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**The Effectiveness of Private Tutoring:
Students' Perceptions in Comparison with Mainstream Schooling in Hong Kong**

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Abstract

This paper examines Hong Kong students' perceptions of the effectiveness of private supplementary tutoring relative to mainstream schooling. Drawing on survey and interview data, it shows that large proportions of secondary school students receive private tutoring. Students generally perceive private tutoring and private tutors to be more effective in the provision of examination support compared with mainstream schooling and teachers. However, perceptions vary according to students' self-reported academic levels and motives for taking private tutoring. The operations of the parallel sector of private tutoring have significant implications for the nature of schooling, and therefore need to be considered by teachers and school administrators. The Hong Kong data contribute to the international analysis of private tutoring, and add a significant component to the wider conceptual literature.

The Effectiveness of Private Tutoring: Students' Perceptions in Comparison with Mainstream Schooling in Hong Kong

Introduction

Mainstream schools have long been recognized as the principal institutional channel through which societies educate their young. Alongside mainstream schooling, the last few decades have brought rapid growth of parallel avenues through which young people gain knowledge and skills. This paper focuses on private (fee-paying) tutoring in academic subjects received by students as a supplement to their regular schooling (Bray, 1999, 2009, 2010). It adds to the research literature which is still in its infancy but expanding significantly, especially in East Asia (e.g. Bray 2009; Dang 2007; de Castro and de Guzman 2010; Ho and Kwong 2008; Lee et al. 2009; Zhang 2013).

In Hong Kong, forms of private supplementary tutoring are readily visible through company advertisements on buses, in shopping malls and in newspapers (Kwo and Bray 2011). This type of tutoring is through organized classes, in contrast to tutoring through informal arrangements on a one-on-one or small-group basis. A government survey of 6,100 households in 2004/05 indicated that 36.0% of households with primary-aged children were paying for some kind of supplementary tutoring, and that corresponding proportions were 28.0% in lower secondary, 33.6% in upper secondary, and 48.1% in sixth form or equivalent (Hong Kong, Census and Statistics Department 2005: 23). A smaller survey conducted five years later found that 73.5% of sampled secondary students were receiving tutoring and that another 7.9% had previously received private tutoring (Caritas 2010). Among the Grade 9 students surveyed in the research reported in the present paper, 53.8% were receiving tutoring in 2011/12; and the corresponding figure for Grade 12 was 71.8%.

The public view on private tutoring is not wholly positive. Critics argue that the examination-oriented drilling associated with some sorts of tutoring undermines dimensions of students' long-term learning (Ho 2009b; Ngai et al. 2013). They add that reliance on private tutors may damage students' independent-learning abilities (Ho and Kwong 2008; Caritas 2010). Yet the strength of demand for tutoring raises the question whether mainstream schooling is in some way inadequate.

Although the payments for most tutoring are made by parents, students are the primary consumers. Especially in the upper grades of secondary schooling, students play a major role in deciding the subjects, formats, and persons from whom they receive tutoring. As such, the views of students on the nature of tutoring that they desire (or feel that they can manage without) have implications not only for family expenditures but also for the nature of their regular schooling. However, little systematic information has been collected – either in Hong Kong or elsewhere – about students' perceptions of the quality and effectiveness of tutoring of various types.

Addressing this theme, the paper has six main sections. It begins with the broad literature on private tutoring and on effectiveness before turning to the precise themes which the research addressed. Next the paper describes the context of mainstream schooling and private tutoring in Hong Kong, and the research

methods. The findings comprise the core of the paper, and are presented in the following section. Finally the paper discusses the implications of these findings both for Hong Kong and more broadly.

Relationships between private tutoring and mainstream schooling

The relationships between private tutoring and mainstream schooling have been described in many ways. Marimuthu et al. (1991: vi) used the metaphor of “shadow education” to describe private tutoring, with mainstream schooling being viewed as the primary institution. Bray (1999: 17) extended the shadow metaphor, noting its appropriateness in four ways:

First, private supplementary tutoring only exists because the mainstream education exists; second, as the size and shape of the mainstream system change, so do the size and shape of supplementary tutoring; third, in almost all societies much more public attention focuses on the mainstream than on its shadow; and fourth, the features of the shadow system are much less distinct than those of the mainstream system.

The metaphor of private tutoring as a shadow also draws attention to ways in which private tutoring reproduces inequalities in mainstream schooling and wider societies. Prosperous families can afford greater amounts of tutoring and better quality, while students in low income families, if they receive tutoring at all, must accept limited amounts and inferior quality. Private tutoring may undermine efforts to reduce the social inequalities transmitted through educational processes. With reference to Japan, for example, Tsuneyoshi (2001) argued that the private tutoring aligned the educational processes with the stratified and hierarchical order of the wider society despite government efforts to reduce disparities between and within schools. Similar observations may apply to other countries (Lee et al. 2009; Heyneman 2011).

Other writers have used different metaphors. For example, Dawson (2010: 14) used a biological metaphor, when describing private tutoring as “parasitic” on schooling. Others (e.g. Baker and LeTendre 2005; Mori and Baker 2010) described the relationship as “symbiotic”, i.e. with mutual support. Each of these metaphors has some relevance to Hong Kong as well as to other societies.

The effectiveness of private tutoring

Much private tutoring explicitly aims to improve school grades and performance on standardized examinations. Thus, any consideration of effectiveness must keep such aims in mind. Other purposes of tutoring may include improved confidence, child-minding (especially for young pupils), and, in some cases, entertainment. Thus, there are many ways in which tutoring can be “effective”, and evaluation criteria might fit the motivations of the consumers.

