of Form Three students in Government secondary schools

Male	Female	Total
213,772	212,159	425,931

Source: EMIS, 2014

Quantitative Sampling. Creswell (2012) identifies population as a group of individuals who have similar characteristics (p.42). Thus, in this research the target population is the total number of PT3 students in Malaysia. In stratified sampling, the researcher divides the population into specific characteristics (e.g. gender, location, quality of schools, student's achievement level). Then, using simple random sampling, sample from each sub- group (stratum) of the population is selected (Creswell, 2012, p.144).It is to ensure that the chosen sample is a good enough representative of the target population.

Creswell also underline that approximately 350 individuals are sufficient for a survey study in the educational field. However, he also cautions that this sample size will vary depending on several factors. For example, the sample size also depends on the type of statistical procedure used to analyze the data. Miaoulis and Michener, (1976), specify three criteria that are needed to be specified in order to determine the appropriate sample size. There are the level of precision (or sampling error), the level of confidence or risk and the degree if variability in the attributes being measured.

Sahu (2013), state that sampling theory can visualize as consisting of three major components:

Selection of proper sample

Collection of information from the sample

(c).Analysis of information to draw inference about the population as a whole.
(Sahu, 2013, p.45)

Roscoe (1975) purposes the following rules of thumb for determining sample size are.

1. Sample size larger than 30 and less than 500 are appropriate for most research and where samples are to be divided into subsamples (males/females, juniors/seniors)
2. Minimum sample size of 30 for each category is necessary.

The sample for the research is chosen from five regions according to Malaysian geographical area. Table 3.1 illustrates the states in five regions and number of schools. Equal number of schools is chosen from urban and rural areas of the five regions. Two schools are selected from each region; one each from urban and rural. The urban and rural schools are selected within the same district. This is to ensure the schools selected are situated in the same economic development areas. The differences in economic development of the area will influence the demand for private tutoring.

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In each school, three classes is selected. The selected classes consist of good students, average students, and weak students. The average students from each class are 29 (EMIS, 2014). This prevent any bias in collecting data from a certain group of students. Selecting students randomly is difficult in Malaysian education system because most of the schools, categories of students according to their academic

achievements. First classes consist of students with good grade whereas, students with weak academic achievement is placed in last classes. Students are classified according to the end of the year results.

Choosing students randomly might end up with collecting data from students biased with certain level of achievement only. The researcher distributed the questionnaire to three different classes of PT3 students. This sampling procedure ensures the samples are a good representative of the population.

Two schools are selected from each region and comprises of one school in urban and one school from rural. The total numbers of schools are ten schools from five regions: rural five schools and urban five schools. The chosen schools also represent high performing schools (band 1 and 2), average schools (Band 4 and 5) and lower band schools (band 6 and band 7). The chosen samples also need to represent according to category A and B schools. Each school has an average of 29 students in a classroom (EMIS, 2014).

The total numbers of schools chosen are ten schools. In each school three classes are chosen, consists of academically good students, average students, and weak students. So, the calculation of sample size is as below:

(Number of schools X number of classes X average number of students)

(10 schools X 3 classes X 29 students) = 870 students

The study uses above calculation in stratified purposive sampling, which includes the location of schools and the academic level of students for each region. The sample size is also reaffirmed by calculating using Miaoulis and Michener, 1976 criteria in the sampling method. The study chooses a confidence level of 95% and sampling error ±5. The study also applies a design effect of mulch-stage sampling (Bray et al.,

2014), inline the sample size is double. Bray et.al (2014), also increase the sample size by 105%, taking into account of sampling error. So the sample size is: (384 X 2X 105%) = 806.4 (810 respondents). 384 are chosen from the simple random sample table that is the suggested sample size if the population is more than 1,000,000. It shows that the purposive stratified sampling method (870 students) is sufficient for the study.

The minimum sample size from the table for determining sample size from a given population is 384 students (for a population of 1,000,000). The calculation is based on the random sampling method. However the study is only able to collect data from 669 respondents. This is due to the lower number of enrolment in rural schools. The average of the students in each class in rural schools is 20 students.

The research uses purposive stratified random sampling method. Stratified sampling is used because the respondents consist of PT3 students in 2014. Respondents are also chosen from three different classes in two schools from five regions. The schools are chosen based on location and their band whereas the sample is chosen from national secondary schools only. The sample schools are chosen randomly from each region and show a representative percentage of races and gender of the Malaysian population.

The Table below shows the number of respondents according to the regions, location and gender.

Table 3.3

Characteristics of respondents

Location			State of Samples					Total
			Northen states	Central	Southern	East Coast	East Mal.	
Urban	Gend	Female	39	25	57	38	37	196
		male	39	33	22	24	33	151
	Total		**78**	**58**	**79**	**62**	**70**	**347**
Rural	Gend	Female	35	37	24	28	26	150
		male	35	32	29	42	34	172
	Total		**70**	**69**	**53**	**70**	**60**	**322**
Total	Gend	Female	74	62	81	66	63	346
		male	74	65	51	66	67	323
	Total		**148**	**127**	**132**	**132**	**130**	**669**

Interview Samples. The study also conducts interview as a qualitative method to collect in-depth data. The total number of sample for interview is ten students from ten schools. One student is selected from each school for interview. Two schools are selected in each region. There are total five regions in Malaysia. Thus, the total number of students chosen for the interview is ten students. The samples also consist of five urban and five rural students. The samples is well represented in terms of race and gender (approximately five girls and five boys; 6 Malays, 2 Chinese, 1 Indian students and 1 Iban students (indigenous).

The students chosen for the interview are from students who answer the survey and participated in private tutoring. The students are chosen randomly with their willingness to participate in interview.

Table 3.4

Interview Samples

Region	Gender	Race	Location
Northern	Girl	Malay	Rural
	Boy	Malay	Urban
Central	Girl	Chinese	Rural
	Boy	Malay	Urban
Southern	Girl	Indian	Rural
	Boy	Malay	Urban
East Coast	Boy	Malay	Rural
	Girl	Malay	Rural
East Malaysia	Boy	Iban	Rural
	Girl	Chinese	Urban

Research Instruments

Methodology

Quantitative Instrument. The researcher designed and developed a self-administered and context-specific questionnaire to be distributed to students in a survey. The items in the questionnaire are developed from the literature review. The questionnaire is developed based on the questionnaires from Mark Bray (2012) and it is validated with multiple sources of validation and reliability tools.

The researcher also verifies the questionnaire from the expert in the field of private tutoring, Kenayathulla. The survey is adapted from Bray (2012) because the questionnaire is tested recently in a survey study in Hong Kong that also measures the determinants of private tutoring and as well as student achievement which are similar to

the current study. The variables of research questions of the current study are coherent with Bray's (2012) study.

The study also uses Likert Scale questions. The Likert scale used is a 5 point scale range (Usebersax, 2006). The five scale point are strongly disagree, disagree, agree, strongly agree and no opinion.

The research follows the recommendations by Lydeard (1991). Lydeard (1991) listed a number steps necessary to develop a questionnaire. The steps are:

1. Define the area of investigation
2. Formulate questions
3. Choose the sample and maximize the response rate
4. Pilot and test for validity and reliability
5. Recognize source of error

The questionnaire compromises the following items:

1. Cover letter (permission letter from the Ministry and State Educational Department)
2. Instruction for the respondents
3. The demographic items to collect information on their classes, gender and race (section A: 11 items).
4. There are five different section in the closed-ended and Likert scale questionnaires. The first section (Section B: 6 questions) is to collect information on education and income level of family. The second section (section C: 6 questions) is to cross check student financial background.
5. Section D (16 questions) in the questionnaire is to collect information about student private tutoring activities and student achievement in PT3 examination. .

6. Section E (3 questions) in the questionnaire is to collect information on private tutoring for geography and history subjects.
7. Section F (2 questions) in the questionnaire is to collect information on reasons why students are not taking private tutoring and their achievement in PT3 examination.

The researcher explains to the school and respondents about the confidentiality of information and respondent identity. It is ensured that the identities of the respondents are kept anonymous. The researcher also explains the questions in Malay for students who may not have a good command of English. Every question that is close-ended needs to be explained in detail. Students are given adequate time to understand and answer the questionnaire. Students also allowed asking questions to clarify items that they could not understand.

Qualitative Instruments. Most of the research on private tutoring applies either quantitative or qualitative methodology. The current research uses an interview to collect the qualitative data .The interview questions are also repeated questions from survey to collect in-depth information (Zhan et.al, 2013).Interview questions are self-developed by the researcher and it is checked by an expert in the field.

The interview questions are developed in English and Malay, The translation is verified by an English teacher with twenty years of teaching experience and a native of Malay. The researcher developed the interview questions based on the research questions and past literature. There are ten interview questions which are categorized and analysed according to the themes. The interview data is collected for an in-depth understanding to answer the research questions. It also helps to validate the findings of survey questions. The qualitative questions are to triangulate the quantitative findings.

The questions are formulated by the researcher base on the needs to triangulate the quantitative findings. The interview questions are important to confirm information obtain from questionnaire to answer research questions of the study. This is very important because the respondents are form four students and hence they are not serious in answering the questionnaire. The interview is held spontaneously and individually, it could help to get valid and reliable information from the students.

The researcher needs to establish a friendly environment with the students prior to the start of the interview. The interview is conducted in Malay language since all the samples chose Malay language as preferred language. The researcher introduced herself and highlighted that the researcher also is a current school teacher. This is done to familiarize, build rapport and to remove any shyness or 'fear factor' in students. The researcher explains the interview procedure and confirms the students understand it. The content of the interview protocol is explained to the students and the researcher ensured students answered according to the questions (Questions would be repeated again). The time of interview varied from 20 to 30 minutes.

The students probably will feel uncomfortable because the researcher is an outsider. Students are given enough time to think before answering the questions.

The researcher recorded the interview with the permission from school principals and obtained prior permission from the student.

The recorded interviewed were played back to the students to confirm the information. At the end of the interview session, students are given an opportunity to express their opinion on the effect of PT3 system to their performance in PT3. It helps to understand their performance in PT3 assessment.

Table 3.5 and 3.6 shows the variables that are involved in the study. Table 3.5 shows the dependent variables. The first dependent variable that measured in this study

are participation in private tutoring or not participate in private tutoring. The second dependent variable that measured is the amount of time spent in private tutoring.

The ordered logistic method measures student's performance in PT3 as dependent variables. Table 3.6 shows the independent variable that will be investigated to test the effect on dependent variables.

Variables:

Table 3.5

Dependent and Control Variables

Category	Instruments
Dependent Variable	private tutoring Participation (Yes/No) Time spent in private tutoring Student's Performance
Control Variables	Student's motivational level, peer influence, parent's value on education

Table 3.0.6: Independent Variables

Category	Instruments
Individual factor	Gender, order in family, reasons for taking and not taking tuition.
Household factor	Race, education level of parents, family income, and help received for revision, expenditure of tuition-monthly.
Community Factor	Location of tuition center, availability and transportation options, type of tutoring, tuition providers, tuition information received from, type of activities in tuition.
School factor	School quality, number of students in classroom, quality of coaching, resources in schools, policy changes (PT3 assessment),PT3 implementation, taking tuition for geography and history, reasons for taking/not taking tuition for geography and history.

Preliminary Study

A pilot study is carried out on 18 May 2015 to test the reliability of items in the questionnaire. The sample consists of sixty-five students from three different classes.

Researcher assembled the students in a room. The researcher explains each question and asks students to choose their answers. It took almost one hour to complete the pilot study. The researcher also accepts questions from the students and answers them. There are several findings from the pilot study.

1. Most of the students could not identify the education level of their parents.
2. Students also have difficulty in identifying household income.
3. The household income level is very high for the Malaysian standard.
4. Most of the students identify friends as another choice who help with their assignment and revisions
5. Study at home
6. The multiple answers need further explanation.
7. Questions 6 in section D need to modify. The students appear confused with the choice of time spent given for three different categories for different type of subjects.
8. Students also misunderstood Questions 7 in Section D.
9. Instruction for question number 13 in section D needs to be simplified.
10. Question number 3 in section E, the Malay translation was missing.

Table 3.7 The Cronbach's Alpha Value

Questions	Number of items	Alpha Value
1 If you can understand your school teacher's lectures.	8	0.622*
12 To what extent do you agree that Private supplementary tutoring has improved your performance	5	0.742
13 To what extent do you agree with the enrollment in private tutoring after the implementation of PT3 examination	5	0.472
15 How would you rate the effectiveness of the following types of private supplementary tutoring in preparation for PT3 examination	4	0.758

*Cronbach's Alpha Based on Standardized Items.

Base on the findings from the pilot test the questionnaire is edited. The pilot study also found out that all the sixty-five students did not take tuition for geography and history. From sixty-five students, only thirty students participate in private tutoring. The Likert-scale questions are tested for reliability. There are five Likert- Scale questions in the questionnaire.

Reliability Value of Pilot Study

Question 1. The above table shows Alpha value for the Likert-Scale questions. The Cronbach's value for first questions is 0.622 (Cronbach's Alpha based on standardized items). The questions also provided an Alpha value of 0.631 for the pilot study conducted by Dr. Bray (2012). Living skills and Islam studies have Cronbach's

value below 0.50. Living Skills and Islam studies will be deleted for the empirical research.

Question 12. The Alpha value for questions twelve is 0.742. It shows a reasonable internal consistency among the items measured.

Question 13. Questions number 13 shows a very low Alpha value, 0.472. Item one is a negative score in question thirteen. The Alpha value increases to 0.720 when item number one and four are deleted. Thus, for the empirical research, only three scores for questions 13 will be included (item number 2, 3 and 5).

Question 15 The Alpha value for questions number 15 is 0.758. It shows an internal consistency among the items. However, the other type of tutoring shows Alpha value of 0.443. Hence, for the emprical research, the alpha value is calculated again. Other than Likert-Scale questions, the questionnaire also consists of multiple answer responses and dichotomous (Yes/No) questions.

Reliability and Validity of the Study

The Reliability and validity of the Instrument. Reliability refers to the consistency of measurement of the items it intended to measure (Sekaran, 2003). Realiablity is used to measure the extent the scores are consistent with each other(Leech, N. L., Barrett, K.C. and Morgan G.A.,2011). Reliability could be tested with test-retest, parallel-form reliability (stability), inter item consistency (Cronbach's value) and split-half reliability. Both Cronbach's value and split half reliability test is to measure the consistency of items (Sekaran, 2003).

Sekaran (2003) also define validity test as how well a particular developed item could measure the particular concept correctly. Validity helps a researcher to identify the correct concept or item that is intended to measure.

Studies conducted by other researchers have tested most of the variables that used in the study. Past literature gives a detailed framework of factors that are affecting

the demand for private tutoring. Furthermore, a pilot study has been conducted on May 2015, to validate the items in the questionnaire and to ensure that the students clearly understand the questions. Two students are selected to conduct an interview during which students are asked if they have problems in understanding each question.

Cronbach's alpha for each component measure is examined to test the reliability of the questionnaire. Cronbach alpha is a commonly used to test the extent to which multiple indications for a latent variable, belong together. A general rule is that the alpha value should be 0.70 and above (Leech et.al, 2011).

