



# 數據 講教育 EdData Speaks

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Topic: Breakfast(2)

## 去補習不如食早餐 HAVE BREAKFAST RATHER THAN WASTING MONEY ON TUTORIALS

吃早餐對學習表現的影響十分大，它為學童帶來的好處甚至遠超學生在學習模式、學習動機、自信心、家長教育水平或家庭收入方面所帶來的優勢。正確選擇早餐的食品種類亦是關鍵之一。

### 早餐真的這麼重要？

研究結果顯示吃早餐為學生的學業成績帶來極大好處，無論是小三、小六或中三學生，吃早餐對他們的中文、英文和數學科表現均有正面影響。

其他改善學業成績的因素（如學習興趣、技巧、閱讀習慣、自信心、教師教學模式及父母的社會經濟地位）難以在短時間內作出改變，但吃早餐與否卻是個人的選擇。

每天吃早餐的習慣對學業成績亦有十分大的影響。幾乎每天吃早餐的學生，成績因此提升了 30 至 50 分（以全香港學生平均 500 分的學業能力測驗計算）。

Having breakfast is extremely beneficial to students' academic studies. Its effects on academics can even outweigh those caused by an improvement in study methods, motivation, self-confidence, parents' educational levels or family income. To reap the biggest benefit from having breakfast, one should eat smart, which means choosing the correct food for breakfast.

### IS BREAKFAST REALLY IMPORTANT?

Results showed that breakfast is extremely beneficial to students' academic achievement. It could be seen in the figures that breakfast was consistently beneficial at Primary 3, Primary 6 and Secondary 3 and across Chinese, English and Mathematics. While other factors that affect academic achievement (e.g., interest, study skills, reading habit, self-confidence, teachers' teaching strategies, parental socioeconomic status) may not be easily achieved or changeable in a short time, breakfast is more or less a personal choice that is under our control. The habit of having breakfast every day has huge effects on academic achievement. Students who had breakfast almost every day scored 30 to 50 points higher in tests (in tests with 500 points as average).



這相等於多接受 1.5 年的教育（即小三學期初的學生，維持每天吃早餐，能夠達到小四學年中的學業水平）。這或許是我們夢寐以求，最有效改善教育的策略。

This would be equivalent to as much as 1.5 years of extra education (i.e., beginning Primary 3 students will become as good as mid-year Primary 4 students in academic achievement when they have breakfast every day). This is beyond or among the most effective learning strategies or educational reforms that we can dream to have.



圖 1 恆常吃早餐對小三、小六及中三學生學業成績的影響

Figure 1 Effects of Having Breakfast Regularly on Academic Achievement in Primary 3, Primary 6 and Secondary 3

註：

1. 相對效應為吃早餐的日數對總學業成績影響的標準化 beta 值。
2. 差不多每天吃早餐的學生比一星期只吃一天早餐的學生在學術成就上的優勢（以全香港學生平均 500 分的學業能力測驗計算）。

Note.

1. Relative effects are standardized beta weights of days of having breakfast on each of academic achievement scores.
2. Advantage in academic achievement on the Hong Kong average 500-point achievement test scale between students who had breakfast almost every day and those who had it only 1 day a week.

## 甚麼食物對學習有益處？

大部份香港學生選擇烘焙食品及高蛋白質食品作早餐，研究顯示這兩類食品正是對學習有最大益處。我們的研究只針對每星期吃早餐日數不少於三天的學生。

## WHAT KINDS OF FOOD ARE BENEFICIAL TO ACADEMIC STUDY?

Most students in Hong Kong selected bakery goods and high protein food for their breakfast. Our research showed that these two types of food are most beneficial to academic study. In our study, we only selected students who had breakfast for at least 3 days in a week.