The research literature on the links between tutoring and academic achievement is not robust, but nevertheless provides some useful indicators. Liu (2012) surveyed 13,978 Grade 7 students in Taiwan, and after controlling for other variables found significant positive effects of tutoring on analytical ability and mathematics performance. However, the positive effects decreased when tutoring hours were lengthened. In South Korea, Sohn et al. (2010: 26-27) examined 11 studies, six of which found positive correlations between

expenditures on tutoring and academic performance, though the relationship disappeared in at least one case when controls were added for student background. Also in South Korea, Byun (2014) used propensity score matching to compare the effects of tutoring on academic achievement in mathematics for a nationally representative sample of lower secondary students. He found that tutoring focused on test preparation made some difference in achievement gains, but that other forms of tutoring made little difference. To some extent, this echoed conclusions by Kang (2009), who found positive but small effects from investment in tutoring as measured by the experience of 1,752 students tracked by the Korean Education and Employment Panel longitudinal study.

Other studies are available from China. Analyzing survey data from 10,513 senior secondary students in three provinces and one municipality, Lei (2004) found a positive correlation between expenditure on private tutoring and academic achievement. However, Xue and Ding (2009) found negative correlations in data from 4,772 urban households. Zhang (2013) examined the relationships between private tutoring and national college-entrance examination scores for 6,043 senior secondary students in Jinan. Her analysis produced mixed findings for Chinese, mathematics and English, and for rural and urban students. In Macao, Ho and Kwong (2008) found a positive but small relationship between private tutoring and memorization, but no effect on advanced learning strategies such as elaboration, self-control and persistence.

Tutoring may also produce different results for subgroups of students with different academic levels. Certain types of tutoring may help students who seek support for remedial purposes, while other types may help students seeking enrichment. Overall study load and anxiety about examinations are also relevant factors (Barrow 2012; Byun 2014; Chong 2012; Dawson 2010).

In summary, empirical studies on the effectiveness of private tutoring mostly link private tutoring to student academic achievement and sometimes to students' learning strategies. The mixed findings may reflect issues of sampling, measures of demand for private tutoring (yes/no questions, duration, or cost), measures of academic achievement (one subject or multiple subjects), modes of tutoring (one-on-one, small group, large lecture class), and quality of tutoring. However, other important relationships have been largely ignored, including those between private tutoring and non-cognitive development.

In order to identify a more complete picture, this paper presents data on the scale, types, subjects and intensity of private tutoring in Hong Kong. This gives a picture of educational experiences outside school as well as within it. The paper then examines the following dimensions of student perceptions of the effectiveness of private tutoring with special focus on the relationship between private tutoring and mainstream schooling:

- students' perceptions of the effectiveness of private tutoring on examination results, school grades, relationships with school teachers, confidence in school learning, and learning strategies;
- students' motives for taking or not taking private tutoring; and
- students' comparisons of teachers and tutors.

The students' perceptions of private tutoring expose some of the gaps that they perceive in their regular schooling. The data show complementarities between the two sides, but also show shortcomings in the regular school system that should be considered by teachers and administrators.

Mainstream Schooling and Private Tutoring in Hong Kong

The nature of mainstream schooling

Hong Kong has an extensive network of public and private schools. Since 1978, all children have been required by law to attend school for at least nine years. Until 2009, this was accomplished through a "6+3+2+2+3" model, with the first nine years (six years primary, plus three years lower secondary) being free and mandatory, and the next seven years (two years upper secondary, two years matriculation, and three years for a standard university degree) optional. In 2009, this was replaced with a "6+3+3+4" model, with free education in public schools extended from nine to 12 years, and the standard university degree moving from three to four years (Hong Kong, Information Services Department 2012).

In the new system, a single examination leading to the Hong Kong Diploma of Secondary Education (HKDSE) replaced the Hong Kong Certificate of Education Examination (HKCEE) for Grade 11 students and the Hong Kong Advanced Level Examination (HKALE) for Grade 13 students. Four core subjects were made compulsory for the HKDSE, and supplemented by two or three elective subjects. By consolidating the two examinations, the government aimed to promote all-round development and reduce the amount of time dedicated to test-preparation (Hong Kong, Curriculum Development Council 2006). The HKDSE, like its predecessor HKALE, is a high-stakes examination and a major determinant of post-secondary opportunities. Although the gross enrollment rate in tertiary education is approximately 60% (Hong Kong, Education Bureau 2012a), the sector is stratified. Competition for elite institutions and prestigious programs is therefore severe.

In 2011/12, the year in which the research reported in this paper was conducted, Hong Kong had 524 secondary schools. Among them, 497 were in the local system and 27 were international schools, including subsidized schools run by the English Schools Foundation (ESF). Among the schools in the local system, 32 were operated directly by the government and 365 were aided schools operated by voluntary agencies but with substantial subsidies and accompanying regulations (Hong Kong, Education Bureau 2012b). Alongside these institutions were 63 schools in the Direct Subsidy Scheme (DSS), a format that provided less government finance in exchange for freedom to charge fees and flexibility in curricular and hiring practices. The remaining schools were fully private.

The nature of private tutoring

Private tutoring in Hong Kong is offered both through companies and through informal arrangements. According to market research conducted in 2011 for the initial public offering of a local company, total capacity in tutoring centers was 45,700 places, among which 54% were provided by companies operating as chains and 46% was through smaller companies (Synovate 2011, cited by Modern Education 2011: 93). Over half the chained capacity was provided by six companies, and the number of chained centers increased from

38 in 2005/06 to 106 in 2009/10. Although many students made individual arrangements with self-employed tutors, the figures showed that the largest corporations controlled a significant portion of the market.