Exploratory Data Analysis (EDA) is conducted to enhance the validity and reliability of the construct. There are several reasons to conduct an EDA. EDA is conducted to check for outliers, not- normal distribution, problems with coding, missing values, and/ or errors in the data. Table 3.8 shows the EDA analysis for the dependent variable. The analysis shows that there are no missing values in the analysis. The value of Mean and variance are similar in Table 3.9. It shows the data are normally distributed. Value of Skewness and Kurtosis also shows the data are normally distributed. Table 3.10 shows the analysis for normality. The significant value shows that the data are normal. Other reasons are:

1. To examine the extent to which the assumptions of the statistics are met
2. To examine the relationships between variables and based on the results, variables that have high correlation can be combined or removed.

(Leech, Barrett,& Morgan, 2011)

Table 3.8

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Take Tuition Or Not	669	100.0%	0	0.0%	669	100.0%

Table 3.9

Descriptive Analysis

			Statistic	Std. Error
Take Tuition Or Not	Mean		.2990	.01771
	95% Confidence Interval for Mean	Lower Bound	.2642	
		Upper Bound	.3337	
	5% Trimmed Mean		.2766	
	Median		.0000	
	Variance		.210	
	Std. Deviation		.45814	
	Minimum		.00	
	Maximum		1.00	
	Range		1.00	
	Interquartile Range		1.00	
	Skewness		.880	.094
	Kurtosis		-1.229	.189

Table 3.10

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Take Tuition Or Not	.444	669	.000	.575	669	.000

a) Lilliefors Significance Correction

The study also populates the sample to 105% to minimize the missing data

effect. The researcher personally enters the class to explain the requirement of the questionnaire and read out the questions and explain them. The researcher present during the survey to clarify the questions if the students could not understand. The questionnaire also developed in Malay language for the students to understand easily.

The assist teacher will be briefed clearly if the researcher could not enter the classroom personally to distribute the questionnaire. It is necessary as in some schools the principle will not allow researchers to be present in classrooms.

The Reliability and Validity of Survey. The survey is developed based on readily available questionnaire by Bray,(2012) which validated by a pilot study. Changes will be made based on the feedback from the students. Questions are made short and easy, and consist of close-ended and Likert scale questions. It helps the students to choose their options. One of the advantages of the close –ended questions is that it will help the reluctant students to express their opinions.

The close-ended questions are more practical because the entire sample will answer the questions using the options given. It provides the researcher an opportunity to compare responses from the sample. However, the students' answers are limited with the given options only. Hence, it is important to conduct interview to collect further rich and detail information. The survey is developed in Malay language to enable the students to easily understand the questions. Since the questioner is collected immediately after the students answer the questions, the study is believed to have a high response return rate. This is in contrast to leaving the questionnaire with the respondents for them to answer at a later time.

The application of multiple data analysis is also called "within method" (Olienik, 2010). The study uses t-test, binary regression analysis and instrumental variable to analyse the survey questions. Another type of triangulation is multiple sources of data (Denzin, 1978).

The study uses survey and interview to collect data. Human capital theory, supply and demand theory and educational production function theories will be used to confirm emerging findings of the study. These will increase the validity of the findings. Multiple sources of data from different background also enhance triangulation. Data is collected from students with different background such as races, regions, locations, socio-economic background, school band and different academic achievements.

The Validity and Reliability of Interview. Permission is obtained from the respondents to conduct interview. Based on the defined interview protocol, researcher asks questions to respondents. Respondents also informed about the confidentiality of the information. Questions are asked in Malay language. The researcher explains the objective and procedure of the interview. The interview is conducted in a room other than classroom chosen by the school authority. It is to ensure the place is quite and conducive for an interview. Respondents are given enough time to give their responses. The interpreted interview data will be checked by peer review. Since the information is collected in Malay language, the interpretation also done in Malay and translate to English. The translation will be checked by certified translator.

Recoding of the interview is played back to the students to check the accuracy of the responses. An audit trail will be established for the interview (Merriam, 2009). The researcher keeps a journal on the detail of how respondents are selected from the sample, how is the interview conducted and the respondents behaviour during the interview (Meriam, S.B., 2009). The opinion of the researcher based on the respondents' behaviour and their responses during the interview are written down in the journal.

The researcher also reports all the bias that could occur in selecting the sample in the journal. If the respondent is selected by the school teacher, researcher writes down the reasons why the particular respondent is selected.

Data Collection Procedure

Approval is obtained from the Research unit of Ministry of Education (EPRD), state education department, district education office, schools and parents to collect data from schools. The survey and the interview is self- administered by the researcher. The researcher explains the research purpose and guaranteed anonymity of name of school and name of students. Survey data is distributed to students from ten selected secondary national schools. The schools are selected each from urban and rural from five regions.

Questionnaires are distributed to students from three different classes that are good, moderate and weak class in each school. The researcher explained the procedure and the items before the students answer the questions. With the exception of one school in Sarawak (urban) all the interview sessions proceeded as per plan. In this exception, the researcher could not self-administer the survey because the school was closed due to 'haze'. The questionnaire was self- distributed and collected by the researcher. Hence, the entire distributed questionnaire was collected (100%) from nine schools. However, the questionnaire which was distributed in a school in East Malaysia was distributed by the school counsellor. Thus, it was not confirmed that the entire questionnaire was returned.

The researcher personaly explained the procedure and meaning of each item to a counsellor teacher who distributed the questionnaires and the answered questionnaire was mailed to the researcher. The interview also conducted by the counsellor.

The researcher conducted an interview after the questionnaire. A student is selected randomly from school for interview based on participants' willingness to participate in the interview.

Table 3.11 shows the date of application and approval for data collection from the education ministry, department and district office for the study. After getting the

approval, the researcher made an appointment to collect data from respective schools. As per condition set by EPRD, the researcher must get approval from parents to conduct the data collection. So, the letter of parents' consent was distributed through school counsellors. The approvals from parents were collected before the survey was conducted at the respective schools. Table 3.12 shows the date of application for parents' consent letter. The approval date for the consent letter was the date of data collection for the respective schools. Table 3.13 shows the data collection date for the ten schools in five regions in Malaysia. The data are self-collected by the researcher. Hence, there is no non-returnable questionnaire. Total of 669 questionnaires are collected from ten schools compromise five regions of Malaysia. There were many advantages of self-collected data process. Example, from the data collection, the researcher found out that students did not have any information on parent's income level. The researcher also able to self- explains the question one by one and gets notification of understanding from the respondents.

Table 3.11

Date of Application and Approval Received for Research

	Date	
Organization	Application	Approval
Educational Planning and Research Department, KPM	03 August 2015	10 August 2015
State Education Department of Johor	18August 2015	19 August 2015
State Education Department of Pahang	18 August 2015	20 August 2015
State Education Department of Sarawak	18 August 2015	21 August 2015
State Education Department of Selangor	18 August 2015	19 August 2015
State Education Department of Perak	18 August 2015	24 August 2015
District Education office of Northern Kinta	03 Sept.2015	21 Sept. 2015

Table 3.12

Application of Parents Consent letter for Research

Organization	Date	
	Application	Approval
Schools in Johor	25 August 2015	7/9/15 & 8/9/15
Schools in Pahang	21 August 2015	14/9/15& 15/9/15
Schools in Sarawak	08 August 2015	28/9/15 & 30/9/15
Schools in Selangor	08 September 2015	2/10/15 & 9/10/15
Schools in Perak	30 September 2015	16/10/15&10/11/15

Table 3.13

Date of Data Collection

School	Date
School 1	7/9/15
School 2	8/9/15
School 3	14/9/15
School 4	15/9/15
School 5	28/9/15
School 6	30/9/15
School 7	2/10/15
School 8	9/10/15
School 9	16/10/15
School 10	10/11/15

Data Analysis Techniques

The research uses SPSS and STATA analysis to analyze data from the survey. The survey data is analysed using descriptive and inferential statistical analysis. The demographical variables such as gender and races are analysed using descriptive analysis. Inferential analysis is used to answer the research questions because inferential statistical depicting the relationship and correlation among independent and dependent variables (Sekaran, 2003). The principle- component analysis is used to test the factor loading of the variables.

Subsequently, the study analyses the interview questions manually whereby all interview responses are coded and analyzed according to themes.The themes then need to triangulate with the quantitative findings. The study uses the qualitative findings to compare, elaborate and explain the quantitative findings for a complete understanding.

Binary Logistic regression analysis answers the first research question. The second research question is answered by ordinal logistic analysis, third question by using multinomial regression and the fourth questions by instrument variables analysis. The last two research question is answered by the qualitative data analysis.

Table 3.12 and 3.13 shows the summary of data analysis procedure. Table 3.14 shows the detail of the analysis and research questions.

Table 3.14

Summary of Data Analysis Procedure for Quantitative Method

Quantitative analysis Procedures	Type of analysis
Reliability and validity analysis	Cronbach alpha & EDA analysis
Multicollinarity test	Collinarity Diagnostic
Descriptive analysis of sample	Frequency analysis
Logistic regression	Binary, ordered & multinomial

Table 3.15

Summary of Data Analysis Procedure for Qualitative Method

Data Analysis	Category construction
Data managing	Create and organize coding of data
Reading and naming	Read through text, make margin notes, form initial codes and name the category
Describing	Describe the category
Classifying	Develop significant statements Group statements into meaning units

Table 3.16

Summary of Variables and Research Questions

Research Questions	**Test**	**Independent variables (IV)**	**(DV)**
RQ 1: What factors influence PT3 student participation in Private Tutoring?	Logistic Regression	**Individual level factor** (Gender, order in family) **House hold factor** (Race, parent's education level, type of house, help received in revision, number of siblings. **Community factor** Type of tutoring, tuition providers, distance of tuition center **School level Factor**: (Location of the school, school quality, number of students in classroom	Taking Private Tutoring : Yes/No
RQ 2: What are the factors that influence PT participation in type of subjects?	Ordinal Logistic	**Individual level factor** (Gender, order in family) **House hold factor** (Race, parent's education level, type of house, help received in revision, number of siblings. **Community factor** Type of tutoring, tuition providers, distance of tuition center **School level Factor**: (Location of the school, school quality, number of students in classroom, Quality of teacher's teaching,type of assesment)	Time allocated for exam , non -exam base subjects and both .
RQ 3: What factors influence the decision on different types of Private Tutoring classes?	Multi Nomial Logistic Regression	**Individual level factor** (Gender, order in family) **House hold factor** (Race, parent's education level, type of house, help received in revision, number of siblings. **Community factor** Type of tutoring, tuition providers, distance of tuition center **School level Factor**: (Location of the school, school quality, number of students in classroom, type of assesment)	Taking tuition in(Types): Small Group Large group Do Not Take PT
RQ 4:	Instrument	School Factor :	Improve or not

Does Private Tutoring Variable influence PT3 student's performance?	Policy changes: (PT3 assessment- Received tuition in form 1,2 and three, effectiveness of Private Tutoring for PT3)	(PT3 Results)

Quantitative instruments

Ordinal Logistic Regression. Ordinal Logistic Regression is performed to test the second research question. Second research question uses ordinal logistic regression because it needs to compare the differences between time allocation for examination subjects, non-examination subjects and the combination of both.

Ordinal logistic is conducted to see the factors that influence students' decision to choose private tutoring for the type of subjects. It is important to measure because there are two type of PT3 assessment. Subjects like Malay, English, Mathematics, Science, Living skills, Islamic studies are tested with examination type of assessment at the end of the year. Geography and history are asses through assignment type of assessment. The independent variables are individual, household, community and school factors. The dependent variable is time spent on private tutoring for the subjects during school days. The dependent variable has three categories.

An important assumption of the ordinal logistic regression is that the variances of the two groups are approximately equal and there is adequate data sampling. The ordinal logistic is applied if the data are normally distributed (sample represent the population).

The data is normally distributed if the mean and median are approximately equal (Sekaran, 2003). Skewness and Kurtosis is also used to test the normality of the data. Correlation test is also conducted to measure any high (or low) correlation among the variables.

The assumption of homogeneity is tested using Levene's test of equality of variances (Leech, N. L., Barrett, K.C. and Morgan G.A.,2011). Levene's test is testing for differences among two or more groups

Binary Logistic Regression. Logistic regression is applied in this research since the dependent variable factors in effecting student participation in private tutoring. The research use the model proposed in (Bray et al., 2014):

$$Ln = \left[\frac{Pi}{1 - Pi}\right]$$

$$= ai \sum bijSchij + \sum Cik \ famik + \sum dil\, Indil + \sum eim\, comil + ei$$

In the models:

Pi is the probability of student i taking private tutoring during the 12 months prior to administration of the survey

∑ Schij, is the set of school factors, including school banding, school type, and grade level;

∑ Famik, is the set of family factors, including natural log of families monthly incomes, education levels of mother and father, number of siblings, and if family member(s) help with study at home; and

∑ Indil, is the set of individual factors, including gender, self-reported academic level, 1 and perceptions of the student on the effectiveness of various kinds of private tutoring.

∑ ***Comi***l, is the community factors, distance of private tutoring centres from the house, reasons taking private tutoring and qualification of tuition teachers.

Multinomial Regression. The third research question is analysed with multinomial regression. It is because the dependent variables (type of private tutoring) form more than two categories. The dependent variables are three categorical variables: small group, large group and do not take private tutoring. The multinomial logistic is same as binary logistic, hence the same binary equations is applied (Field, 2013). Do not take private tutoring is referred as a reference group in the analysis. The result is compared between small and large group.

Ordered Logistic to test Student's Achievement. Since the students who are participating in private tutoring are different from students who are not participating in many observable and unobservable ways, the instrumental variable method is suggested (Lee, 2013). Other literatures also suggest applying IV method to test student's achievement because private tutoring is an endogenous variable. However, the current study could not use the IV method because the propose variable (distance of private tutoring center) is not a good IV.

It is because the questionnaire fails to collect information from students who were not participating in private tutoring regarding the distance of nearest private tutoring center from their house. The study only collected information from those who participate in private tutoring only. Thus, the IV does not meet the first assumption, randomly assign. Some literature also use years of private tutoring participating to compare with the student's achievement (Lee, 2013). Unfortunately the current study also fails to collect information regarding previous experience in taking private tutoring classes. So, the last research questions were answered using ordered logistic regression because the result (DV) is ordered.

Qualitative Analysis. There are ten interview questions. The answers are recorded and analysed after the data collection process is over. The questions are coded. The interview data is transcribed and categorised into themes to confirm quantitative

findings. The demographic variables of the interview are analysed descriptively. Interview data is analysed to triangulate quantitative findings for research questions two, three and four.

Summary

This chapter explains the research methodology of the study. It outlines research design, sampling method, research instruments, validity and reliability and data collection procedures in detail. Prior to full implementation of the survey, a pilot study is carried out to test the validity of content and construction of the instrument. The study uses survey method to collect data for quantitative approach. The interview is needed to support the findings and increase data triangulation. The quantitative data is analysed with the statistical program for social sciences (SPSS) to answer the research questions. The study also applied descriptive analysis, binary regression analysis, multinomial regression and ordered regression methods to test the research hypothesis. The research uses three different analysis methods to increase the reliability of the study. Different economic approaches show that a rigorous method is applied in the study to analyze the data and hence increases the confidence of readers to the findings of the study. This chapter also clearly illustrates the ethics and standard procedures that are adhered to in the course of study by getting permission from relevant authorities and respondents, maintaining participant, maintaining participant confidentiality and clearly explaining the survey question to the respondents.