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結果顯示，進食烘焙食品的學生比不進食烘焙食品的學生得分高 25 至 30 分（以全香港學生平均 500 分的學業能力測驗計算）。進食高蛋白質食品的學生比不進食高蛋白質食品的學生得分亦稍微高 15 至 30 分。穀物同樣對學生有益，進食穀物的學生得分較不進食穀物的學生高 10 至 15 分。

概括而言，進食粥／粉／麵，水果／蔬菜和鮮榨果汁並沒有為學生的學業成績帶來顯著的正面或負面影響。而進食汽水或其他高糖份飲品、方便食品（即食麵、薯片、餅乾等）和加工肉類（肉腸、餐肉、火腿、煙肉）則會令學業成績低 5 至 40 分。

但是這個研究有幾個需要注意的地方。首先，我們沒有調查學生進食不同食物的份量。我們需作進一步的調查及分析，才能更準確地了解各種食物的好處。第二，我們只分析了食物對學習及成績的影響，但很多食品（如水果／蔬菜）本身對我們的身體健康亦十分重要，只是未有涉及在今次的研究範圍內。因此，此研究不可單一地作為學生的飲食導引。第三，單靠此研究，我們無法完全肯定理想的學業成績是由食物本身引致，或只是勤力學習的學生同時進食更健康的食物所致。不過，分析顯示後者的可能性不大，如果這是因為勤力學生的健康飲食帶來更佳的學業成績，那麼是次研究應該能夠展示進食其他公眾一致認同健康的水果及蔬菜也能帶來更好的學業成績，但結果並非這樣。因此，是次的研究數據反映出學生進食的食物確實會為他們的學業成績帶來影響。無論如何，其他營養科學及醫學實驗中亦已經展示了吃早餐及進食不同食品的好處及重要性。有興趣的讀者可查閱有關資料。



Results showed that students who had bakery goods for breakfast scored 25 to 30 points (on tests with 500 points as average) higher than students who did not, while students who had high protein food for breakfast scored 15 to 30 points higher, slightly more than those who did not. Cereal has also proved to be beneficial, with students who had it scoring 10 to 15 points higher than those who did not.

In general, no discernible effects were observed from having congee/rice/noodle, fruit/vegetable and fresh fruit juice for breakfast. On the other hand, breakfasts that contained soft drinks/sweet drinks, convenience food (e.g., instant noodles, chips, biscuits), and processed meat (e.g., sausage, luncheon meat, ham, bacon) were seen to reduce test scores by 5 to 40 points.

However, there are a few important points to note in this study. First, we did not ask the amount of the food that was eaten. Further more detailed research and analyses are needed to understand more accurately the benefit of each kind of food. Second, we simply analyzed the effects of food on academic study and test scores. The many other health benefits of some foods (e.g. fruits and vegetables) were not mentioned as they were beyond the scope of this study. Thus, the present study should not be taken on its own as a food guide for students. Third, we are not completely certain if it is the food itself that leads to high academic achievement, or whether it is a coincidence that it is the hardworking students who happened to have healthier breakfast choices based on this one study alone. Nevertheless, the latter is not likely as the research does not display how having publicly agreed healthy breakfasts would lead to better academic results. Hence, the research statistics do reflect how breakfast choices could affect students' academic performance. In any case, the benefits and importance of breakfast and different kinds of food have already been demonstrated in other nutrition science and medical experiments. Interested readers may refer to those sources for further discussion on this topic.