The providers typically offer a number of modes of tutoring at different prices. The four main modes are as follows:

- *One-on-one tutoring.* A single tutor works with one student at a time. The tutoring may be offered by chained centre, an independent company, or a self-employed tutor. The tutors may work full-time or part-time, with the latter category including many university students. Working with just one student at a time, tutors can tailor the lessons to students' specific needs. This is typically the most expensive mode of tutoring.
- *Small-group tutoring.* A tutor runs a class with a small number of students. According to interviews, students commonly join small groups for homework checking and revision of lessons.
- *Lecture-type tutoring, either live or video-recorded.* Lectures are delivered by tutors to large classes, often with the aid of teaching assistants. The lecturers may be physically present, may be live-broadcast on a screen in an overflow room, or may be pre-recorded. The cost of video-recorded classes is slightly lower than that of live classes, and recorded classes can be offered in multiple locations on flexible schedules. Some companies offer packages that combine both types of lectures. This style is mainly provided by established tutoring centers and large companies operating in chains. Tutors for these two types of private tutoring are commonly called tutorial "kings and queens" (Kwo and Bray 2011). Much of this type of tutoring focuses on preparation for public examinations by providing revision notes and mock examinations.
- *Online tutoring.* The internet offers a small but potentially important marketplace for tutoring. Provision can vary from highly personal one-on-one language instruction via a web-chat to completely automated tutorials that adapt to the students' abilities. These services can allow students to access services beyond their immediate geographic vicinity (c.f. Ventura and Jang 2010).

Methodology

Research on private tutoring, as in other domains, may use quantitative, qualitative or mixed methods (Bray, 2010). The study reported in this paper used mixed methods of both quantitative survey and qualitative interview. Creswell and Plano Clark (2007) highlighted several types of mixed methods for research. A common approach, followed in this study, uses quantitative surveys to identify overall patterns and interview data to triangulate and illustrate these patterns. Some interview questions in the research reported here echoed items in the questionnaire, and others sought deeper understanding. This paper is mainly based on the questionnaire responses, identifying the general patterns of tutoring and of students' perceptions, but also presents illustrations from interview data.

Sampling

The quantitative data reported in this paper were derived from cluster sampling. Since students are more likely to receive private tutoring at transition points in education systems (Bray 2009: 25), students in Grade 9 (secondary 3) and Grade 12 (secondary 6) were targeted. Two classes were selected from each grade, and all students in each class were invited to participate. The base sample number was calculated as if it were a simple random sample. In 2011/12, respective Grade 9 and 12 enrollments were approximately 80,000 and 83,000, which for a random sample would have required a minimum for each grade of 382 students with a 0.05 margin of error and 95% confidence level. To account for the design effect of multi-stage sampling (Snijders and Bosker 1999: 22-24), in line with accepted practice this base sample size was doubled. To allow for non-responses, the team inflated the sample size by 5%. This created a target sample of 802 ($382 \times 2 \times 105\%$) students for each grade.

The next step was calculation of the required number of schools. Average class size in most Hong Kong local secondary schools was 33 in 2011/12 (Hong Kong, Education Bureau 2013), so 25 sample classes were initially needed of each grade. After 2009, under the new 6+3+3+4 system all local secondary schools included both junior and senior secondary education, and students in Grades 9 and 12 could therefore be sampled from the same schools. With two classes for each grade at school level, 13 sample schools in the local Hong Kong system were randomly selected. To permit comparison of students in the local and international school systems, one international school was added. During the implementation stage, the classes of some sample schools were found to be small and two further local schools were added in order to meet the minimum target sample size. In the final sample, 1,646 questionnaires were administered in 16 secondary schools, among which 1,624 (98.7%) were returned. Among them 967 (59.5%) were from Grade 9, and 657 (40.5%) from Grade 12 (Table 1).

~ Table 1 about here ~

Interview data were collected from the same 14 schools (i.e. without the additional two local schools). Four students in each grade who had completed the questionnaires were randomly selected for individual interviews: one female and one male without private tutoring during the previous 12 months, and one female and one male with private tutoring during the period. Students were interviewed immediately after completing the questionnaires, in separate quiet locations. In some schools all students in the selected classes received tutoring, in which case only students with tutoring could be chosen for interview. Altogether, 101 students were interviewed (Table 1).

Measures, interview questions, and statistical methods

The questionnaire listed types of private tutoring for students to tick. Students were also asked to indicate the time they spent in tutoring on specific subjects during different seasons, i.e. during ordinary school term time,

examination time, and holiday time (Tables 2 and 3). Similar questions were asked during interviews as warm-up questions.

On the specific matter of student's perceptions about the effectiveness of tutoring, two questions were asked in the survey. One was a general comparison of effectiveness of different types of tutoring (Table 4), and the other was on specific dimensions (Table 5). Related interview questions focused on students' tutoring experience and why they had chosen private tutoring for extra assistance instead of seeking help from school teachers.

The question on students' motives for taking or not taking private tutoring was initially phrased on the basis of informal interviews with secondary and university students who had received private tutoring, and then adjusted after piloting. Six motives for taking private tutoring, together with an option of "others", were listed for respondents to choose and with the possibility of selecting more than one choice. For the students who did not receive tutoring, nine reasons plus an option of "others" were listed (Table 6). Interviews echoed these survey questions and sought more depth.

The questions on comparison of teachers and tutors listed nine items for students to indicate the degree of agreement or disagreement (Table 7). During interviews, students were asked to describe their views on the roles of teachers and tutors based on their personal experience.

Finally, in order to identify how students' motives and views on teacher-tutor comparison would influence their evaluations of the effectiveness of private tutoring, a linear regression model was used to analyze data for students who had received tutoring. Since improving students' academic achievement is considered a key dimension of the effectiveness of private tutoring, students' self-reported academic levels within their schools were included in the regression model. Other variables at family, school and individual levels were included as controlling variables. The model was:

$$Eff_i = a + \sum a_j Acd_j + \sum b_j Mtv_j + \sum c_j Ttc_j + d_j Sch_j + \sum e_j Fam_j + \sum f_j Ind_j + e$$

In the model,

Eff_j is each student's evaluation on the effectiveness of private tutoring, on six dimensions respectively;

$\sum Acd_j$ are dummy variables of the student's self-reported academic level;

$\sum Mtv_j$ are six variables on the student's motives of taking private tutoring;

$\sum Ttc_j$ are three factors of the student's views on tutor-teacher comparison;

$\sum Sch_j$ are the sector of school factors, including school types (aided school as reference variable; and government school, DSS school, and international school) and grade level;

$\sum Fam_j$ is the natural log of family monthly incomes;¹ and

$\sum Ind_j$ is the sector of other individual factors, including gender, type(s) of private tutoring received, and subjects of private tutoring received during term time.