CHAPTER 4 : DATA ANALYSIS

Introduction

This study was conducted on 669 respondents using a survey questionnaire. The sample size is considered large and exceeds previous scholars' recommendations. For instance, Roscoe (1975) advocates that most stratified sampling should have sample sizes larger than 30 and less than 500. Creswell (2012) in turn suggests that approximately 350 respondents are sufficient for a survey in the educational field. Hence, this study's sample size of 669 respondents is satisfactory. Furthermore, when tested with the Kaiser–Meyer–Olkin measure of sampling, a value of 0.857 was attained. This shows that the sampling size is adequate. Stevens (2002) recommends a loading of more than 0.364 for a sample size of 200 and greater than 0.21 for a sample size of 600 (these values are based on an alpha level of 0.01 (two-tailed) (Field, 2013).

This chapter outlines the quantitative and qualitative data. The first part of the chapter focuses on quantitative analysis, comprising of descriptive analysis of data and normality and collinearity tests. The research questions are analysed with inferential statistics. Logistic regression, ordered and multinomial regressions analysis are conducted to answer the research questions. The first research question is to investigate factors that influence PT3 students' participation in Private Tutoring and it is answered with logistic regression analysis. The second research question is what are the factors that influence student participation in private tutoring for examination and non-examination based subjects?

The second question is answered using ordered logistic regression analysis. Third research question is what are the factors that influence decisions on different types of private tutoring classes? The question is answered applying multinomial logistic regression analysis. The fourth research question is does private tutoring

improve student performance in PT3 examinations? It is answered using ordered logistic regression analysis. The second part of this chapter presents the findings of the interview data.

Descriptive Analysis

The first part of data analysis will discuss the descriptive analysis of data from 669 respondents. The descriptive analysis will discuss the results of reliability, validity and normality of the data and subsequently will discuss the frequency analysis of the research data.

The study found that only 200 students out of the total sample were participating in private tutoring. Descriptive statistics were analysed to ensure normality and adequate variances. All of the variables in the study reported a value between +1.0 and -1.0 for Skewness and Kurtosis, which is considered excellent.

A reliability test was also conducted on the Likert scale items. The Cronbach's alpha value of the items is reported in Table 4.1. All the items achieved a Cronbach's alpha value of more than 0.70. Even though item number 4 (question 13) obtained a low value (0.472) during the pilot study, it achieved a higher value of 0.722 in the empirical study.

Table 4.1:

Reliability Value for Likert-scale Questions

Questions	Number of items	Alpha value	
		Pilot Study	Empirical Study
If you can understand your school teacher's teaching. (Question 1)	8	0.622	0.715
To what extent do you agree that private supplementary tutoring has improved your performance (Question 12)	5	0.742	0.810
To what extent do you agree with the enrolment in private tutoring after the implementation of the PT3 examination (Question 13)	5	0.472	0.722
How would you rate the effectiveness of the following types of private supplementary private tutoring in preparation for the PT3 examination (Question 15)	4	0.758	0.713
Reasons for Taking Tuition	10	-	0.835

*Cronbach's Alpha based on standardized items.

Exploratory factor analysis (EFA) is conducted to determine the appropriate number of variables that could affect the dependent variables, thus reducing a data set to a more manageable size (Field, 2013). Field (2013) also suggests that EFA can be used to solve the problem of multicollinearity among variables. Accordingly, EFA was used in this study to overcome multicollinearity problems in regression analysis. Table 4.2 illustrates the EFA analysis of variable factor loading. The results found most variables to have a value between 0 and 0.3. However, Malay subject understanding had a higher correlation value (0.74) with mother's education level. The correlation matrix also reported a few other variables which had a correlation value greater than 0.3. These variables were: father's education, mother's education, father's income, mother's income, house income, television, electricity, hand phone, and number of rooms. Subject understanding, pocket money, and PT3 results also obtained values of 0.4, 0.5, and 0.9 respectively. The EFA also found 13 factors loading with 60.732% of total variance after rotation. Overall, the EFA results indicate that this is a good model, as the difference in value between observed correlation coefficients and the predicted ones from the model was less than 0.5 (Field, 2013). The reproduced correlation table also depicts only nine residuals (0%) greater than 0.05. It is recommended that the proportion of residuals greater than 0.05 should not be more than 50% (Field, 2013). Thus, the model is a good fit, as the percentage of residuals greater than 0.05 was 0%.

All the variables had a correlation of less than 0.7 except for number of rooms, television, computer, hand phone and PT3 results (0.9). It is advisable to remove these variables in the analysis, as this would be measuring the same variables.

The value of the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) was 0.835 - greater than 0.77. Hence, it was concluded that the items were sufficient for the model analysis.

Table 4.2:

Factor Loading for the Rotated Factors

Item	Factor Loading			
	1	2	3	Communality
TV	0.993			1.00
Electricity	0.993			1.00
Hand phone	0.992			0.997
Computer	0.989			0.994
Transport		**0.985**		0.99
Cost of Transport		0.985		1.00
Distance		0.968		0.963
Room-Living	0.408		0.902	0.986
Toilet	0.403		0.900	0.986
Other Room	0.413		0.897	0.986

Note. Loading <.40 are omitted.

Multicollinearity can also be checked with'Collinearity diagnostic'. The VIF (variance inflation factor) indicates whether predictor variables have a strong linear relationship with other predictors (Field, 2013). Table 4.3 presents the VIF values for the variables which were included in this study. Results of the correlation analysis found VIF values between 1 and 6, which is accepted in regression analysis. If the values were above 10, then this would probably be a cause for concern.

Table 4.3: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.069	.045		1.509	.132		
	State-northern	-.029	.028	-.026	-1.040	.299	.287	3.483
	State-central	-.017	.028	-.015	-.610	.542	.315	3.178
	State-southern	.014	.029	.012	.475	.635	.286	3.498
	State-east coast	.019	.028	.016	.674	.500	.312	3.203
	ethnicity-Malay	-.003	.033	-.003	-.080	.936	.148	6.770
	ethnicity-Indian	9.6	.037	.000	.003	.998	.298	3.353
	ethnicity-Chinese	.009	.032	.008	.267	.789	.189	5.281
	location-urban	.006	.014	.007	. 439	.661	.745	1.342
	MALAY-UNDERSTAND	.038	.021	.032	1.864	.063	.628	1.593
	ENGLISH-UNDERSTAND	.022	.019	.020	1.187	.236	.665	1.504
	SCEINCE -UNDERSTAND	-.052	.017	-.047	-2.974	.003	.714	1.401
	MATH-UNDERSTAND	.021	.016	.019	1.291	.197	.815	1.227
	GEOG-UNDERSTAND	.010	.019	.009	.560	.575	.645	1.550
	HISTORY-UNDERSTAND	-.042	.018	-.039	-2.305	.021	.627	1.595
	Type of house-above double story	.018	.014	.019	1.320	.187	.903	1.108
	Number-siblings-3-more	.001	.014	.001	.079	.937	.785	1.274
	Students in classroom-30 and above	-.010	.013	-.011	-.744	.457	.874	1.144
	School band 3 to 5	-.036	.034	-.024	-1.068	.286	.350	2.855
	Order in family-second and above	-.002	.015	-.002	-.145	.884	.816	1.226
	Father's income below RM4000	0	.013	00	-.20	.984	.901	1.109
	Distance of private tutoring centre	.009	.032	.008	.267	.789	.189	5.281
	below 10 km	.015	.016	.014	.939	.348	.847	1.181
	Mother's education level-post secondary and above	.003	.014	.003	.194	.846	.819	1.221
	Family help in revision							

a. Dependent Variable: Take Tuition Or Not

Table 4.4 reports the descriptive statistics of students sample who participated in the research. The table reported that the majority of the respondents involve were female. The size was 346 and it represents 51.7%. The rest were 323 male (48.3%). The analysis also shows that the respondents were equally distributed among the tree classes of form four. The science stream students compromised 30.8% (206) of the respondents and 231 (34.5%) were from the commerce stream, while 31.5% (211) were from the arts stream. However, 3.1% (21) students did not reveal their class type.

The descriptive analysis also shows that the majority of the respondents were the third child or above in the family. The analysis shows 29.3% (196) were the first child while the remaining 28.8% were the second child. Most of the students chose to enrol in tuition of their own accord to improve their learning and examination scores. However, 11.4% or 76 respondents admitted that they were enrolled in tuition by their parents. 12.0% (80) students acknowledged that tuition had helped them improve their band in school-based assessments.

With regard to the racial breakdown of the sample, 59.6% (399) of the respondents were Malay, 25.7% or 172 were Chinese, while 10% (67) were Indian. Only 4.6% (31) of the respondents belonged to other ethnicities, such as indigenous people from Sarawak.

Table 4.4

Descriptive statistics of student sample

Characteristics	N	%
Student factors		
Gender		
Female	346	51.7
Male	323	48.3
Academic Track (Class type)		
Science Stream	206	30.8
Commerce Stream	231	34.5
Art Stream	211	31.5
Missing Variables	21	3.1
Order In Family		
First Child	196	29.3
Second child and above	473	70.7
Household factors		
Race		
Malay	399	59.6
Chinese	172	25.8
Indian	67	10
Others	31	4.6
Number of siblings		
Below 3	256	61.7
3 and more	413	38.3
Parents' Education Level		
Father's Education-	524	75.0
Primary and Secondary	145	25.0
Father's Education –Post-secondary and above	398	59.5
Mother's Educational Level	271	45.9
Primary and Secondary	307	40.5
Post-secondary		
Single Story House	436	65.2
Type of House-Double Story House and Above	233	34.8
Help Received for revision		
Family Members	439	65.6
Others	230	34.4
Expenditure of Tuition		
Less than RM200	167	83.5
More than RM200	33	16.5
Location of tuition centre		
Less than 10 km	182	27.2
More than 10 km	487	72.8

Characteristics	N	%
Region of the school		
Northern	148	22.1
Central	127	19.0
Southern	132	19.7
East Cost	132	19.7
East Malaysia	130	19.4
School Band	599	89.5
Band 3 to 5		
Participating in PT-Yes	200	29.9
	669	100
	Mean	SD
	0.3	0.46

Table 4.5 reports the demographic variables of the students participating in private tutoring. The percentage of female students who participated in private tutoring (60%) was higher than male students (40%). The study's results also found that among the three main ethnic groups in Malaysia, Chinese students had a higher percentage of participation in private tutoring (43.5%) compared to Malay (39.5%) and Indian (10.5%) students. Science stream students were also found to have a higher percentage of tuition participation. Specifically, 45.5% of the students participating in private tutoring were science stream students, while only 34% came from the commerce stream and 17.5% from the arts stream.

Results also found that urban students reported double the number of participation in private tutoring (69.0%) than rural students (31%). Additionally, students who were the third child and above had slightly higher participation (36%) in tutoring compared to those who were first or second children.

The study also revealed that the number of students in a classroom had a direct relationship to tutoring participation. Almost half the students who participated in private tutoring belonged to classrooms with high enrolment (31 to 40 students).

The results of this study also indicate that the mother's level of education plays a significant role in determining demand for private tutoring. In fact, 56.5% of students

whose mother possessed post-secondary education were enrolled in private tutoring. However, the father's education level was not found to significantly influence student involvement in private tutoring.

This study could not accept house income as a reliable factor because almost half of the respondents did not know their parents' income. Instead, the respondents' type of house was used as an indicator for the income factor. Results found that 48.0% of the students from double-story houses and above were enrolled in private tutoring. However, students from single-story houses chalked up a comparatively higher enrolment rate in private tutoring (52.0%).

Table 4.5

Demographic variables of private tutoring/Non-private tutoring- Participation.

Take Tuition/Not Taking Tuition	Percentage	
	Yes	No
Gender		
Male	40	51.8
Female	60	48.2
Ethnicity		
Malay	39.5	68.2
Chinese	43.5	18.1
Indian	10.5	9.8
Others	6.5	3.8
Class		
Science	45.5	24.5
Commerce	34.0	34.8
Arts	17.5	37.5
Location		
Urban	69.0	44.6
Rural	31.0	55.4
School Band		
3 to 5	74.0	96.2
6 to 7	26.0	3.8
Order in Family		
First	32.5	27.9
Second	31.5	27.7
Third and more	36.0	44.3
Number of students in classroom		
Less than 20	2.5	4.9
20 to 30	36.0	37.1
More than 30	53.5	54.4
Father's education level		
Primary	20.5	15.1
Post-secondary	16.5	23.9
Mother's education level		
Primary	20.0	13.4
Post-secondary	56.5	56.7

Take Tuition/Not Taking Tuition	Percentage	
	Yes	No
Type of houses		
Double story and above	48	29.2
House income		
Below RM4,0000	12.5	27.5
Above RM4,000	25.0	11.5
I don't know	44.0	50.5

Table 4.6 presents an analysis of gender, ethnicity and family order in the respondents who participated in private tutoring. Among urban Malay respondents, female students reported a higher enrolment in private tutoring compared to male students, irrespective of order in family (61.5 %, 55.6% and 67.7% for first, second and third and above in the family respectively). However, among rural Malay respondents, first-born males scored a slightly higher percentage in private tutoring enrolment (62.5%) compared to female students.

Among Chinese respondents, the majority of both urban and rural female students reported higher enrolment in private tutoring compared to their male counterparts, irrespective of order in family. Specifically, first-born urban and rural females reported 68.0% and 60.0% enrolment respectively, while third-born (and above) urban and rural females reported 54.5 % and 62.5% respectively. However, second-born urban males reported a higher percentage of enrolment (57.0%) than their female counterparts.

With regards to the Indian respondents, both urban and rural female students reported a similar trend as Chinese females, irrespective of order in family. However, these results should be treated with caution due to the limited number of Indian respondents.

Table 4.6

Descriptive Analysis of Private Tutoring Participants

Ethnicity	OIF	Location	.	PT.Partc	Gender		
					Female	Male	Total
Malay	First	Urban		No	24	14	38
					(63.2)	(36.8)	(100)
				Yes	8	5	13
					(61.5)	(38.5)	(100)
		Rural		No	30	23	53
					(56.6)	(43.4)	(100)
				Yes	8	5	13
					(37.5)	(62.5)	(100)
	Second	Urban		No	21	17	38
					(55.3)	(44.7)	(100)
				Yes	10	8	18
					(55.6)	(44.4)	(100)
		Rural		No	18	32	50
					(36.0)	(64.0)	(100)
				Yes	4	3	7
					(57.1)	(42.9)	(100)
	Third	Urban		No	32	30	62
					(51.6)	(48.4)	(100)
				Yes	21	10	31
					(67.7)	(32.3)	(100)
		Rural		No	36	43	79
					(45.6)	(54.4)	(100)
				Yes	1	1	2
					(50.0)	(50.0)	(100)
Chinese	First	Uban		No	2	4	6
					(33.3)	(66.7)	(100)
				Yes	17	8	25
					(68.0)	(32.0)	(100)
		Rural		No	3	10	13
					(23.1)	(76.9)	(100)
				Yes	3	2	5
					(60.0)	(40.0)	(100)
	Second	Urban		No	7	5	12
					(58.3)	(41.7)	(100)
				Yes	8	5	12
					(42.1)	(57.9)	(100)
		Rural		No	8	8	16
					(50.0)	(50.0)	(100)
				Yes	6	5	11
					(54.5)	(45.5)	(100)

Ethnicity	OIF	Location	.	PT.Partc	Gender		
					Female	Male	Total
	Third	Urban		No	6	12	18
					(33.3)	(66.7)	(100)
				Yes	6	5	11
					(54.5)	(45.5)	(100)
		Rural		No	9	11	20
					(45.0)	(55.0)	(100)
				Yes	10	6	16
					(62.5)	(37.5)	(100)
Indian	First	Urban		No	9	5	14
					(64.3)	(35.7)	(100)
				Yes	5	3	8
					(62.5)	(37.5)	(100)
		Rural		No	1	3	4
					(25.0)	(75.0)	(100)
				Yes	3	0	3
					(100)	(0)	(100)
	Second	Urban		No	4	0	4
					(100)	(0)	(100)
				Yes	2	1	3
					(66.7)	(33.3)	(100)
		Rural		No	1	5	6
					(16.7)	(83.3)	(100)
				Yes	1	1	2
					(50.0)	(50.0)	(100)
	Third	Urban		No	7	3	10
					(70.0)	(30.0)	(100)
				Yes	2	2	4
					(50.0)	(50.0)	(100)
				No	3	5	8
					(37.5)	(62.5)	(100)
				Yes	1	0	1
					(100)	(0)	(100)

Table 4.7 presents the number of hours spent in tuition by urban and rural students. Most of the students involved in private tutoring spent one to four hours per week in tuition. Urban students outnumbered the rural students in private tutoring enrolment for all subjects. Mathematics, Science, Malay and English were the most sought after subjects by urban private tutoring students. The enrolment for these subjects among urban students spending one to four hours in tuition was respectively 90 students in Mathematics, 89 students in Science, 73 students in Malay, and 68 students in English. Islamic Studies and Living Skills had the lowest enrolment among both

urban and rural students. For instance, among urban students spending one to four hours in tuition, merely 13 students participated in tuition for Islamic Studies, while only 18 students were involved in Living Skills tuition. Meanwhile, among rural respondents from the same group, only four students were enrolled in each of these two subjects. However, rural students from this group had higher private tutoring enrolment for Mathematics and Malay language (51 and 46 students respectively).