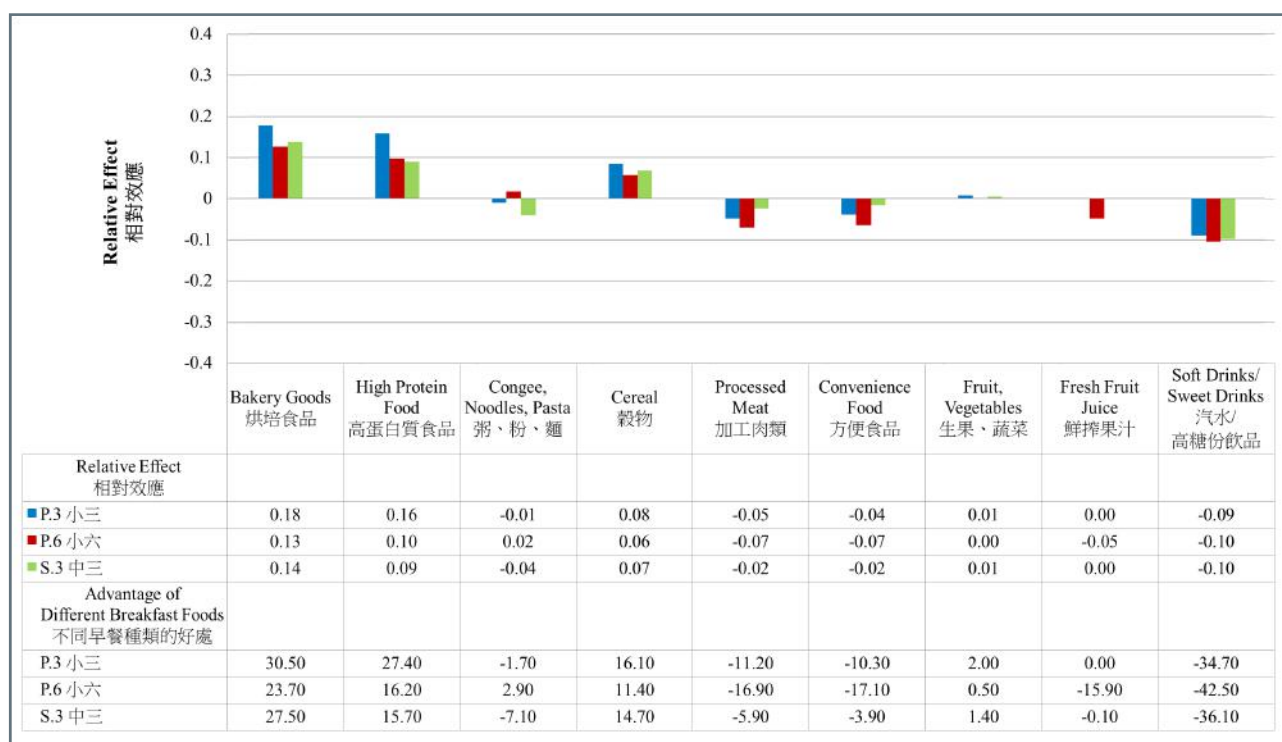


圖 2 不同食品對小三、小六及中三學生學業成績的影響

Figure 2 Effects of Different Breakfast Foods on Academic Achievement in Primary 3, Primary 6 and Secondary 3

註：

1. 相對效應為不同早餐種類對每週至少吃三天早餐的學生總學業成績影響的標準化 beta 值。
2. 學生每週至少吃三次某種早餐食品比沒有吃的學生在學術成就上的優勢（以全香港學生平均 500 分的學業能力測驗計算）。

Note.

1. Relative effects are standardized beta weights of different breakfast food on academic achievement scores for students who had at least three days of breakfast a week.
2. Advantage in academic achievement on the Hong Kong average 500-point achievement test scale between students who had certain breakfast food for at least three times a week against those who did not.





## 食品組合的功效

在某些情況，兩種食品的功效可以累積相加，但並非永遠如是。我們按學業能力的高低把學生分為 9 個等級。研究顯示同時進食烘焙食品及高蛋白質食品（如牛奶或雞蛋）的學生，較少成為低能力組別。例如，在中三級，有進食烘焙及高蛋白質食品的學生，只有 16% 為能力較低的三組；相反，完全沒有進食這兩項食品的學生，有 34% 為能力較低組別，有明顯差異。

## COMBINATIONS OF FOOD

Under certain conditions, the effect of having two types of food simultaneously may add up, but it is not always so. In our study, we divided students into 9 ability bands (groups) according to their academic ability. Students who had both bakery goods and high protein food like milk or eggs were less often in the low ability bands. For example, only 16% of Secondary 3 students who ate both bakery goods and high protein food fell into the three lowest bands. This is in big contrast to the 34% for students who did not eat