The goal of this linear regression model was to identify correlations rather than causal relationships, which circumvented the issue of endogeneity. Causal relationships are commonly used for education policy evaluation analysis when some intervention activity at policy level is used to influence or change individual decision-making and actions (Khandker et al. 2010; Schlotter et al. 2011). This study focused on students' perceptions on the effectiveness of private tutoring in order to understand the strong demand for private tutoring despite the negative views of segments of the public. It also sought to understand whether students' perceptions were related to their comparisons of learning in tutoring centers and schools. For such objectives, correlation was adequate to answer the questions.

Findings and discussion

Scale, types, subjects and intensity of private tutoring

Among all sampled students in the questionnaire component, 61.1% had received tutoring during the previous 12 months. Tutoring was most common among Grade 12 students: 71.8% were receiving or had received tutoring, compared with 53.8% of Grade 9 students.

~ Table 2 about here ~

Students in different grades had different emphases in the types of tutoring received. Grade 9 students were more likely to receive small-group or one-on-one tutoring, while most students in Grade 12 received lecture style (recorded or live) tutoring. Nevertheless, one-on-one and small-group tutoring were also popular in Grade 12, and about 30% of students had received tutoring in this pair of categories (Table 2). Perhaps surprisingly, given that Hong Kong is a technologically advanced society, very few students reported that they had received online tutoring.

¹ Variables of mother's education level, father's education level, and number of siblings were originally included in the model but removed since no significant effects were found.

Students were also asked about subjects and time spent on private tutoring. As in other empirical studies in Hong Kong (Bray and Kwok 2003; Ho 2009a; Lee 1996), the research showed that English and Mathematics were the most popular subjects. Over 70% of students received tutoring in English, and nearly 60% in Mathematics. In addition, about one third of students received tutoring in Chinese. These three subjects had been core components of the HKCEE and HKALE, and remained core components in the HKDSE. In the school system launched in 2009, Liberal Studies became a core subject for the HKDSE. This fact helps to explain why a significant number of students also received tutoring in this subject (Table 3).

~ Table 3 about here ~

The fact that private tutoring is most commonly received in examined subjects lends credibility to the notion that demand is linked to public examinations. This connection was also evident in student interviews. One interviewee who received tutoring in both Chinese and English reported that the tutoring helped with “the skills, not the knowledge”. She added that “tutors just teach some skills to deal with the examination and make the answers more perfect”, and that the materials given by her tutoring centers were “within the range of public exam”.

Data on time spent in tutoring further underlined the relationship between tutoring and public examinations (Table 3). Students spent more time on tutoring during the examination season than during ordinary term-time or holidays. Concerning mathematics, for example, students reported an average of 2.85 hours each week on tutoring during the examination season, compared to 2.19 hours and 2.09 hours during ordinary term-time and holidays. At the extreme, during the examination season students may spend as much as 50 hours per week in private tutoring for each of the major subjects (English, Mathematics and Chinese) – more time than they spend in mainstream classrooms for those subjects.

Students' perceptions of the effectiveness of private tutoring

The survey asked students about their perceptions of the impact of various types of tutoring in general and also in various domains. In general, students perceived one-on-one and small-group tutoring to be more effective. As shown in Table 4, students considered one-on-one tutoring to have a large effect (mean=3.49),

and small-group to have a medium effect (mean=2.88). Those two types of tutoring are usually more costly. Internet tutoring was only considered to have a small effect (mean=2.00), and lecture style tutoring either by tutor (live) (mean=2.61) and by video recording (mean=2.24) was considered to have an effect between small and medium.

~ Table 4 about here ~

Concerning the various dimensions of the effectiveness of private tutoring, generally students considered tutoring to be most effective at improving examination grades, confidence in examinations, revision skills, and learning strategies. Students considered tutoring to be less effective at improving school performance or relationships with school teachers. Table 5 presents the students' views on all types of tutoring in both aggregated and disaggregated ways. As noted in Table 2, students received different types of tutoring, and it is therefore pertinent to ask about variations in their perceptions. It was found that different types of private tutoring may have perceived advantages in certain dimensions of effectiveness, especially for one-on-one and lecture-type (video recording) tutoring. As shown in Table 5, students considered one-on-one tutoring to be particularly effective in improving their examination grades (mean=3.18) and learning strategies (mean=3.10); and students considered lecture-type (video recording) tutoring to be quite effective in improving their confidence in examinations (mean=3.13), revision skills (mean=3.18), and learning strategies (mean=3.13).

Grade 12 students not only received more tutoring than Grade 9 students, but also received much greater proportions in the form of live and/or video lectures. This form of tutoring was more readily available at the Grade 12 level since the large chained companies specialized in this form of tutoring for this target group, and marketed it actively. Thus, although the students might have felt that one-on-one and small-group tutoring was more effective generally, especially at the Grade 12 level they nevertheless attended lecture-style tutoring in large numbers. Online tutoring was not perceived to be effective, which was reflected in the low proportion of students using this type.

~ Table 5 about here ~

Interviewed students who received private tutoring were less likely to seek help from their teachers when they encountered learning difficulties. Students who did not ask teachers for help provided four types of explanations. First, they said, teachers were busy and might not be able to answer students' questions in detail, even if they wished to do so. Second, the students stated, teachers encouraged students to depend on themselves. Third, some students felt timid about asking for help. Fourth, tutors were described as willing to answer all questions in detail, eliminating the need to ask teachers.