Table 4.8 indicates that respondents who participated in private tutoring achieved a higher percentage of 5As and above in the PT3 examination. Specifically, 26.5% of those who were involved with private tutoring achieved 5As and above, while only 10.6% of non-private tutoring students achieved this score. 11.0% of the respondents involved in private tutoring scored 8As, while only 1.7 % of non-private tutoring students scored 8As. Generally, most of the non-private tutoring respondents scored lower marks in the PT3 examination. In fact, 31.3% of non-private tutoring respondents did not score any As in their PT3 results, while only 18.5% of private tutoring students failed to score a single A.

The mean and standard deviation of the results achieved by private tutoring students was 2.92 and 1.05 respectively. The mean and standard deviation of the non-private tutoring students' results was 6.31 and 15.71 respectively (see Table 4.9).

Table 4.7

Tuition Time spent in Subjects (Number of students)

	Hours spent in Tuition							
	One to four		Five to eight		Nine to eleven		Twelve hours and more	
Subject	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Malay	73	46	7	3	1	0	0	0
English	68	45	8	3	0	0	0	0
Math	90	51	11	4	1	0	0	0
Science	89	44	10	2	0	0	0	0
Living Skills	18	4	2	0	0	0	0	0
Islamic Studies	13	4	0	0	0	0	0	0
History	39	25	4	0	0	0	0	0
Geography	24	15	1	0	0	0	0	0

Table 4.8: PT3 Examination Results among private tutoring and Non-private tutoring participants

Result	With private tutoring		without private tutoring	
	N	%	N	%
8A onwards	22	11.0	8	1.7
5A To 7A	31	15.5	42	8.9
1A-4A	107	53.5	213	45.4
No A	24	12.0	59	12.6
C,D,E	13	6.5	94	20.1
Not sure	3	1.5	53	11.3
Total	200	100	469	100

Table 4.9

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PT3 RESULT WITH private tutoring	200	1.00	6.00	2.9200	1.05316
NO private tutoring EXAM RESULT	469	1.00	99.00	6.3198	15.71025
Valid N (listwise)	0				

Table 4.10: Self-reported reasons for participating in private tutoring

Reasons	N	%
To improve score	175	87.5
To learn better	173	86.5
Attracted by advertisement	9	45.0
Parents' choice	76	38.0
Friends' influence	38	19.0
Teacher recommended it	28	14.0
To get help for School Based Assessment	80	40.0
Because the class enrolment is big	17	8.5
Competition	24	12.0
Other Reasons	3	1.5

Table 4.10 reports the reasons cited by students for taking private tuition. The table indicates that students mainly participated in tuition to improve examination scores (87.5%) and to learn the subject better (86.5%). A very low percentage of students reported reasons for taking tuition as influence of friends, teacher's recommendation, big classroom enrolment, and competition.

Table 4.11

Self-reported reasons for not participating in private tutoring

Reasons	N	%	
No time	227	19.8	
School teachers are knowledgeable	221	19.3	
Friends are not taking private tutoring		183	16.0
No money	177	15.4	
Not worth money	131	11.4	
Doing well in school	48	4.2	
Does not suit the need	109	9.5	
Parents do not allow	50	4.4	

Table 4.11 presents the reasons reported by students for not participating in private tutoring. The majority of students (19.8%) reported that they had no time, while 19.3% stated that their schoolteachers were already knowledgeable - thus they felt it unnecessary to enrol in private tutoring. Other main reasons why students were not participating in private tutoring were: friends not participating in private tutoring (16.0%) and not having enough money (15.4%). Only 4.2% of the students indicated that doing well in school examinations was a reason for not participating in private tutoring.

Table 4.12:

Self-reported evaluation on the understanding of the subjects taught by their schoolteachers

Subjects		Agree	
	Mean	N	%
Malay	0.83	554	82.8
English	0.79	530	79.2
Science	0.77	517	77.3
Mathematics	0.77	514	76.8
Islamic Studies	0.58	389	58.1
Living Skills	0.79	531	79.4
Other	0.59	181	85.4
Geography	0.78	525	78.5
History	0.76	507	75.8

Table 4.12 presents a self-reported evaluation of the students' understanding of examination and non-examination subjects taught by their schoolteachers. The mean of understanding the subject was between 0.7 and 0.8, indicating that the students mostly understood their teacher's teaching of subject content. This could be a reason why not many students were participating in private tutoring.

Table 4.13: Sources of private tutoring information

	Responses		Percent of Cases
	N	Percent	
FAMILY	132	37.60%	66.30%
FRIENDS	120	34.20%	60.30%
TEACHER	37	10.50%	18.60%
PROMOTION	31	8.80%	15.60%
INTERNET	5	1.40%	2.50%
TV ADVERTISEMENT	4	1.10%	2.00%
ADVERTISEMENT BUILDING	16	4.60%	8.00%
OTHER	6	1.70%	3.00%

Table 4.13 reports the sources of information the students initially relied on to find out about the tuition they eventually chose to attend. Their main sources of information were family members (37.60%) and friends (34.20%). Teachers were the third major source of private tutoring information, while the Internet, television, and advertisements had the lowest score. It is interesting that the Internet was not listed as a major information source, despite the fact that these students belong to an IT savvy generation. The students were more influenced by family and friends than Internet and television promotions.

Analysis of Research Questions

Research Question 1. What are the factors that influence PT3 student participation in private tutoring?. Logistic regression analysis was employed to answer this research question. The sample size is 669 respondents and data were recoded to enable to apply the logistic regression analysis for the first research question. Logistic regression analysis was applied for the first research question because the dependent variable is dummy variable (yes/no). Initially the step-wise logistic method were applied to find the competent variables to run the analysis using SPSS .However, the SPSS analysis gave very low value of Nagelkerke pseudo *r*2(Below 30%). Thus, STATA is applied to run the analysis. STATA analysis was conducted with independent variables which were selected from the step-wise logistic method. The analysis gave very limited factors that could be included to run the analysis.

Independent factors which were involved in this study comprised of individual level factors (gender, order in family), household factors (ethnicity, parents' education level, type of house, number of cars owned, number of siblings, help in revision, money spent for tuition, pocket money), community factors (distance of tuition centre), and school factors (school band, type of classes, number of students in a classroom, understanding of teachers teaching in a classroom, location of the school, region of the school). The dependent variable was a dummy variable: taking tuition or not (1: Yes, 0: No).

Table 4.14 shows that the value of Wald chi-square for the model was 118.43. The number of predicted variables was 12. The log-likelihood and the chi-square indicated the goodness of fit for the model. Results found the new model to show a reduced -2LL compared to the baseline model. The chi-square was highly significant ($\chi 2$= 118.43, df =12, p< 0.00). Thus, the new model is a better fit than the constant model. The initial log-likelihood was = 408.073 and this was reduced to 328.071. The probability of chi-square (0.00) indicated that the null Hypothesis was rejected (the

independent variables do not affect the dependent variable). The new model explained more variance in outcome compared to the baseline model. The pseudo R square was 0.12.

The Wald statistic also serves as an indication of whether the explanatory variables in logistic regression are significantly different from zero. Based on the significant value, we can tell whether or not these explanatory variables are contributing towards predicting the outcome. In this study, the explanatory variables that significantly differed were type of house, ethnicity (Malay and Chinese), location, state of sample (northern, central and east coast), type of classes (science and commerce), number of siblings, and number of students in a classroom.

Table 4.14:

Value of coefficient

take_tuition	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Typehouse	0.42	0.20	2.05	0.04	0.02	0.82
classscience	1.41	0.26	5.37	0	0.89	1.92
classcommerce	1.01	0.26	3.91	0	0.51	1.52
ethnicityMalay	-0.65	0.29	-2.29	0.02	-1.2	-0.09
ethnicityChinese	0.53	0.29	1.82	0.07	-0.04	1.10
State northern	-0.65	0.54	-1.21	0.23	-1.71	0.40
State central	-0.13	0.42	-0.31	0.76	-0.95	0.69
State ECoast	-0.45	0.27	-1.68	0.09	-0.98	0.08
State southern	0.13	0.15	0.85	0.39	-0.17	0.43
location	1.19	0.21	5.8	0	0.79	1.60
siblings	-0.52	0.21	-2.52	0.01	-0.92	-0.11
Studentsinclass	0.05	0.20	0.26	0.79	-0.34	0.45
_cons	-2.24	0.79	-2.83	0.01	-3.78	-0.69

Iteration 0 : Log pseudo likelihood = -408.07336
Log pseudo likelihood = -328.07147
Pseudo R2 = 0.12, df =12, p<0.00

B is the value for the logistic regression equation for predicting the dependent variables from the independent variables. The logistic regression equation is as below:

$\text{Log } (p/1\text{-}p) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta n Xn$

y = Pr (take tuition) (predict)

y= 0.2809

Table 4.15

Marginal effect of predictor variables on dependent variables.

variable	dy/dx	Std. Err.	z	P>z	[95% C.I.]		X
Typehouse	0.08*	0.04	1.99	0.04	0.0	0.16	0.34
ClassScience	0.29*	0. 05	5.17	0	0.18	0 .40	0.30
classcommerce	0.20*	0.52	3.81	0	0.09	0.31	0.34
ethnicityMalay	- 0.12*	0.55	-2.25	0.02		-0.25	0.59
Ethnchinese	0.10	0.06	1.74	0.08	-0.01	0.22	0.25
statenorthern	- 0.11	0.08	-1.35	0.17	-0.27	0.05	0.22
statecentral	- 0.02	0.07	-0.31	0.75	-0.17	0.12	0.18
stateEastcoast	- 0.07	0.04	-1.81	0.07	-0.16	0.01	0.19
Statesouthern	0.02	0.02	0.85	0.39	-0.03	0.08	2.95
location	0.21*	0.03	6.07	0	0.15	0.29	0.52
siblings	-0.09*	0.04	-2.47	0.01		-0.19	0.61
studentinclass	0.01	0.03	0.26	0.79	-0.06	0.08	0.42

Table 4.15 illustrates the marginal effect of predictor variables (in percentage) on the dependent variable, y. The logistic equation for significant variables is as below:

> y= -2.24+ 0.08 type of house + 0.29 class science + 0.20 class commerce – 0.12 ethnicity Malay + 0.10 ethnicity Chinese -0.11 state northern – 0.02 state central – 0.07 state east coast + 0.21 location - 0.09 number of siblings in family +0.01 number of students in classroom.

The odd ratio from table 4.15 show that type of house (double storey and above) increases private tutoring enrolment by 8% compare to single storey and other type of houses holding other factors are constant. It shows that students from higher income

group have slightly a higher private tutoring enrolment than other students. From Table 4.15, we can see that the state of the sample did not have a strong influence on students' decisions to enrol in private tutoring. For every one unit increase in central states, student participation in private tutoring decreased by 2 % holding other factors contant. East coast states also demonstrated a small negative relationship with private tutoring participants. However, just one unit increase in Science classes increased private tutoring enrolment by 0.29 compare to Art classes holding other factors are constant.. Similarly, one students increase in Commerce classes' increased private tutoring enrolment by 20%. The table also shows that an increase in a Malay students decreases private tutoring participation by 12% compare to Indian students holding other factors constant. The analysis also shows that an increase of one Chinese student increases the log odds of taking private tutoring by 0.10 than Indian students holding other factors are constant. Additionally, one unit increase in number of siblings more than three reduced private tutoring enrolment 9% holding other factors are constant.

Table 4.15 shows a surprising result on number of students in classroom. Number of students (thirty and above) is not a significant factor in influencing students decision in private tutoring classes.

The logistic analysis shows that type of classes, type of house (family wealth indicator) and location were the factors that influence the student's decision positively. Ethnicity (Malay) and number of siblings (three and more) were the factors that influence the student's decision negatively. However the negative findings were coherent with local findings from Kenayathullah (2013) and Jelani & Tan (2012).

Research Question 2: What are the factors that influence student participation in PT for examination and non-examination subjects?

Table 4.16

Descriptive Analysis of Dependent Variables for Ordinal Logistic variables

		Time spent for Malay	Time spent in English	Time spent in Math	Time Spent in Science	Time spent in History	Time spent in Geog
N	Valid	669	669	669	669	669	669
	Missing	0	0	0	0	0	0
Mean		.2123	.2018	.2601	.2347	.1106	.0732
Std. Deviation		.45429	.44074	.49661	.46454	.33689	.28801
Skewness		2.111	2.051	1.811	1.780	3.061	4.183
Std. Error of Skewness		.094	.094	.094	.094	.094	.094
Kurtosis		4.415	3.463	2.908	2.298	9.165	18.433
Std. Error of Kurtosis		.189	.189	.189	.189	.189	.189

The above table shows a descriptive analysis of dependent variable for ordered regression. Table 4.16 shows that there are no missing values and the variable are normal (value of skewness and kurtosis).

Table 4.17:

Frequency and Percentage of private tutoring time taken (1 to 4 hours) for subjects

Subject (1 To 4 Hours)	N	Percentage
Malay Language	119	59.5
English Language	113	56.5
Mathematics	141	70.5
Science	133	66.5
History	64	32
Geography	39	19.5

Table 4.17 shows frequency and percentage of students enrol in examination and non-examination subjects.

Table 4.18:

KMO of Sampling Adequacy

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.808
Bartlett's Test of Sphericity	Approx. Chi-Square	2691.551
	df	15
	Sig.	.000

Ordinal logistic regression was carried out to test Research Question 2. The 669 data collected was analysed with ordered logistic regression. The dependant variable is recoded into time taken within one to four hours for PT3 subjects. The subjects that included in analysis were Malay, English, Mathematics, Science, Geography and history. Malay, English, Mathematics and Science were included because it has highest number of respondents taking private tutoring. Geography and history was included because these two subjects were not examination subjects. Ordinal logistic was used because the dependent variable was a continuous variable (time taken). Table 4.16 shows that the value for skewness and kurtosis was between ± 1.0, which is excellent. Table 4.17 depicts the frequency of every subject for the duration of 1 to 4 hours of private tutoring participation during school days. The time period was focused on 1 to 4 hours during school days because this period revealed the most number of student participation compared to other categories. The value of KMO was 0.808 (table 4.18)5; hence the sampling was adequate to run an ordinal logistic model.