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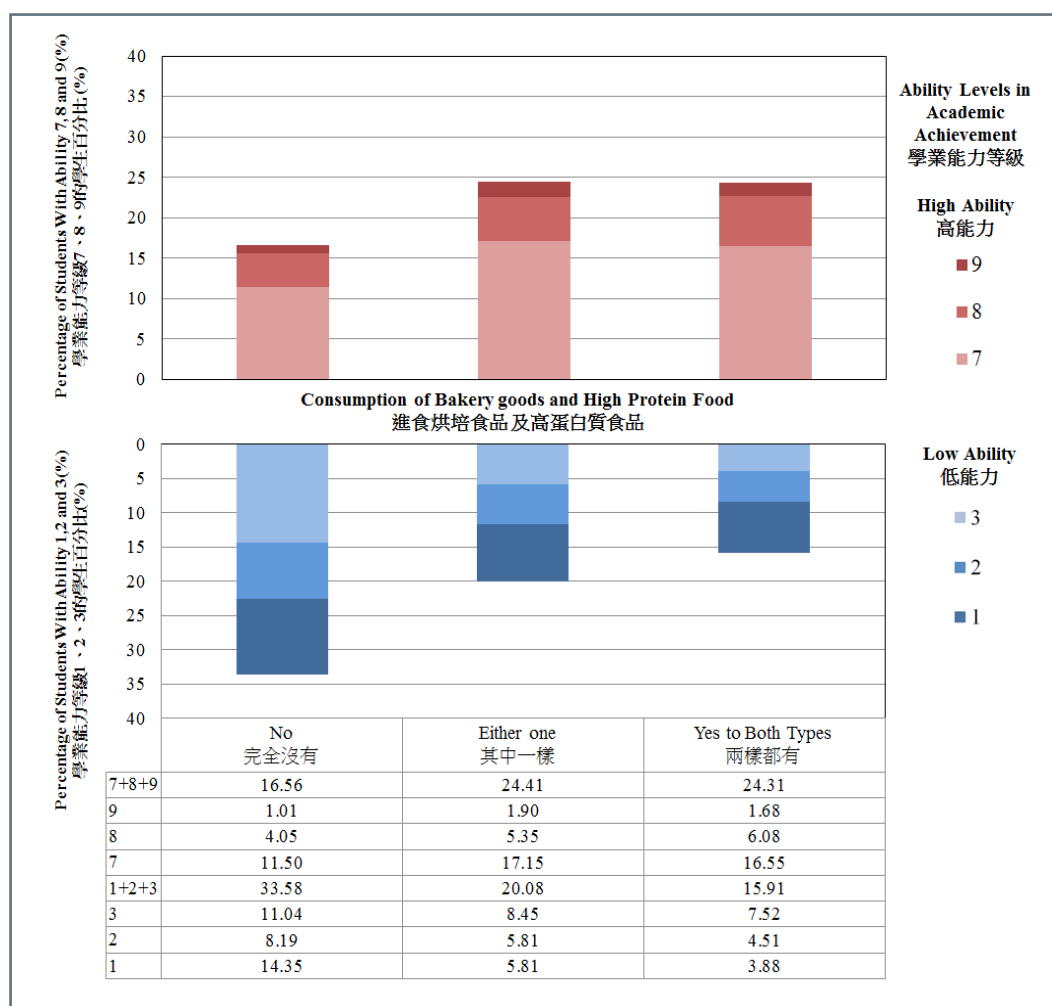


圖 3 有 / 沒有進食烘焙及高蛋白質食品（牛奶 / 蛋）作早餐的學生低 / 高能力組別百分比（中三）  
Figure 3 Percentages of Low Ability and High Ability Students When They Had/Did Not Have Bakery Goods and High Protein (milk/eggs) Foods for Breakfast (Secondary 3)





同樣地，進食不健康食品（如即食麵、薯片、肉腸、火腿、汽水）的中三學生成為能力較高組別的機會較低，成為能力較低組別的機會則較高。

Similarly, Secondary 3 students who had unhealthy food (e.g., Instant noodle/ Chips, Sausage/ham, soft drink) had a lower chance of being in the high ability bands and a higher chance of being in the low ability bands .