Students' motives for taking or not taking tutoring

As noted above, the survey asked students to select from a list the reasons for taking or not taking tutoring. Table 6 shows that 76.3% of Grade 9 students receiving tutoring did so "to improve examination scores", and this number increased to 92.1% in Grade 12. This suggests that preparation for public examinations begins early in secondary school for most students, and intensifies as they progress through the system. A large majority also indicated that they took tutoring "to learn school subjects better". This number also increased from Grades 9 to 12, and students seemed to find private tutoring increasingly necessary to cope with their subjects as they moved through senior secondary school. The number of students who took tutoring because their parents chose it for them declined from Grades 9 to 12, perhaps because students become more independent of parents and gradually internalize the external pressures to perform well in school and on examinations.

~ Table 6 about here ~

These survey findings were echoed in the interviews. Most students started to receive tutoring at the suggestion of their parents when the students found that they could not fully understand what teachers taught or that their school performance or examination results were weak. Though students might not know for sure whether tutoring helped, receipt of tutoring helped them to feel secure, especially before the examinations. One Grade 12 student, who might be considered typical, sought tutoring because "the school teacher has to teach the whole group and in a way that everyone can learn", but for him "sometimes it is not good" because

he “might not understand” the teacher and thus would need clarification from his tutor. Another considered the tutoring good because it “definitely improves [his] subjects”.

Another Grade 12 student received tutoring in English, Mathematics and Chinese from different chained tutoring companies. She first received tutoring in English and Mathematics in Grade 10, because of perceived low academic performance. When she found that her tutoring in English in one company was not effective in improving her grades, she changed to another company in Grade 11. When asked if the program helped, she replied that her academic results were “quite similar”. Nevertheless, she felt that the tutor was good, and her reason for the similar result was that “I think that I do not work hard enough”. She started the tutoring in Chinese at the beginning of Grade 12 when the public examination was approaching, having considered it unnecessary in earlier grades. Her decision to seek tutoring in Chinese was to “feel safe before the examination”. This desire for a feeling of security was commonly expressed among other respondents.

Students’ comparisons of teachers and tutors

Some of the survey and interview questions asked students to compare private tutors and mainstream teachers. The students perceived teachers to be more concerned with knowledge, behavior and life counseling than with examinations and grades (Table 7). In contrast, students described tutors as more knowledgeable, inspiring in teaching, interactive with students, and supportive.

~ Table 7 about here ~

Such findings suggest that students perceive teachers and tutors as playing different roles. Teachers, in students’ opinions, play multi-functional roles in various aspects of students’ daily lives, while tutors specifically satisfy their desires to score well in tests and examinations. Teachers met the government mandate of providing “an enabling environment for every student to attain all-round development” (Hong Kong, Curriculum Development Council 2006), rather than focusing on skills directly related to examinations. The government emphasis may stimulate demand for private tutoring (Chong 2012), since the public may still consider that “winning in examination is the destination of education” (Luk 2003: 26). Even concerning

cognitive learning, students have clear ideas about different benefits they may receive from their teachers and tutors. In the words of one interviewee:

School teachers focus mainly on content knowledge. Only a few teachers would teach us the skills [for examination]. Language [English and Chinese] teachers don't even have enough time to finish the syllabus, let alone the skills. We have school-based assessment as well, which occupies much of our time. They will teach us skills but not too much, while tutoring centers would particularly focus on exam skills.

There seemed to be a perceived disconnection between the mandated forms of pedagogy and the examination skills required for university entrance. Students felt that the examination demanded skills that were not taught adequately in mainstream schools, and tutors helped to fill this void.

Relationships between perceptions of effectiveness and motives for taking private tutoring

This section provides the results of the regression model designed to describe the relationships between perceptions and motives for taking private tutoring. Only students who received private tutoring within the previous 12 months were included in the analysis. Some variables on background information were also included in the model, including student gender, grade, family income, school type, and types of tutoring received. Table 8 summarizes the linear regressions of factors that may influence the six dimensions of students' perceptions on effectiveness of private tutoring. Self-reported academic levels, motives for taking private tutoring, and comparison of teachers and tutors, were all correlated with perceptions of the effectiveness of tutoring.

Students' self-estimated academic levels

Despite the mixed findings concerning the relationship between private tutoring and academic achievement reported in previous literature (e.g. Lei 2005; Liu 2012; Sohn et al. 2010; Zhang 2013), the Hong Kong students with higher self-reported academic achievement were consistently more likely to have positive perceptions of the effectiveness of private tutoring for improving examination grades, relationships with teachers, confidence in examinations, revision skills, and learning strategies. This suggests that private tutoring may be disproportionately effective for higher achievers, possibly widening the gap between those at

the top and those at the bottom of the class. The fact that this is based on subjective self-reports strengthens the claim, since students recognize the opportunity for solidifying their advantage over the lower-performing peers.

Students' motives for taking private tutoring

Students who took private tutoring to “learn school subjects better” and “improve examination scores” had more positive perceptions on the effectiveness of tutoring in all six dimensions. That is, students in this category who expected tutoring to lead to improved school grades and examination scores generally seemed to have their expectations satisfied.

However, students who received private tutoring just because their parents chose it for them had relatively negative perceptions on the effectiveness of tutoring, especially in terms of confidence in examination and revision skills. Parents play an important role in students' schooling choices, especially when students are young. This finding suggests that pushing children into tutoring may not be an effective way to improve school and examination performance, or to improve broader study habits. Most Grade 9 students interviewed stated that their parents suggested or required them to have private tutoring and also found tutors for them, but a significant number of students considered the tutoring burdensome and useless.

~ Table 8 about here ~

Students' comparisons of teachers and tutors

All three factors concerning students' comparisons between teachers and tutors had significant influences on their perceptions of the effectiveness of tutoring. The better the perceptions students had for tutors in terms of preparing for examinations, being more supportive and inspiring, and being more knowledgeable and interactive, the more effective the students considered tutoring to be.

Among all the three factors, the factor “tutors are more knowledgeable and interactive” had the largest coefficients with all six dimensions of student's perceptions of effectiveness. Teacher-student relationships are important for students' learning and confidence. Interviews with students who received tutoring showed that

students were not willing to approach teachers about their learning difficulties. The students therefore went to tutors instead.