Malay, English, Mathematics and Science are examination base subjects. History and Geography are non-examination subjects. The latter two subjects are evaluated in PT3 in the format of research reports. Unsurprisingly, this study found that non-examination subjects were not popular in private tutoring.

For example, 141 and 133 students from this sample were enrolled in private tutoring for Mathematics and Science respectively. However, merely 39 students were enrolled in private tutoring for Geography while only 64 were enrolled in private tutoring for History.

Examination subjects such as Living Skills, Islamic Studies and other subjects (Tamil, Chinese, Arabic, and Indigenous languages), were excluded from this analysis because these subjects had very low private tutoring enrolment (less than 20).

Table 4.19

Self- reported Reasons for not taking private tutoring for Geography and History

Reasons	N	%
Schoolteacher help	99	18.5
Can discuss with friends	96	18.0
Can find answers in Internet	95	17.8
No examination	88	16.5
Research focus	87	16.3
No memorizing	69	12.9

Table 4.19 reports reasons why students did not participate in tuition for Geography and History. Among the reasons cited were being able to discuss the project paper with friends (18.0%) and access to the Internet for references (17.8%). The students could also approach their teachers for help in completing their report. In fact, 18.5% of the students admitted that their teacher had helped them in their project paper. Other reasons were because these subjects did not involve memorization (examination subjects need memorization of facts) and instead relied on research base evaluation. The descriptive analysis showed that examination format affects subject enrolment of private tutoring. This hypothesis was further tested with ordinal logistic regression.

Table 4.20: Factors Affecting Time Spent for Examination Subjects.

Variables	**Malay Language**		**English**		**Mathematics**		**Science**	
	B	Std. error	B	Std. error	B	Std. error	B	Std. error
Help in Revision	0.59	0.39	0.27	0.34	0.36	0.34	0.36	0.34
Mother's Education (above post secondary)	-0.51	0.47	-0.36	0.43	0.05	0.43	0.05	0.43
Father's Education (above post secondary)	0.48	0.50	0.71	0.16	-2.32	0.44	-0.23	0.44
Distance of tuition Centre	-5.36 *	0.56	-4.83*	0.49	-5.37*	0.46	-5.37*	0.46
Order in family (second and above)	0.44	0.39	0.15	0.35	-0.38	0.35	-0.38	0.35
School Quality	0.30	0.89	1.21	0.83	-2.95*	0.84	-2.95	0.84
Students in classroom (30 and above)	0.42	0.37	-0.14	0.34	0.31	0.33	0.31*	0.33
Number of siblings (3 and more)	0.45	0.39	-0.17	0.34	0.23	0.34	0.22	0.34
Pocket money (RM3 and less)	0.11	0.38	-0.18	0.34	-2.98	0.34	-0.29	0.34
Type of house (double story and above)	0.27	0.36	0.25	0.32	-2.74	0.31	-0.27	0.31
Location	0.51	0.48	0.25	0.43	-2.58	0.41	-0.26	0.41
Ethnicity-Malay	1.41	0.82	-0.22	0.81	-1.40	0.82	0.15	0.74
Ethnicity-Chinese	0.18	0.75	-0.88	0.75	0.69	0.68	0.69	0.68
Ethnicity-Indian	-0.25	0.91	-1.87*	0.89	0.15	0.74	-1.40	0.81
State of Sample-northern	-0.22	0.88	0.26	0.81	1.37	0.81	1.37	0.81
State of Sample-central	-1.36	0.83	-0.16	0.76	0.92	0.75	0.69	0.68
State of Sample-southern	1.99	0.89	1.00	0.79	0.67	0.77	0.68	0.77
State of Sample-east coast	-1.33	0.83	-0.79	0.77	0.49	0.75	0.49	0.75
Type of Class- Commerce	-0.49	1.08	0.13	0.91	-1.77	3.07	-1.18	1.0
Type of Class-Arts	- 0.52	1.12	0.44	0.94	-1.98	1.05	0.94	1.05
Gender	-0.29	0.37	0.14	0.33	0.12	0.32	0.12	0.37
Tuition Provider-Own Teacher	-1.1 *	0.46	-0.98*	0.41	-0.77	0.41	-0.77*	0.41

Variables	**Malay Language**		**English**		**Mathematics**		**Science**	
	B	Std. error	B	Std. error	B	Std. error	B	Std. error
Tuition Provider-other teacher-same school	0.11*	0.58	0.24	0.53	-1.19*	0.54	-1.19	0.53
Tuition Provider- Other school teacher	-1.61	0.41	-0.99	0.37	-0.72	0.37	-0.72*	0.37
Father's income-RM4,000 and below	-0.62	0.38	-0.45	0.34	0.58	0.33	0.58	0.33
Teacher's teaching quality	0.68	0.44	0.68	0.45	-0.97	0.42	-0.97	0.52
Nagelkerke pseudo *r*2	71.7		65.4		71.7		68.3	
$\chi 2$	454.73, df= 27 p < 0.05		374.98,df= 27 p < 0.05		480.85,df=27 < 0.05		425.58,df=27 < 0.05	

Table 4.21: Factors Affecting Time Spent for Non-examination Subjects

Variables	History		Geography	
	B	Std. error	B	Std. error
Help in Revision	0.46	0.44	0.64	0.57
Mother's Education (above post secondary	-0.55	0.53	-1.58*	0.72
Father's Education (above post secondary)	0.54	0.56	0.39	0.69
Distance of tuition Centre	-5.57 *	0.75	-6.90*	1.18
Order in family (second and above)	0.33	0.45	0.32	0.54
School Quality	-0.98	1.15	15.26*	1.00
Students in classroom (30 and above)	0.9*	0.43	1.04	0.54
Number of siblings (3 and more)	-0.24	0.42	0.19	0.49
Pocket money (RM3 and less)	0.17	0.41	0.21	0.53
Type of house (double story and above	0.28	0.40	0.73	0.52
Location	-1.46*	0.53	-1.62*	0.63
Ethnicity-Malay	-0.92	1.19	-0.96	1.71
Ethnicity-Chinese	-1.84	1.11	-0.94	1.57
Ethnicity-Indian	-1.93	1.25	-1.78	1.73
State of Sample-northern	-0.57	1.10	-18.02*	0.79
State of Sample-central	-2.34*	1.02	-19.22*	0.72
State of Sample-southern	0.71	1.10	-14.17*	1.10
State of Sample-east coast	-0.41	1.03	-18.01	0
Type of Class- Science	-0.46	1.04	-1.78	1.58
Type of Class- Commerce	0.58	1.11	-1.85	1.59
Type of Class-Arts	-1.17	0.41	-0.88	1.68
Gender	-0.12	0.41	0.96	0.51
Tuition Provider-Own Teacher	0.93	0.54	1.30	0.69
Tuition Provider-other teacher-same school	0.96	0.66	-0.99	0.84

Variables	History	Geography

	B	Std. error	B	Std. error
Tuition Provider- Other school teacher	0.28	0.42	1.14*	0.57
Father's income-RM4,000 and below	0.38	0.42	0.46	0.56
Teacher's teaching quality	0.60	0.47	-0.87	0.69
Nagelkerke pseudo *r*2	60.5		60.1	
$\chi 2$	247.76,df=27, p <0.05		190.5,df=27, p <0.05	

Tables 4.20 and 4.21 depict the analysis of ordinal logistic regression for examination and non-examination subjects. The analysis found a significant chi-square for all subjects; thus the model can be considered a good fit with the predicted variables. The model also indicates an improvement in - 2 Log Likelihood for all subjects.

Nagelkerke pseudo *r*2 explains the extent to which exogenous variables can explain variation in outcome. The Nagelkerke pseudo *r*2 for Malay language was 71.7%. This means that the predictor variables could explain 65.4% of variance between the explanatory variables and the outcome. Results also found that explanatory variables could explain 65.4 % of variances for time spent in English subjects. Meanwhile, predictor variables were found to explain 71.7% and 68.3% of variances for time spent for Mathematics and Science subjects respectively. The model also explains a 60.5% and 60.1% variance between predictor variables and the outcome for History and Geography.

Table 4.20 and 4.21 also illustrate the significant variables for examination and non-examination subjects. Distance of tuition centre was significant for all the subjects. School quality was significant only for Mathematics and Geography, ethnicity-Indian was significant only for English, while tuition provided by own school teacher was significant for Malay, English, and Science. Having a tuition provider from the same school but not the student's own teacher was significant for Malay and Mathematics. Having a teacher from another school as a tuition provider was significant for Geography.

The number of students in a classroom was significant for History. The variables, location and state of sample were significant for History and Geography. Specifically, the central region was significant for both History and Geography, while the southern and northern regions were significant for only Geography.

An increase in one unit of school quality decreases the log odds of being in greater hours of private tutoring by 2.95 for private tutoring for Mathematics, holding other variables constant. The findings reveal that if students were from good schools (better band), they are less likely to take private tutoring for Mathematics (Bray et al., 2014). Alternatively, an increase in one unit of school quality increases the log odds of being in greater hours of private tutoring by 15.26 for geography, holding other variables constant. Unlike Mathematics, geography shows an increase in time spent for private tutoring when school quality increases. The finding was unique because subject of geography was not an examination subject. Hence, the findings should be interpreted with caution.

The findings also indicate that with an increase in the number of students in a classroom (30 and above), the log odds of being in greater hours of private tutoring increases by 0.31 for science, holding others constant. The number of students is also an important determinant for participation in tutoring for non-examination subjects. The results show that with an increase in the number of students in a classroom (30 and above), the log odds of being in greater hours of private tutoring increases by 0.9 for geography, holding others constant.

The analysis of the study reveals that, with an additional Indian student, the log odds of being in greater hours of tutoring for English decreases by 1.87, holding others constant. This could be because the Indian students felt that their proficiency in English was competent and private tutoring for the subject was not necessary. The findings also indicate that location is an important determinant of private tutoring for non-examination subjects but location is not an important factor for examination subjects. With the additional student from rural areas, the log odds of being in greater hours of tutoring for history decreases by 1.46, holding others constant. Similarly, the log odds

of being in greater hours of tutoring for geography decreases by 1.62, holding others constant.

The results also show that with an additional tuition provider who is the students' own teacher, the log odds of being in greater hours of tutoring decreases by 1.1 for Malay language, 0.98 for English, 0.77 for Science, holding others constant. The findings indicate that with an additional tuition provider-other teacher-same school, the log odds of being in greater hours of tutoring increases by 0.11 for Malay language but it decreases by 1.19 for Mathematics, holding other variables constant. The findings also show that with an additional tuition provider-other school teacher, the log odds of being in greater hours of tutoring for Science decreases by 0.72.

Findings of the current study could not be compared to other local studies. This is because there were no studies available on this dimension (Factors influencing private tutoring enrollment for type of subjects). Byun and Park (2012) found that the need to improve English language proficiency among East Asian American students increases the demand for the subject. Thus, the need to enhance proficiency of certain subjects increases the demand for those subjects. As supported by Bray (2014), students who enroll in private tutoring for English score better results in their test.

The analysis shows that there are fewer factors influences decision on types of examination based subjects that students enrol in private tutoring than non-examination based subjects. Distance of tuition centre is the common factor which significantly influence private tutoring for both examination and non-examination subjects. Ethnicity is significantly influence students decision to enrol in private tutoring for examination subjects but not significant for non-examination subjects. In the other hand, location is a significant factor that influences private tutoring for non-examination subjects.

Research Question 3: What are the factors that influence decisions on different types of PT classes?. Multinomial regression analysis was used to answer the third research question. Multinomial regression was applied because the dependent variable in this study - the type of private tutoring classes students enrol in - consisted of three categories: not taking private tutoring, taking private tutoring in a small group, and taking private tutoring in a large group. The independent variables comprised of individual factors, household factors, community factors, and school factors. In multinomial logistics, the effect of independent variables is different for each category (Long, J.S., 1997). The outcomes are compared across each category.

There are two important tests in multinomial logistic regression. The first test is to see whether the effect of a variable is 0. The second test investigates whether a pair of outcome categories can be computed.

The Wald test can be used to meet the objectives of the first test. If the test is significant, the null hypothesis (there is no effect of independent variables on dependent variables) can be rejected. The second test – whether the groups can be combined – can be tested as follows: first, select the participants who enrolled in small and large group private tutoring, second, estimate the binary logit, and third, compute the LR test of H0: $\beta 1 = \beta_2 = \beta 3 = 0$. If the Wald is significant, the null hypothesis (that the small group and large group is indistinguishable) can be rejected. This test was also conducted in the logistic regression analysis for the first research question.

The frequency table (Table 4.22) shows that 469 students from the sample did not take private tutoring. The total number of students enrolled in private tutoring was only 200. Out of these 200 students, 119 were enrolled in small private tutoring groups, while 81 were involved in large private tutoring groups.

Table 4.23 and Table 4.24 illustrate the model fitting and value of pseudo R^2. Table 4.25 reveal the beta value and standard error.

Table 4.22

Frequency analysis of dependent variables

	Frequency	Percent
Do Not Take Tuition	469	70.1
Small group	119	17.8
Large group	81	12.1
Total	669	100.0

Table 4.23

Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	$\chi 2$	df	Sig.
Intercept Only	1050.567			
Final	822.120	228.447	38	000

Table 4.24

Pseudo R-Square

Measurement	R^2 Values
Cox and Snell	.289
Nagelkerke	.360
McFadden	.210

Results of the chi–square indicated that the model was a good fit with improvement after including the predicting variables (228.447, df=38,p <0.00). The model also showed improvement in -2 LogLikelihood. Nagelkerke pseudo r^2 indicated that the predictor variables could explain the variance of 36.5% on the dependent variables. Thus, it can be surmised that there are other influential factors affecting

student decisions regarding which type of private tutoring classes to enrol in (63.5%).

Table 4.25 shows that there are a few variables significant for small and large groups of private tutoring classes. For small private tutoring groups, number of siblings (three and more), location, state of sample (northern, central and southern), and arts class were significant. For larger private tutoring groups, order in family (first child), type of house (double story and above), location and state of sample (central) were significant factors.For example, order in family increased the chances of private tutoring enrolment in a large group by 56%. Similarly, the variable number of children (three and more) increased the chances of private tutoring enrolment in a small group by 63%. Note that some variables had a negative effect on private tutoring enrolment, such as location, type of house, and type of classes. For instance, science classes decreased the chances of small private tutoring group enrolment by 26%, while arts classes reduced the likelihood of large group private tutoring enrolment by 99%.

Number of siblings and state of sample (southern) were positively influence the decision to enrol in small private tutoring group. Location, state of sample (central and northern) and type of class (Arts) were negatively influence the small group of private tutoring classes. Order in family and central region positively influence the decision to enrol in large private tutoring classes. Type of house and location were negatively influences student's decisions to enrol in large groups.