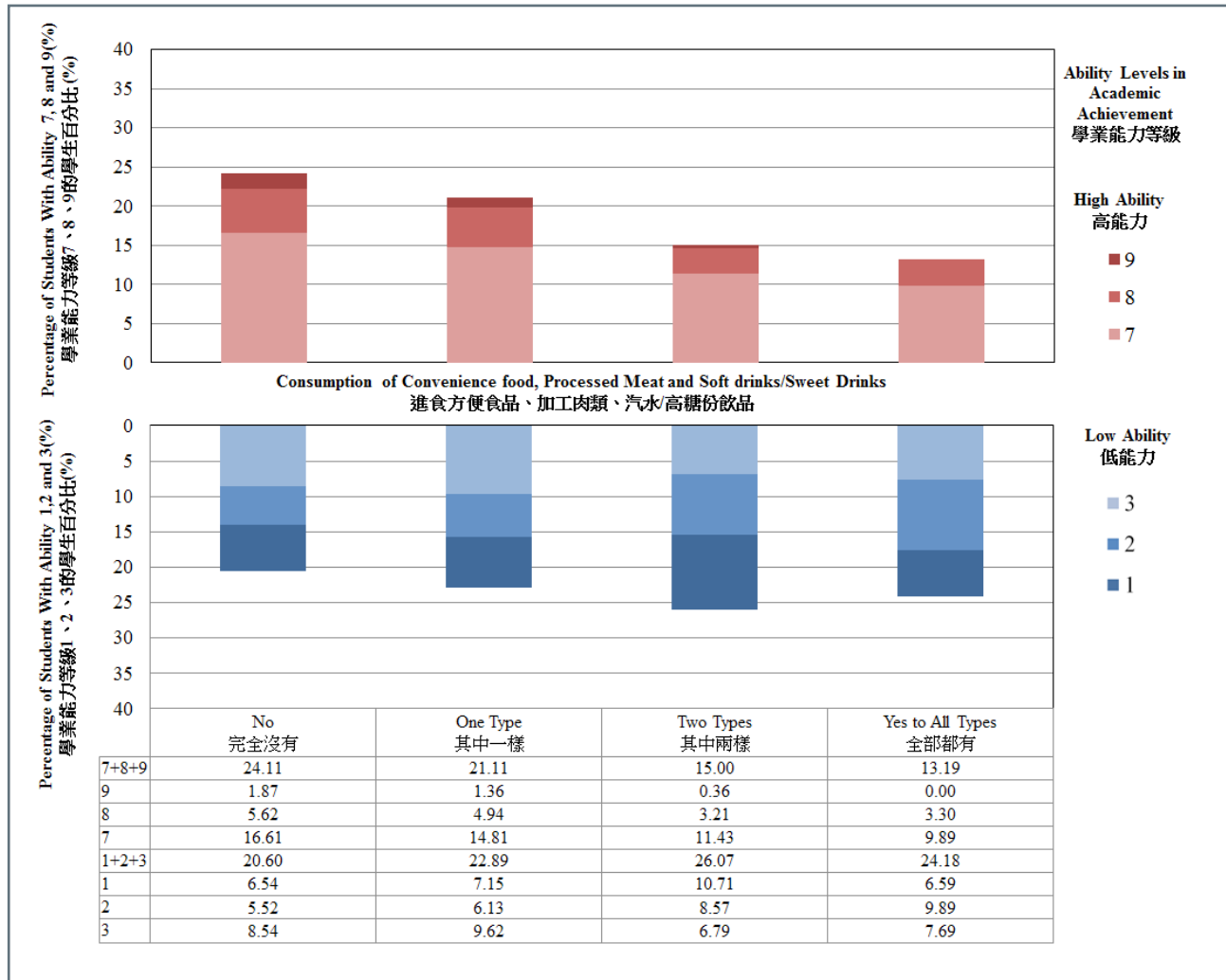


圖 4 有 / 沒有進食不健康食品（方便食品、加工肉類和汽水）作早餐的學生低 / 高能力組別百分比（中三）  
Figure 4 Percentages of Low Ability and High Ability Students When They Had/Did Not Have Unhealthy Food (Convenience Food, Processed Meat, Soft Drinks for Breakfast) (Secondary 3)



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Despite not being able to identify each and every contributor to the corresponding issue of the reports, it should be noted that a team of research staff and student helpers mostly from the Chinese University of Hong Kong has helped to identify the research questions, conduct analyses, write up results, prepare graphs, proofread drafts, and finish the artworks.

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