Conclusions

This paper has shown that Hong Kong secondary students have great demand for private tutoring. Over half of Grade 9 students and nearly three quarters of Grade 12 students in the sample had received tutoring during the previous 12 months. Many students consider tutoring to be a necessary and normal part of life. These features have parallels in other parts of the world, particularly in East Asia (Bray and Lykins 2012; Jang 2011; Zhang 2013) but also in other regions (Silova 2010; Song et al. 2013). Few data been published in any location on students' perceptions of the effectiveness of tutoring in comparison with their mainstream schooling along the lines of this Hong Kong study. As such, the research has significance for wider analysis as well as in Hong Kong itself.

As anticipated, the data showed that examinations, and the consequences from success or failure in examinations, were the dominant driver of demand for tutoring. The most popular subjects for tutoring were three of the four core subjects in the HKDSE examination, namely English, Mathematics and Chinese. The fourth core subject, Liberal Studies, had lower demand than Science which is a non-core subject; but this was to be expected since Liberal Studies required creativity of a sort that would not easily be compatible with the type of large-class tutoring offered by the major companies (Fung and Yip 2010). The role of examinations is also evident from the time that students spend in tutoring during the examination season compared with ordinary term time and holidays. In extreme cases, students spend more time in private tutoring on certain subjects than in their normal schooling. In this respect, the shadow seemed to dominate the mainstream rather than vice versa.

When comparing teachers and tutors, many students complained in interviews about lack of support from teachers in providing examination skills, and appreciated tutors' roles of helping them with learning difficulties and facilitating examination preparation. However, the tutors were not just gap-fillers, and the tutoring had a backwash on schooling. Tutoring may have reduced the burdens on teachers since students preferred to ask their tutors rather than their teachers for clarification of concepts and facts; but it may also have reduced the students' respect for their teachers and widened disparities within classrooms.

Whether or not the tutoring actually does improve students' educational performance, it is clear from these data that many students think that it does. Since perceptions drive behavior, these perceptions are of clear importance. In contrast to the negative views on tutoring, particularly of the large-class variety, among segments of the public and some scholars, students generally have positive perceptions on the effectiveness of private tutoring in both learning and non-cognitive dimensions such as feelings of security.

Although students consider that the general effectiveness of lecture-type tutoring is not as good as that of one-on-one and small-group tutoring, those who took lecture-type tutoring by video recording considered that it did improve their examination grades, confidence in examinations, revision skills, and learning strategies. Lecture-type tutoring with tutorial kings and queens are a distinctive supply-driven feature of Hong Kong (Kwo and Bray 2011). Though criticized severely by school teachers and the public, this type of private tutoring need further research concerning its relationship with students' preferred learning styles and the impact on learning capacity for long-term success.

The findings stress the need for educators and others to take account of all locations of learning, i.e. out-of-school as well as in-school, when considering educational issues and their broader social implications. The Hong Kong authorities, like their counterparts elsewhere, have ignored the existence of private tutoring in their documents about the aims and processes of education (e.g. Hong Kong, Curriculum Development Council 2006; Hong Kong, Legislative Council Panel on Education 2013). While 38.9% of the students surveyed indicated that they had not received tutoring during the last 12 months, only 17.2% of them reported that it was because they were already doing well enough in school, and 23.7% stated that it was because they did not have the money to pay for tutoring. By contrast, 61.1% of the students did invest in tutoring, mainly to improve their examination scores and to learn school subjects better. These students particularly felt that the schools were not teaching examination skills adequately; and most of the students who invested in tutoring felt that indeed it had helped to improve their school grades and examination scores. Since the higher achievers were more likely to seek tutoring than the lower achievers, the tutoring was an instrument for widening gaps.

The paper has also stressed differences between Grade 9 and Grade 12 students. Higher proportions of the latter received tutoring; and among the students who received tutoring, larger numbers attended live and/or video lecture-style classes. The Grade 12 students were also more likely to make their own choices rather than

following parental guidance and instructions. The students who received tutoring just because their parents chose it for them had more negative perceptions on the effectiveness of tutoring, and stated that the tutoring was burdensome. While the question remains open on whether the tutoring was actually effective for these students, the fact that students had negative perceptions might cause at least some parents to reconsider their approaches. Commentators such as Ho (2009b) and Ngai et al. (2013) have argued that educational processes in Hong Kong are already excessively pressurized with inadequate space for self-expression and personal development, and parental demands for children to receive tutoring on top of schooling may be counterproductive.

Finally, the paper has highlighted students' comparisons of teachers and tutors. The teachers may be reassured by indications that students view them as being more concerned with guidance and the broader sides of life. However, it may be disquieting to see that students consider their tutors to be more knowledgeable and inspiring. The study suggests that teachers and school administrators could usefully pay more attention to the students' perceptions and the reasons why large numbers seek tutoring despite the existence of a well-funded public education system. Such observations may also have pertinence in other parts of other world, including in the ones where enrollment rates in tutoring are lower but where those enrollment rates are rising (Bray 2009; Mori and Baker 2010).

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Table 1 Descriptive statistics of student survey sample and interview sample

<i>Characteristics</i>	<i>N</i>	<i>%</i>	<i>Characteristics</i>	<i>N</i>	<i>%</i>
<i>Survey Sample</i>					
School Type			Students' self-estimated academic level within grade		
Government	155	9.5	Excellent	77	4.7
Aided	1,181	72.7	Good	389	24.1
Direct Subsidy Scheme (DSS)	222	13.7	Fair	833	51.6
English Schools Foundation (ESF)	66	4.1	Poor	236	14.6
Gender			Very poor	78	4.8
Female	804	49.5			
Male	820	50.5			
Grade			Total	1,624	100.0
Grade 9	967	59.5			
Grade 12	657	40.5			
<i>Interview Sample</i>					
School Type			Gender ^a		
Government	11	10.9	Female	53	52.5
Aided	62	61.4	Male	48	47.5
Direct Subsidy Scheme (DSS)	20	19.8	Grade		
English Schools Foundation (ESF)	8	7.9	Grade 9	56	55.4
Taking private tutoring during the past 12 months*			Grade 12	45	44.6
Yes	54	53.5			
No	47	46.5	Total	101	100.0

^a Among the 14 schools, one was a boys' school and only students in Grade 9 attended the interview; one was a girls' school and students in both Grades 9 and 12 attended the interview.