Table 4.25: Factors affecting Type of Tuition

Variables	Small Group		Large Group	
	B	Std. error	B	Std. error
Help in Revision	-0.52	0.27	-0.51	0.33
Mother's Education (above post secondary	-0.44	0.35	-0.41	0.41
Father's Education (above post secondary)	0.25	0.36	0.27	0.42
Order in family (first)	0.29	0.28	0.56*	0.34
School Quality	1.13	0.59	2.71	1.17
Students in classroom (30 and above)	-0.25	0.25	0.23	0.30
Number of siblings (3 and more)	0.63*	0.26	0.48	0.31
Type of house (double story and above)	-1.15	0.24	-0.65*	0.29
Location	-0.83*	0.29	-1.13*	0.34
Ethnicity-Malay	0.67	0.52	-0.98	0.78
Ethnicity-Chinese	0.31	1.51	1.34	0.77
Ethnicity-Indian	-0.22	0.62	-0.15	0.84
State of Sample-northern	-1.31*	0.54	1.60	1.12
State of Sample-central	-1.27*	0.58	2.8*	1.10
State of Sample-southern	0.95*	0.49	2.11	1.11
State of Sample-east coast	-0.31	0.49	1.64	1.11
Type of Class- Science	-0.26	0.64	0.59	0.88
Type of Class- Commerce	0.55	0.64	0.29	0.89
Type of Class-Arts	-1.33*	0.66	-0.99	0.90
Nagelkerke pseudo *r*2	36.4%			
$\chi 2$	231.53,df =40 p<0.05			

Research Question 4: Does private tutoring improve student performance in PT3 examinations?. The study collected data from 669 to answer the fourth research question. The analysis excluded 56 students who could not remember their PT3 examination results or reported their results as missing. Ordered logistic regression was applied to answer this question because the dependent variable was ordered (value varies from lowest number to highest number). The dependant variable was the PT3 results of private tutoring participation. Table 4.26 shows the values of the dependent variables. The highest values were assigned to the most number of As. For example, an 8As and above score was given a value of 5 while a score of 1A was given the value of 2.

Table 4.26

Value Assigned for Dependent Variables

Dependent variable	Value assigned
8As and above	5
5As-7As	4
2As- 4As	3
1A and below	2
99 or missing	1

Table 4.26 presents the results of the ordered logistic regression. The analysis found the chi-square to be significant ($\chi 2$=423.80, df=17, P<0.00), indicating that the model is a good fit. In fact, this new model was a better fit with all 17 predictor variables. The model also showed an improvement in the log likelihood. The initial log likelihood value (without the predictor) was 806.599. However when the predictor variables were included, the value decreased to 594.698 (in literation 4).

The chi-square value ($\chi 2$=423.80, df=17, P<0.00) showed that the null hypothesis

(the independent variables do not affect the dependent variable) is rejected. The new model also explained the variance of predictor variables on PT3 achievement. The pseudo R^2 value was 0.26.

Table 4.27

Analysis of Odds Ratio

Results2	Odds Ratio	Std. Err.	z	P>z	[95% Conf.	Interval]
Statenorthern*	1.63	0.61	1.31	0.19	0.79	3.39
Statecentral*	4.38	1.69	3.84	0	2.06	9.33
Statesouthern*	3.48	1.77	2.46	0.01	1.29	9.42
stateECoast	0.87	0.35	-0.35	0.73	0.39	1.91
Classscience*	27.49	7.29	12.51	0	16.36	46.22
Classcomme*	5.18	1.16	7.37	0	3.35	8.03
ethnicityMal*	2.57	0.66	3.65	0	1.55	4.26
ethnicityChin*	0.46	0.13	-2.66	0.01	0.26	0.81
Locationurban*	3.37	0.69	5.9	0	2.25	5.04
Typehouse	1.15	0.21	0.77	0.44	0.80	1.66
Numberofsib*	0.67	0.13	-2.08	0.04	0.46	0.98
Studentclass*	0.68	0.12	-2.09	0.04	0.48	0.98
Schoolband*	0.02	0.01	-7.62	0	0.01	0.06
Orderinfam*	1.31	0.26	1.34	0.18	0.89	1.93
HelpInRevi	1.25	0.24	1.17	0.24	0.86	1.82
TakeTuition	1.51	0.31	2.04	0.04	1.02	2.26
assessmt	1.07	0.38	0.18	0.86	0.53	2.13
/cut1	-2.44	0.51			-3.44	-1.44
/cut2	-1.27	0.51			-2.26	-0.28
/cut3	2.56	0.53			1.53	3.59
/cut4	4.65	0.55			3.58	5.72

Table 4.27 depicts the value of odds ratio, standard errors, z-test results, and associated p-values as well as the 95% confidence interval of the coefficients. The table reveals that an increase in the central region increased the log odds of achieving more As by 4.38, compared to East Malaysian students versus a combined lower level of As and no As. The southern region also had a similar effect on PT3 achievement. Specifically, students from the southern region had log odds of 3.58 for achieving a higher number of As compared to students from East Malaysia. The table also reveals that Science class students were expected to achieve a higher number of As in PT3. For instance, Science students had log odds of 27.49 for a better chance of scoring a higher number of A's than Arts class students versus a combined lower level number of As and no As, given other variables in the model were constant. An increase in the Commerce class also increased the log odds by 5.18 for scoring a higher number of A's in PT3 compared to Arts class students, with all other variables constant.

Ethnicity also determined the number of A's achieved in the PT3 examination. An increase in Malay ethnicity increased the log odds by 2.56 for obtaining a higher number of A's compared to Indian students. Conversely, being of Chinese ethnicity decreased the log odds of achieving a higher amount of A's by 0.45. Living in an urban location in turn increased the chances of scoring more A's by a log odds of 3.36, compared to a combined lower number of As and no As versus rural students.

Table 4.27 also shows that having more than three siblings decreased the log odds by 0.67 for obtaining a high number of As. Class size was likewise an important determinant of student achievement in PT3 examinations. An increase in the number of students in a classroom was found to decrease the number of As achieved by students in PT3 . Interestingly, the school band (3 to 5) had a very minimal effect on the number of As scored by students in PT3. A one unit increase in school band (3 to 5) decreased the log

odds of students scoring a high number of As in PT3 by 0.02, only compared to lower school band (high achieving schools).

The most important and interesting result of this analysis was that taking private tutoring increased student achievement in PT3. These results were consistent with the descriptive analysis, which also reported that students who participated in private tutoring obtained better results than students who did not participate in private tutoring. Table 4.9 shows that 80% of private tutoring students achieved 1A and above, while only 56% of non-private tutoring participants achieved such scores. Table 4.27 additionally reveals that one unit increases in private tutoring classes increased the log odds by 1.51, of students achieving a greater number of As compared to students who did not participate in private tutoring. These findings are consistent with previous studies, such as Byun & Parker (2012), Zimmer, Hamilton, & Christina (2010), and Song et al. (2013).

Another interesting result was that the type of subject assessment was not significant in the analysis. This means that the number of A's scored by the respondents in PT3 was not affected by whether the subjects were examination subjects or non-examination subjects, given that all other variables in the model were constant.

State of sample, type of classes, ethnicity, location, number of students, and number of students in classroom, school band and order in family were significantly influences student's achievement in PT3. Type of house and help received in revision were not significant in influencing student's achievement in getting more A's.

Qualitative Analysis

Demographic Variable

Table 4.28:

Demographic Variables.

	Urban		Rural		**Total**
	Male	Female	Male	Female	
Malay	2	1	3	0	6
Chinese	1	1	0	0	2
Indian	0	0	0	1	1
Others	0	0	0	1	1
Total	3	2	3	2	10

Table 4.28 illustrates a descriptive analysis of the interview respondents. The total number of respondents was 10, chosen from five regions in Malaysia. Half of the respondents were boys and half were girls. The race of the respondents was proportionate to the Malaysian population. The respondents were selected from both rural and urban areas. Table 4.28 also shows that there were six Malay students, two Chinese students and each from Indian and other races. The table also shows that there were equally 3 males and two female from urban and rural schools.

An interview was conducted in order to collect more in-depth data on the characteristics of private tutoring participation and to confirm the findings of the quantitative data analysis. The interview was conducted on 10 students drawn from the private tutoring participant pool. Participants were chosen from private tutoring participants who were willing to be interviewed and from different classes. The interviews were conducted in a different setting than classrooms. The researcher herself interviewed the participants, except for one participant from an urban school in East Malaysia. This was because the participant's school was closed due to haze (unhealthy level of air quality). The school counsellor was therefore requested to conduct the interview for this participant.

However, the researcher provided the school counsellor with an explanation of the interview questions beforehand.

Participation/ Non participation in PT for Geography and History

The interviews on this topic revealed quite interesting findings. Geography and history were the non-examination subjects in PT3. Students only complete their folio to be graded for PT3. So, it is surprising that student still taking private tutoring for these subjects in spite of no examination for these subjects. Majority of the students (six respondents) take private tutoring for geography and history. Students differed in terms of their reasons for private tutoring participation/non-participation in non-examination subjects.

There were many different reasons for the private tutoring participation in Geography and history. However, almost all the respondents who take private tutoring for these subjects reveal that not understanding the subjects as a reason to participate in private tutoring for the subjects. One student from Sarawak mentioned that he did not enrol for geography because his skill in the subject is good. On the other hand he took private tutoring for history. He responded, "My geography skill is good. I can study my own. I take history because I don't understand school teacher" (P3R).

The findings also show that student give priority to history than geography in taking

private tutoring. They mentioned that history is important to pass in SPM examination[5]. There were three students who admit that they took private tutoring for history because it is important to pass the subjects at SPM examination. One student cited the reason as, "I don't understand history. I must take tuition; I want to pass in SPM" (P4R).

Thus, the interview revealed that students continue taking private tutoring for history because for them the understanding of the subjects was essential to pass in SPM examination. There were three students who said that they took private tutoring for geography and history to improve their band in SBA at school. One student mentioned, "I take private tutoring for geography and history. I can improve my band in school. Also I can do my folio better in PT3" (P4R).

The interview findings revealed three reasons for students continue enrolling in private tutoring for history and geography. The first reason was, history is important to pass in SPM examination, so they need to understand the subjects. Respondents attended private tutoring because they did not understand the teaching of school teachers. Second reason was to improve their band in SBA and the third reason was to get help in completing their folio in PT3.

The interview also gives some understanding regarding why students do not enrol private tutoring for history and geography. There answers were equally important to discuss. One of the reasons mentioned by students for not taking private tutoring in such subjects, for example Geography and History, was the unavailability of teachers to teach these subjects at private tutoring centres. For instance, one respondent said, "There is no

[5] SPM examination is highest level of public examination held in secondary school in Malaysia. Students sit for this examination after 12 years of education. It is taken in 2 years after PT3. The results will be used as an entry requirement for Pre university studies at college or universities in Malaysia. The students required to compulsorily pass the Malay and history to obtain the SPM certification.

teacher available for Geography and History *"(P1R).* This reason was also cited by another student (P2U).

Another reason stated by a student for not taking private tutoring in Geography and History was that these subjects were non-examination subjects. Additionally, one student mentioned that she already had a good understanding of Geography; therefore she did not feel the need to take Geography for private tutoring. Yet another student stated that he did not enrol in private tutoring for Geography and History because, "I can study Geography and History subjects on my own" (P3R).

On the other hand, three students reported taking private tutoring for both Geography and History. Their reasons for attending private tutoring in these subjects were the inclusion of these subjects in the tuition package and difficulty in understanding their schoolteachers' teaching. For instance, students P5R and P2U said that they take private tutoring for History because it was included in the private tutoring package.

In fact, it is cheaper to take private tutoring in package form, as tuition centres usually prepare packages for students to choose from. Most of these subjects offered were core subjects while there was an extra charge for additional subjects. Another reason given by a student for taking private tutoring in Geography and History was that she had no prior knowledge of these subjects, as they were new (P4R).

The interview responses also found that a greater number of students were enrolled in private tutoring for History compared to Geography. Only three students took private tutoring for geography, while six students took private tutoring for History. Their reasons for taking private tutoring in this latter subject were primarily to understand the material, "I take private tutoring for History because I can't understand what is being taught by the schoolteacher" (P5R).

Moreover, even though there is no public examination for History in Form Three, it is a compulsory subject in the Form Five SPM examination. In fact, it is a pre-requisite subject for passing the SPM examination besides Malay Language. This would cause students to place importance on understanding History to perform better in their future SPM examination.

The students' responses also revealed that they enrolled in private tutoring for History and Geography because private tutoring teachers offered personal attention to them. It is difficult to get personal attention in schools because classes are big and the teacher's time in the classroom is limited. However, since private tutoring centres do not currently help students with non-examination subjects and instead focus on old methods of examination orientated drilling, students will be eventually forced to turn to their schoolteachers for help in scoring a better band in the new School Based Assessment system.

Subjects and Type of PT Class. The interview results showed that the majority of respondents were enrolled in tuition for Mathematics, Science and History. Specifically, six students were enrolled in Mathematics, Science and History tuition, and two students in Living Skills tuition (P3U). One student was taking private tutoring for all subjects except Geography (P3U). This student spent 16 hours per week in private tutoring. However, most of the other students spent approximately two hours per week in private tutoring for each subject.

The students also revealed that they had continued attending the same tuition centre and taking the same subjects in Form Three as they used to in Form One and Form Two. The majority of the students (six students) also reported enrolling in small tuition groups instead of large ones. The average tuition class size attended was eight to ten students per

class. The students preferred small group tuition because it provided quality private tutoring activities. For example, participant P4U expressed, "small groups are more focused". Nevertheless, three participants were enrolled in large tuition groups. For instance, participant P4R stated that her class consisted of 60 students. Student P1U was also enrolled in a large private tutoring group. His class had 40 students and the teacher used a microphone to teach.

Teaching activities at PT centre. The interview results recorded several types of teaching activities taking place in the tuition centres. One of the activities described by participants was that their tuition teachers' emphasised teaching the subject matter until all the students understood the topic. For example, one participant declared, "If you don't understand, you can ask the tuition teacher until you understand ... tuition teachers teach according to the student's individual needs (P1U).

She also added that she could understand better in private tutoring classes compared to school classes because her private tutoring teacher's method was very effective and enhanced her comprehension of the subject. Another student also expressed that her private tutoring teacher taught more enthusiastically (P1R) compared to her schoolteachers.

All the respondents reported that their tuition centres were examination focused and employed exercises that would enable their students to achieve good grades in examinations. The respondents also unanimously noted that none of their tuition centres followed the new School Based Assessment system, which uses bands to assess student performance. Instead, their tuition centres taught subject content followed by examination-oriented exercises. Even subjects like History and Geography were conducted in an examination focused manner. As one student said (P4R), "Yes … especially history … it helps to get a good grade … we do a lot of revision after finishing the syllabus. It's all

examination based". Another student (P5R) also added, "Yes, examination focused … more to drilling for examinations".

Based on these interview responses, we can summrise that private tutoring centres are still following the previous assessment system (PMR), which is examination oriented, rather than following the new School Based Assessment system. The School Based Assessment system (PT3) does not have examinations for Geography and History; instead, students are assessed throughout the year on their understanding of subject matter. Students are awarded bands based on their performance in these assessments. The bands range from band one, which is the lowest, until band six, which is excellent.

The respondents noted that private tutoring centres currently focus on training students in answering examination questions instead of helping the students in their School Based Assessment questions assigned by their schoolteachers. For example, one student's answer when asked whether their tuition centres follow the School Based Assessment system was, "No, schoolteachers emphasise more on School Based Assessment than private tutoring teachers (P2U)". The students' responses confirmed that the new School Based Assessment is not practiced in tuition centres, and that only schoolteachers were competent in this new assessment format.