Table 2 Scale, types and subjects of private tutoring received by secondary students

	All	Grade 9	Grade 12
% of students receiving private tutoring	61.1%	53.8%	71.8%
Number of cases	1,624	967	657
Types of tutoring (among students with private tutoring during the previous 12 months)			
Small group	41.8%	53.5%	29.0%
Private one-on-one	38.0%	44.2%	31.1%
Lecture style by tutor (live)	37.4%	22.1%	54.2%
Lecture style (video recording)	33.5%	7.9%	61.7%
Online tutoring	1.2%	0.8%	1.7%
Number of cases	992	520	472
Subjects of tutoring (among students with private tutoring during the previous 12 months)			
English	65.2%	58.5%	72.4%
Mathematics	52.7%	68.5%	35.7%
Chinese	31.8%	29.4%	34.4%
Science ^a	25.8%	19.5%	32.7%
Liberal Studies	9.2%	5.6%	13.2%
Business ^b	8.9%	4.7%	13.6%
Humanities ^c	6.1%	8.3%	3.6%

^a Science is a combination of biology, chemistry and physics.

^b Business is a combination of economics, accounting and business.

^c Humanities are a combination of humanities subjects other than English and Chinese, including history and geography.

Table 3 Time spent on private tutoring, by subject and season

Unit: %, hours/week

	% of all students ^b	Ordinary season ^a			Examination season ^a			Holiday season ^a		
		N	Mean	Range	N	Mean	Range	N	Mean	Range
English	71.7%	654	2.19	0.25-50.00	583	2.50	0.50-50.00	509	2.00	0.50-14.00
Mathematics	58.0%	530	2.19	0.50-25.00	499	2.85	0.50-51.00	398	2.09	0.50-42.00
Chinese	38.8%	325	1.88	0.25-48.00	318	2.33	0.50-50.00	244	1.70	0.50-12.00
Liberal Studies	13.4%	98	1.92	0.25-18.00	110	2.44	0.50-24.00	75	1.95	0.50-1.95
Science ^c	29.9%	262	2.23	0.25-24.00	257	2.55	0.50-34.00	205	2.37	0.30-42.00
Business ^c	11.1%	92	2.02	0.50-14.00	92	2.57	0.50-25.00	71	2.25	0.30-15.00
Humanities ^c	8.8%	63	1.83	0.50-7.50	77	2.54	0.50-20.00	40	1.91	0.50-8.00
Other subjects	3.4%	28	2.27	1.00-10.00	31	3.35	1.00-20.00	25	2.28	1.00-8.00
Number of cases	995	-	-	-	-	-	-	-	-	-

^a Hour(s) that students spent on private tutoring of a certain subject each week, during ordinary season, examination season, or holiday season.

^b All students who spent time on a certain subject during ordinary season, examination season and/or holidays were included in the percentage.

^c See Table 2 for explanation of components of Science, Business and Humanities.

Table 4 Students' general evaluations of the effectiveness of different types of private tutoring

Types of private tutoring	Percentage % ^a					Mean
	No effect (1)	Small effect (2)	Medium effect (3)	Large effect (4)	No opinion (2.5)	
Private one-to-one	0.8	2.8	25.4	58.1	11.7	3.49
Small group	3.2	12.9	55.3	14.1	13.4	2.88
Internet tutoring	23.7	40.7	11.7	0.6	21.3	2.00
Lecture style by tutors (live)	6.9	26.8	41.1	9.4	14.4	2.61
Lecture style (video recording)	17.5	34.4	27.2	2.7	17.4	2.24

N = 1,624.

^a In the questionnaire, 1 = strongly disagree, 2 = disagree, 3 = agree; 4 = strongly disagree; 2.5 = no opinion. Thus, "mean > 2.50" implies that students in general agreed with the statement, and "mean < 2.50" implies that students in general disagreed with the statement.

Table 5 Students' evaluations of the effectiveness of different types of private tutoring in various dimensions

Private tutoring has improved my ...	Types of private tutoring ^b					All ^d
	One-on-one	Small group	Online ^c	Lecture by tutor (live)	Lecture (video recording)	
Examination grades	3.18	3.07	-	3.03	3.08	3.16
Relationship with school teachers	2.38	2.35	-	2.42	2.12	2.35
Confidence in examinations	3.05	3.06	-	2.93	3.13	3.09
Revision skills	3.01	3.07	-	3.02	3.18	3.07
Confidence in school performance	2.91	2.82	-	2.76	2.78	2.84
Learning strategies	3.10	2.99	-	3.01	3.13	3.06
<i>Number of cases</i>	191	233	1	100	61	992

^a In the questionnaire, 1 = strongly disagree, 2 = disagree, 3 = agree; 4 = strongly disagree; 2.5 = no opinion. Thus, "mean > 2.50" implies that students in general agreed with the statement, and "mean < 2.50" implies that students in general disagreed with the statement.

^b The columns of mean evaluation scores are based on views by students who received only one type of private tutoring listed.

^c Sample size of students who only received online tutoring for the past 12 month is too small (just one case) to generate valid mean evaluation of the various dimensions of effectiveness of private tutoring.

^d The column of mean evaluation scores is based on views by students who received one or more types of private tutoring. Hence the total number of cases is larger than the sum of the previous columns.