PT and Students' Performances . All the respondents agreed that private tutoring helped them improve their performance in PT3. The interview results also indicated that most of the participants enjoyed improved scores specifically in Mathematics. An Iban boy and a Malay girl said:

> *Yes … I passed my Mathematics … but before taking tuition, I always failed … (P3R).*
>
> *Yes. In Form Two, we had no tuition for Mathematics; I always got a C,*

but in Form Three I took tuition, I got an A in PT3 (P2U).

Another student (P4R) also added that she could concentrate more in private tutoring classes than at home. She explained that she was easily distracted when she did revision at home. Thus, her PT3 results improved when she relied on private tutoring classes to do her revision. Yet another participant admitted that private tutoring improved her PT3 results because private tutoring teachers knew how to train their students to achieve better examination grades. She said, "Yes … teacher …she knew (examination) answer scheme she knows how we can get better result" (P4R).

However, one participant did fail his Science even though he took private tutoring for this subject. Six students revealed that their bands improved after taking tuition. However, four students said that since their tuition classes did not focus on School Based Assessment, these classes did not help them to obtain good bands. As one Malay respondent said, "No, not focused on Band … more focused on examinations". Nevertheless, overall, the students' answers indicate that attending private tutoring classes improved their results in PT3.

Summary

In summary, the quantitative data analysis shows that there were non- individual factors which significantly affected the demand for private tutoring. Ethnicity, number of siblings, type of house (represented by income), and help from family members in revision were some of the significant household factors affecting demand for private tutoring. School location and region of the school were among the school factors affecting student participation in private tutoring. However, community level factors (distance of tuition centre) did not affect the demand for private tutoring among the respondents.

Type of assessment was a significant factor in determining private tutoring demand. Factors such as number of students in the classroom, distance of tuition centre, school quality, ethnicity (Indian) and tuition provider also significantly affected time spent in private tutoring tuition on examination and non-examination subjects. Number of siblings, type of house, location, and school region in turn affected the type of private tutoring group the students chose. The quantitative analysis also showed that regions, type of classes, ethnicity, location, number of siblings, number of students in classroom and school quality significantly affected the amount of private tutoring classes undertook by the respondents.

The qualitative analysis discussed in this chapter confirms the findings of the quantitative analysis. The qualitative findings also reveal additional in depth data on private tutoring; for example, students admitted that they were taking private tutoring because they could not get personal attention in school classrooms. The interviews also found that students who were taking private tutoring scored a higher number of As in PT3. Students also admited that private tutoring classes are more examination focused. Students also revealed that they enrol in private tutoring for history because it is compulsory subject to pass in SPM examination.

The qualitative findings form a rich source of data for this research. It also answers a few questions that were not discussed in the quantitative analysis. Overall, the findings highlight the fact that a complex interaction of non-individual factors influenced private tutoring demand among the respondents of this study.

CHAPTER 5 : DISCUSSIONS, RECOMMENDATION AND IMPLICATIONS

Introduction

This chapter summaries and discusses the findings of the study with comparison to other studies. Beside this, this chapter also indeed gives some recommendations for future researchers to improve their studies. In addition, this chapter also will present the implication of the study to the policy makers, to the education ministry, schools, parents and students.

The findings show that approximately only 30 % students take private tutoring. The study conducted both quantitative and qualitative analysis to understand the determinants of private tutoring in Malaysia among PT3 students. The study compromises of sample from five regions in Malaysia. The sample is the first batch of form three students under the new assessment, which is called School Based Assessment system. There is not any centralized examination. The findings show a new pattern in Malaysia for the market of private tutoring. Almost 70 % of Malaysian students do not take private tutoring. One of the earlier study found that 83.3 % of Malaysian students received private tutoring by the time they reached lower secondary (form three) (Marimuthu et.at, 1991). A latest study by Jelani & Tan (2012), quoted a survey result research by Merdeka Center for Opinion Research (2005) that 64 % of Malaysian parents send their children to private tutoring classes. Past literature in Malaysia found a higher percentage of private tutoring participation among Malaysian students but current study contradicts previous results. This may be due to the introduction of the new assessment system in 2012.

Discussions of Findings

Research Question: What are the factors that influence PT3 students' participation in PT?. The research findings shows that type of house (family's wealth indicator), ethnicity, and location, state of sample, type of classes, number of siblings and number of students in a classroom were significantly influence student's decision to participate in private tutoring.

The findings show that Chinese students have a higher percentage of participation in private tutoring compared to Malay and Indians. Past studies shows a mixed results on ethnicity. Significant in ethnicity shows an economic and cultural factor. A Malaysian study by Jelani and Tan (2012) found that Chinese students have a higher private tutoring enrollment. Another Malaysia study by Kenayathulla (2013) also found that ethnicity is significant factor. An earlier study by Marimuthu et al (1991) also supported the current findings. However, Kenayathulla (2013) findings report that Chinese and Indian have a higher percentage than Indian. This contradicts the current findings.

The current study found that Malay students have a higher private tutoring enrollment than Indians. It shows that now Malay parents were equally placing importance to their children's achievement. Due to scarcity of scholarship and growing number of premier schools, cluster schools, and science boarding schools, there are intense competition among Malay students. Malay parents also priorities their children's education to enable their children enjoy a better standard of living in a multi-racial country.

The analysis also shows that location is a significant factor in determining student's participant in private tutoring. Study reveals that urban students have a higher private tutoring enrollment compared to rural students. There are many justifications given by past literature. One of the reasons is distance of tuition center. In urban area, there are many tuition centers available and transport is convenient and frequent (S. Kim & Lee, 2010).

However, in rural areas, tuition centers are scarce and transportation is limited (Silova, 2010). Students need to travel to nearest town to take private tutoring. Since the new assessment system required students to spend more time on their School Based Assessment assignment, students could find it difficult to travel to town to attend private tutoring classes. Some students also revealed that lack of time as a reason not taking private tutoring classes. The study does not find any differences in private tutoring enrollment between east coast and east Malaysia. Furthermore the study also found an interesting findings, Central and Northern states have lower enrollment in private tutoring classes than east coast and east Malaysia. These states were the most developed state in Malaysia and supposed to have a higher enrollment. Studies by Jelani (2012) and Kenayathulla (2013) found that developed state has a higher enrollment in private tutoring. However the finding is caution that the rural sample in east Malaysia is not from interior places. The selected rural school is just thirty to thirty-five KM from State capital. It is also same for east Malaysia, the rural school is within 30 to forty KM from state capital. Samples chosen in central state are not from highly developed areas like Kuala Lumpur, Petaling Jaya or Shah Alam. The result could be different if sample were chosen from this area.

The finding is supported by previous literatures. Previous study reported that there is a big gap between urban and rural students. Bray & Lykins (2012) found that 61.9 % of urban students enroll in private tutoring classes than 37.7 % in Kyrgyz Republic. The findings also supported by Kim & Lee (2010) in South Korea and also in Turkey by Tansel & Bircan (2006). A local study by Kenayathulla (2013) also found a similar finding. Bray (2003) reasoned that rural students mostly attend tuition with their own teachers. He also added that the students are induced by their teachers to attend private tutoring classes.

The study reports a higher percentage of private tutoring enrollments among science stream students compared to commerce and arts stream students[6]. Choi, Calero & Escardibul (2012) also found that student's from good class have higher enrollment for private tutoring compare to student's from weaker classes. It is a reciprocal result. Students who achieve good grades in PT3 (minimum C in science and Mathematics) enroll in science stream. Students who enroll in private tutoring achieve more A's. It shows a coherent result for demand for private tutoring and private tutoring increase student's achievement.

The findings indicate that number of students in classroom is significantly influencing student's participation in private tutoring. Almost half of the students who participated in private tutoring are from higher classroom enrollment in schools (31 to 40 students). Most of the classroom in Asia has students more than 30 per classroom. Thus, more personalized attention is needed for these students. In qualitative analysis, most of the students said that they receive personal attention in tuition classes. Thus, they have a better understanding of subjects. Bray (2013), also confirmed that class size is partly affects the private tutoring enrollment. The finding also supported by Kenayathulla (2013).However, Bray et.al (2014) found that number of siblings do not affect the probability of taking private tutoring in Hong Kong. Bray justify that Hong Kong parents might find a way to secure enough resources to send their children to tutoring regardless of number of children in a family(Bray et al., 2014).

[6] In Malaysian education system, students are divided into type of stream according to their results by schools authority. Good results are assigned to science classes, moderate into commerce and weak students into arts stream.Student's application to enter science classes, also approved by school authority. However, it depends on the student's results (minimum qualification, C in Mathematics and scince subject must attain).

Number of siblings (more than 3) is significant factor in research question one. When number of sibling increases, parents have less disposable income to spend on private tutoring. Hensel (2006) found that when number of children increases, private tutoring expenditure decreases. Castro and de Guzman (2014) studies also found similar findings in Philippine. Local study by Kenayathulla (2013) also found that number of sibling is significant in her study. However Jelani & Tan (2012) found number of sibling is not significant. A study by Kang (2011b) shows that a second born girl received less tutoring if she has more than one siblings and second born boy received higher investment in private tutoring if first born is a girl. However, this study found that the female students have a higher private tutoring enrollment than male irrespective of order in family.

Bray et.al (2014) found that number of sibling is not significant in Hong Kong as a determinant in private tutoring enrollment. He justify that Hong Kong parents find enough resources to send their children to private tutoring classes regardless of number of children. It is also same situation in this study. Parents give equal chances to their daughters as well as their sons for education.

Descriptive analysis shows that mother's education plays a significant role in enrolling students in private tutoring classes. The finding shows that mothers who possess higher education play a higher value on education (Kim & Lee, 2010 and Silova, 2010). Thus, mothers with higher educational level enrol their children in private tutoring classes to ensure their children excel in academic. According to de Castro & Guzman (2014), mother's belief and value to success effect student's involvement in private tutoring enrollment. However father's education is not significant in influencing children's enrolment in private tutoring. It shows that mother's is the decision maker in enrolling the children in private tutoring classes. Furthermore mothers with higher education have

employment and this increases the family's income level (Jung & Lee, 2009). The family have more disposable income than less educated parents (Bray & Kwo, 2003). Mothers with employment do not have sufficient time to spend time to help in revision at home. Hamid (2009) also found that mother's education influences private tutoring enrolment.The finding of the research is coherent with other studies in this field. Example, Song et al. (2013), also confirm that parents' education level is a powerful factor than family's income in affecting demand for private tutoring.

A finding by Tensel & Bircan (2006) shows mother's education has a bigger impact on private tutoring expenditure than father's education. Silova (2010) also found that children whose parents are highly educated (post diploma and degree) have higher private tutoring enrollment in Kazakhstan, Kyrgyztan, Tajikstan, Azerbaijan, Mongolia, Slovakia, Ukraine and Poland. Bray et.al (2014), found in his study in Hong Kong that higher educated mother's children have higher enrollment in private tutoring. De Castro & Guzman (2014) also confirmed the findings that mother's education is a significant factor in influencing private tutoring enrollment.

Research question 2: What are the factors that influence student participation in PT for examination and non-examination based subjects?. The study shows that type of assessment does have an impact on type of subject student's enroll in private tutoring. Finding shows that examination subjects have a higher enrollment compared to non-examination subjects. Findings also reveal that Mathematics and Science subjects have higher enrollment in private tutoring.

Mathematics, science, Malay language, English and Living Skills are examination subjects. History and Geography are non-examination subjects. In the new assessment system, Geography and history is assessed with folio type of assignment. The students

could collect materials at home and get teachers advice to complete the task. Furthermore, students admit that private tutoring teachers are not helping the students in their assignment. However, some students also admit that the school teachers do not give enough exercise to drill them for examinations. Students also admit that their school teachers do not have enough time for personal attention. Thus, they are taking private tutoring for better attention.

Mathematics, Science and English are the most favorable subjects by private tutoring students. Almost 50 % of private tutoring students enroll in these subjects. It might be because these subjects are examination subjects. Whereas, private tutoring enrollment for non-examination subjects such as history and geography is low; 32 % and 19 % respectively. The result shows that private tutoring enrollment for examination subject is higher than non-examination subjects. The finding is supported by most of the studies discussed in the literature. Bray (2013) found that Mathematics and national language subjects have higher private tutoring demand than other subjects. Jelani & Tan, (2012) also found that English, Science and Mathematics are the most popular supplementary subjects taken by private tutoring students in Penang. Other studies like Bray (2013); Bray, Zhan, Lykins ,Wang & Kwo (2014); Jayachandran (2014) ;and Kim & Lee (2010), also found that Mathematics, English and Science are most sought after subjects by private tutoring students.

The study also reveals that rural students have a slightly higher enrollment in Mathematics and Malay subjects compared to urban students. Mathematics, science and English are essential subjects which are pre-request to the form three students to enroll in science stream in form four. Most of the Malaysian parents have a stereotype of enrolling their children in Science stream. The high demand for private tutoring in these subjects is

due to utility and essentiality for social and economic advancement (Brehm et al ,2012 and Zhang, 2014). PISA (Program for students International Assessment) also assesses students in Mathematics and Science. Demand for Malay subjects is due to the fact that Malaysian students must pass the subjects to continue their studies to a higher level.

Distance of tuition centre, school quality, ethnicity, tuition provider, number of students in classroom, location, state of sample were significant factor in determining type of subjects student's enrol for private tutoring.

Distance of private tutoring center negatively influences private tutoring enrolment for the type of subjects. When the distance of private tutoring center increases, private tutoring enrolment of the students in type of subjects decreases. A study by Kim & Park (2010) found that students in urban area have higher private tutoring enrolment than sub-urban. The finding from South Korea shows that students from urban area have higher enrolment because the private tutoring center was nearer than students from sub-urban. The current findings also shows that, students from rural (consider sub-urban) have lower private tutoring enrolment for all the subjects. Hence, the distance of private tutoring center is significantly influence private tutoring enrolment for type of subjects.

An increase in one unit log odds of school quality decreases student's enrollment for Mathematics. The findings reveal that if students were from good schools (better band), they less likely to take private tutoring for Mathematics (Bray, Zhan, Lykins, Wang & Kwo, 2014). Unlike Mathematics, geography shows an increase in private tutoring enrollment when school quality increases. The finding was unique because subject geography was not an examination subjects. Hence, the findings should be cautiously interpreted.

The analysis of the study reveals that, Indian students were less likely to enroll in private tutoring for English subjects. Malay and Chinese ethnicity were not significantly influence student's decision to enroll in types of subjects. It shows that Indian students were not interested in enrolling for English compare to other races. This could be the fact that the Indian students felt that their proficiency in English was competent and private tutoring for the subjects was not necessary.

The findings of the current study could not compare to other local studies. This is because there were no studies available on this dimension (Factors influencing private tutoring enrollment for type of subjects). Byun & Park (2012) found that needs to improve their English language proficiency among East Asian American students, increases the demand for the subjects. Thus, the needs to enhance proficiency of certain subjects increase the demand for the subjects. It is supported by Bray (2014), students who enroll in private tutoring in English scores better result in their test.

Research Question 3: What are the factors that influence decisions on different types of PT classes?. The descriptive analysis shows that students mostly enrol in small group of private tutoring classes. The Multinomial analysis reveal that number of siblings, state of sample, location and type of class influences students decision to enrol in small private tutoring classes. Order in family (third and above), type of house and location were the influencing factor for large private tutoring classes.

The finding showed that when order in family increases, private tutoring enrolment in large group increases. It also showed that parents with higher income level mostly enrol their children in small private tutoring class. These findings clearly indicated that parents with more disposable income enrol their children in small private tutoring classes. Parents

believe that smaller private tutoring classes were more efficient than large classes. They want their children to have personal coaching in small private tutoring classes.

A study by Kang (2011b) shows that a second born girl received less tutoring if she has more than one siblings and second born boy received higher investment in private tutoring if first born is a girl. Kang's (2011b) findings reveal that when parents have more children; there less likely send their children to private tutoring. Thus, it explains the current findings that when orders in family increases, the students enroll in large private tutoring classes which were cheaper than smaller private tutoring classes. Bray & Kwok (2003) found that participation in mass tutoring examination oriented increases when the students enter higher grades (public examination year). It shows that students enroll in private tutoring classes which were examination focused. We could clearly understand this from the qualitative findings of the study. Student reports that they enroll in small private tutoring classes to get personal attention and better understanding. Students preferred private tutoring classes which could drill them for examination.

The descriptive analysis of the study also reveals that number of students in classroom has direct relationship in tutoring participation. Almost half of the students who participated in private tutoring are from higher classroom enrollment in schools (31 to 40 students).

Most of the classroom in Asia has students more than 30 per classroom. Thus, more personalized attention is needed for these students. In qualitative analysis, most of the students said that they receive personal attention in tuition classes. Thus, they have a better understanding of subjects. Bray (2013), also confirmed that class size is partly affects the private tutoring enrollment. It justifies the reason why most of the respondents choose to enroll in small private tutoring classes.

Research Question 4: Does PT improve student performance in PT3 examinations?. This study shows that students who enroll in private tutoring classes scores better results than students who does not take private tutoring. Majority of students also reports that to improve examination scores as a reason to enroll in private tutoring. Bray (2014), found that students who received private tutoring shows a significantly higher marks than their counterpart without private tutoring.

Participant also reported that their private tutoring classes' gives examination oriented drilling exercise to enhance their performance in PT3. The finding is supported by Byun & Parker (2012) and Butchman (2010). They found that students enroll in private tutoring to improve their examination scores.

Baker et.al (2001) found that high achieving students in Korea also seek private tutoring to obtain better grades. The findings also justified by Bray (2003). He found that students in examination classes have a higher private tutoring enrollment in Hong Kong.

The fourth research question shows the significant factors which effect student's achievement in PT3. Students' achievement is influenced by regions of the samples; type of classes, location, number of students in classroom, number of siblings' school quality and enrollment in private tutoring. Ordered logistic was applied to test the significance of the variables in influencing student's results in PT3. Choi, Calero & Escardibul (2012) found that two hour per week in private tutoring shows an increase PISA performance in Mathematics. The current study also shows that students spent minimum two hours per week in their private tutoring classes and it shows increases in student's achievement. The analysis also shows that private tutoring enrollment increased the student's achievement in PT3. It is coherent with the descriptive analysis.

The findings show there is a significant effect between private tutoring enrollment and student's achievement. This is because students who were in science classes show a higher enrollment in private tutoring and eventually they attaint good results in PT3. Students achievement also indicated by the subjects' choice in private tutoring.

Findings reveal that students who take private tutoring in Mathematics and Science shows a better score in these subjects in PT3 examination. Student's enrollment in science classes were according to their PT3 results[7]. Thus, students who were in science stream achieved good results in PT3 and vice versa for arts stream students. Past literature also supported the findings of the current study (Choi, Calero & Escardibul, 2012).

The study also shows a mixed result for ethnicity in influencing student's achievement in PT3 like past studies. The findings shows that Malay ethnicity shows a positive relationship but Chinese ethnicity shows a negative relationship among ethnicity (Chinese) and number A's student's achieve in PT3 result. The study also found that Chinese students have a decrease chance of obtaining more number of A's in than other races. Past studies in Malaysia never measure the significant of ethnicity on students' achievement in PT3 examination. The current study is the first of kind to study the effect of ethnicity on students' achievement in PT3 (among private tutoring taking students). However the findings should be cautiously interpreted as the number of sample for Chinese students is limited. It also could be due to the fact that the analysis (fourth research question) excluded students who could not remember their examination results. In future, researchers should obtain students results from the school instead of asking the students.

[7] In Malaysian education system, students are divided into type of stream according to their results by schools authority. Good results are assign to science classes, moderate into commerce and weak students into arts stream. At times students' application to enter science classes also approved by school authority. However, it depend on the student's results (minimum qualification, C in Mathematics and science subject must attained).

However it could be difficult to get the result if the school could not accept the request from the researcher.

Research question 5: Why do the students continue participating in PT for geography and history?. The findings of quantitative analysis shows that there were fewer students participate in private tutoring for geography and history. However, the researcher is queries' to seek a detailed explanation on why there were students continue taking private tutoring for these two subjects despite the fact there in no examination for these subjects in PT3. Thus, the interview questions reveal some interesting findings to answer this question.

The findings shows that most of the students interviewed confirmed that they continue participate in geography and history because of several reasons. The status of the history subjects which required the students to pass at SPM examination level is the one of the important reason why students continue private tutoring for history. The finding also shows that there were more number of students takes private tutoring for history than geography. The students also hope to improve their band in School Based Assessment by enrolling in private tutoring for these subjects. However, the qualitative findings reveal that the private tutoring center not much focused on School Based Assessment. Furthermore students also admit they get more help from school teacher to complete their assessment compare to private tutoring teachers.

The results also show that none of the students admit scoring good marks as a reason to enroll private tutoring for these subjects. We can conclude here that School Based Assessment reduced the demand for private tutoring for geography and history. The finding is similar to implications suggested by Bray & Lykins (2012). Bray & Lykin (2012) said that reforming the type of assessment will lead to changes in private tutoring demand.

Summary

The study also revealed that only 30 % of students enroll in private tutoring. The majority of the participants do not enroll in private tutoring classes. This could be due to the implementation of the new School Based Assessment system. Initially when the government introduces the new system, the assessment was supposed to be decentralized. There is no centralized examination. However after much complain from stake holders like parents and teachers, government modify the new assessment system. It was divided into two phase; examination and non-examination.

The examination is done centralized but the format was modified. Even the new system is only announced in April 2014. So it explains the lower enrollment in private tutoring classes among the form three students in 2014.

A study by Kwo & Bray (2014) found that changes in assessment system resulted in teachers busy covering contents and assessing skills under the new system. It makes the teachers focus less on enrichment and remedial activities. It is also supported by Li & Choi (2014). Kwo & Bray (2014), also found in their study that students enroll in private tutoring because they did not receive enough focus on examination techniques to improve their examination scores.

The research shows that the new assessment, School Based Assessment system does brings a new paradigm in demand for private tutoring in Malaysia. When the government introduces a decentralized and less focused on examination format, it reduce the demand for private tutoring classes. The new system also reduces parents' expenditure on private tutoring. Students also appreciate their teachers help in School Based Assessment system than their private tutoring teachers. However the main reason for students' enrollment in private tutoring is to get more attention to understand the subjects and to prepare them for

examination questions. The study also shows the significant factors which influence student's decision to enroll in private tutoring. Most of the factors are house-hold and school level factors. However, gender, is not a significant factor in influencing student's decision to take private tutoring.

The research concluded that individual factors, household factor and school factors are more dominant in influencing demand for private tutoring, type of subjects choose by students, type of classes students enroll and students achievement in PT3.

Implications and Suggestions

Policy Makers. The findings of the study have some implications on policy makers, teachers, parents and students. The findings show that the School Based Assessment system able to reduce demand for private tutoring. The initial plan of introducing the new format for form three students which focuses less on examination and assessment was a good move to reduce over-dependability on private tutoring. The findings also revealed that under the new system, students are less stressed over examination. Thus, the policy makers should continue and refine the School Based Assessment system for form three students. The policy makers also should emphasize more on holistic approach of assessment. Government also should abolish grading schools according to examination results such as the Band system.

Schools were awarded Band according to examination results (60% weightage). Since the School Based Assessment system conducted by the schools, the students results should not be given much attention. It should be treated as any other school based examination results like the end year examination.

The findings show that students attended private tutoring classes because there was not much attention in classroom. Teachers are pre-occupied with the School Based Assessment system as well as prepare students to score for PT3 examination. It makes teachers fail to gives extra attention to students who do not understand the subject matter.

The study also revealed that students could not understand teachers teaching in classroom as one of the main reason to attend private tutoring. Policy makers in education ministry especially the curriculum development unit should revamp the syllabus to adjust to the new assessment system (currently the syllabus follow the KSSM which emphasize on topics and not themes). This effort will reduce teachers work load in classroom and allow teachers flexibility in teaching and learning process. It also enables the teachers to carry out extra coaching within the teaching periods.

The Malaysian government also should ensure the quality of teachers in public schools. The entry requirement for new teachers should be raised (currently only 5A; included A-, A, and A+ for SPM candidates). However, the Malaysian government under the national education blueprint 2013-2025, set a target of recruiting top 30 percent high achievers as teacher's trainees. Hopefully by 2025, the target can be reached to raise the standard and quality of teachers in Malaysia. The government should follow the standard adapted by other Asian countries like Korea and Singapore. Korea government recruits 5% of top college graduates as teachers annually (Lee, 2013). Hence by 2025, the Malaysia should have more than 50 percent of teachers from high achievers and not just 30 percent only. The government should introduce more in service training in pedagogical methodology. The training must be conducted by the education ministry or state education department.

Teachers and School Management. The study reveals the two important reasons why students enroll in private tutoring. First reason was because of lack of personal tutoring during teaching and learning process in schools. Second reason was that the exercise or homework given by their school teachers was not sufficient to excel in examination. Teachers and principle in school must emphasis more on effective teaching and utilize the teaching and learning time at school. District education office or state education department must ensure that all courses conducted for teachers were held after school hours or during school holidays. Principles also should encourage the school teachers to adapt to the 21st century classroom teaching which engaged students with higher order thinking skills activities. Subjects' teachers should play more important role to identify weak students and arrange programs to help these students to improve their academic achievement.

Parents and Students. The study reveals that School Based Assessment system reduces the demand for private tutoring in Malaysia. Parent's guidance at home was able to reduce students dependent on private tutoring. The finding also shows that parents are the main source of private tutoring information. Students admit that they do not have enough time for private tutoring classes with the introduction of School Based Assessment system. Thus, parents should encourage their children to focused more in classroom and approach their teachers for further explanation on subject matter. Parents must spend more time with their children and guide them in their homework. Parents who are not educated should arrange their children to get help from their relatives or siblings who could help the students in their homework.

The study also reveals that private tutoring teachers are not helping the students in their School Based Assessment. Their school teachers are more helpful in School Based

Assessment exercises. Parents must be ready to accept the changes in school assessment system and more optimistic about the changes.

Students should play an active role to acquire more skills and information to improve their knowledge and achievement. The study shows that students have a lower private tutoring enrollment for Geography and history. One of the reasons for lower enrollment in geography and history was because there is no examination for these subjects in PT3. Furthermore students were able to complete the PT3 assignment for these subjects with the help of internet and school teachers. Students also said that the lack of personal attention in classroom as a reason to seek private tutoring. Student should be more accountable for their own learning. They should approach their school teachers whenever there is a need for further clarification on certain topics.

Nation and Global. The study reveals that the new assessment system (School Based Assessment) able to reduce student's dependability on private tutoring. Thus, it could reduce the allocation of disposable income for private tutoring in future. Parents were able to spend their income for more resourceful activities or increase their savings. Malaysian students have a higher enrollment in private tutoring for Mathematics, Science, and English and Malay language. This shows that Malaysian value these subjects more than other subjects. Globally, Science and Mathematics have more economical value.

It shows that in future Malaysian students are able to compete with other counterparts from around the world and the nation is able to prosper with new talent in the field of science and Mathematics. The study shows that School Based Assessment which reduces examination pressured causes reduction in private tutoring demand. Thus, this is a good indicator to other countries in the world which emphasis on examination oriented curriculum in education.

Limitations

There are several limitations in this study. The first and important limitation is the availability of sample which resembles the population of Malaysia. It was difficult to find schools which have a balance quota of Malay, Chinese and Indian. This is especially difficult in rural areas. Most of the rural schools are predominantly Malay students. So, the researcher could not have many choices of rural schools and accept the most suitable school which consists of Malay, Chinese and Indian. This result in most of the schools selected is in the categories of BAND three to five.

The second limitations is rural schools has fewer students in a classroom. Furthermore during the data collection phase, the country experience severe hazy weather which resulted in high absenteeism of students to school. It was very rampant in central region and east Malaysia. Due to this, the researcher could not self-collect the data at one of the school in east coast. At that school, the data was collected by the school counselor and posted to the researcher. As a result of the weather, the study only managed to collect 669 samples.

Another limitation in selecting the sample, the chosen rural school was not very far from nearest town. It is because the schools chosen should be within a district to minimize variation in variables and student's demographic characteristics. . Due to this, the findings from the rural schools could not resemble the real private tutoring demand in Malaysian rural schools.

Most of the participants in this study were unable to reveal their parents income. They don't have any prior information on father's and mother's income. Thus, the study uses types of house as an indicator variable for the parents' income level.

Recommendations for Future Research

There are several recommendations for further research in this section. Future researchers should include a study on comparison of private tutoring demand in form one and two with student's performances in PT3. The study should compare the students achievement between students taking private tutoring continuously three years with students achievement who only participate in private tutoring while in form three only. This enable the researcher to compare the PT3 results of the students with previous private tutoring experiences.

The study also recommends conducting another study with a different year form three students as a sample to compare the result with the current study. Furthermore there is a gap in time between the announcement of written examination and the School Based Assessment system. This might influences the students' decision in taking private tutoring in form one and form two. Hence the research recommends another study to duplicate the current study. This is important to determine the effect of the real PT3 implementation. The current sample is the pioneer batch of form three students who were notified late on the presence of examination in form three. It will be interesting to compare the results.

Lastly the study likes to suggest an instrument variable (IV) method to compare students' achievement in PT3. The suggested IV is distance of private tutoring center from the house. The variable should be included as a demographic variable. This enables all the students to answer the question and will be able to measure the effect of IV on private tutoring achievement. Previous private tutoring experiences also could be used as an IV variable.

Conclusion

The implementation of School Based Assessment system did have an influence on demand for private tutoring in Malaysia. The findings of the current study are a reliable proof to support the above statement. The current study reveal a few interesting fact which is not coherent with other local studies. Example, the current study found that gender does not play an important variable in influencing demand for private tutoring among the PT3 students. Moreover the findings reveal that the girls have a higher private tutoring enrolment irrespective of order in family. However, the current findings confirm other local and global findings that urban students have a higher participating rate in private tutoring compare to rural students. Increasing class size also a prominent variable in determining demand for private tutoring. Educated mother's offspring have a higher enrolment in private tutoring compare to lower educated mothers. Interestingly, the study found that father's education does not affect demand for private tutoring. Private tutoring centers do not adapt to the new assessment system and students turn to their school teachers for help to complete their SBA. This shows that eventually SBA could reduce the demand for private tutoring in Malaysia. Reducing examination orientation in education system will give an impact on demand for private tutoring in Malaysia. It is supported by the current study.

The study found that less students were enrolled in Geography and history compare to other examination subjects (Malay, English, Mathematics and Science).The study could be a benchmark not only for Malaysian education system but also to other countries which emphasis on examination.

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