Table 6 Students' motives for taking or not taking private tutoring

Motives for taking private tutoring	Percentage of students		
	All	Grade 9	Grade 12
To improve examination scores	83.9%	76.3%	92.1%
To learn school subjects better	71.5%	65.2%	78.6%
My parents chose it for me	32.7%	51.5%	11.9%
Many of my friends are doing it	19.3%	12.4%	27.0%
My teachers recommended it	7.6%	6.2%	9.1%
Attracted by advertisement	1.5%	0.8%	2.3%
Other reasons	4.3%	2.7%	5.9%
<i>Number of cases</i>	992	520	472
Motives for not taking private tutoring	Percentage of students		
	All	Grade 9	Grade 12
I don't have time	35.8%	36.7%	33.5%
It is not worth the money	27.7%	24.9%	34.3%
None of the available private tutoring seems to suit my needs	26.7%	28.2%	23.1%
My teachers are knowledgeable enough	26.1%	25.4%	27.6%
I don't have the money	23.7%	18.2%	36.8%
I'm already doing well enough in school	17.2%	17.1%	17.5%
Not many of my friends are doing it	9.9%	12.5%	3.8%
My parents do not want me to do it	6.8%	6.7%	7.2%
My teachers said it is not useful	4.4%	4.4%	4.4%
Other reasons	15.1%	17.1%	10.5%
<i>Number of cases</i>	632	447	185

Table 7 Students' comparisons of teachers and tutors

Factors ^a	Items	Percentage (%)					Mean
		Strongly Disagree (1) ^b	Disagree (2) ^b	Agree (3) ^b	Strongly Agree (4) ^b	No opinion (2.5) ^b	
Teachers not only for exam (34.9%)	My school teachers are more patient with me	5.4	24.4	35.0	14.4	20.9	2.69
	My school teachers provide more guidance and counseling about my life	3.5	17.9	43.6	18.8	16.1	2.86
	My school teachers help me to learn knowledge and skills other than exam	3.7	21.5	44.9	15.3	14.6	2.79
	My school teachers advise me more on my behavior	3.5	16.0	47.0	17.4	16.0	2.86
	My school teachers are more likely to make me confident in my studying	5.8	26.0	36.4	8.3	23.5	2.59
Tutors more inspiring and supportive (16.0%)	My tutors are more inspiring in teaching	5.8	24.6	48.3	6.2	15.2	2.62
	My tutors are more supportive	5.2	17.8	50.3	13.8	13.0	2.79
Tutors more knowledgeable and interactive (11.1%)	My tutors are more knowledgeable	1.7	21.5	32.3	19.7	24.8	2.82
	I have more interaction with my tutor(s)	6.8	23.7	38.5	20.1	10.9	2.77

N=992.

^a This column is based on factor analysis of nine items in the questionnaire. The number in parentheses is the percentage of variance for each factor.

^b In the student questionnaire, 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly disagree, and 2.5 = no opinion. Thus, "mean > 2.50" implies that in general students agreed with the statement, and "mean < 2.50" implies that in general they disagreed with the statement.

Table 8 Linear regression model of students' perceptions of the effectiveness of private tutoring

Dependent Variable: Student perceptions of the effectiveness of private tutoring (Tutoring has improved your...; range: 1-4)												
Examination grades		Relationship with school teachers		Confidence in examinations		Revision skill		Confidence in school performance		Learning strategies		
	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Self-estimated academic level (ref.=excellent)												
Good	-0.062	0.099	-0.166	0.162	-0.121	0.124	-0.068	0.117	-0.330**	0.131	-0.235*	0.124
Fair	-0.230**	0.096	-0.145	0.158	-0.277**	0.122	-0.195*	0.114	-0.479***	0.129	-0.321**	0.121
Poor	-0.406***	0.106	-0.412**	0.172	-0.457***	0.133	-0.388***	0.125	-0.674***	0.141	-0.541***	0.132
Very poor	-0.460***	0.125	-0.321	0.222	-0.412**	0.161	-0.322**	0.148	-0.724***	0.173	-0.436**	0.158
Motives for taking private tutoring												
To learn school subjects better	0.113**	0.045	-0.020	0.071	0.101*	0.054	0.113**	0.051	0.123**	0.059	0.157***	0.053
To improve examination score	0.116*	0.057	0.063	0.089	0.023	0.072	0.152**	0.067	0.204***	0.078	0.142**	0.070
Attracted by advertisement	0.014	0.144	0.290	0.210	0.087	0.170	-0.073	0.160	0.332*	0.185	-0.006	0.164
My parents chose it for me	-0.038	0.049	-0.141*	0.079	-0.129**	0.059	-0.101*	0.056	-0.044	0.064	-0.077	0.059
Many of my friends are doing it	-0.079	0.049	-0.019	0.077	-0.080	0.058	0.056	0.055	0.005	0.063	-0.086	0.057
My teachers recommended it	-0.016	0.073	0.120	0.11	-0.084	0.088	-0.041	0.083	0.100	0.096	0.026	0.086
Three factors of perception on comparison between teachers and tutors ^a												
Teachers not only for exam	0.020	0.020	0.080**	0.036	0.035***	0.025	0.040*	0.021	0.040	0.028	0.034	0.025
Tutors more supportive/inspiring	0.071***	0.020	-0.038	0.029	0.060**	0.023	0.077***	0.022	0.068***	0.025	0.064***	0.023
Tutors more knowledgeable/interactive	0.075***	0.021	0.073**	0.036	0.085***	0.025	0.077***	0.024	0.136***	0.028	0.093***	0.025
Df	808	-	588	-	758	-	755	-	714	-	740	-
Adjusted R Square	0.154	-	0.087	-	0.096	-	0.130	-	0.138	-	0.138	-

* p<0.1; ** p<0.05; *** p<0.01.

^a The three factors of perception on comparison between teachers and tutors were based on data analysis results in Table 7.

Parents' education level was not significant, so was removed from the model. Variables of gender, natural log of family income, school types, types of tutoring, and subjects for tutoring were included in the regression model. To save space, they were not listed in the table. The full model can be provided on request.