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How Do Students Select Courses in a Liberal Arts University in Hong Kong
a Mixed-Methods Study

HOW DO STUDENTS SELECT COURSES IN A LIBERAL ARTS UNIVERSITY IN HONG KONG: A MIXED-METHODS STUDY

by

Wing Lun Alan LAM

A dissertation submitted to the University of Bristol in accordance with the requirements for the award of the degree of Doctor of Education (EdD) in the School of Education, Faculty of Social Science and Law in Nov 2023.

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Abstract

Undergraduate students need to choose different (elective) courses each term. This study examines the Course Selection (CS) decision by undergraduate students at a liberal arts university in Hong Kong. It suggests the use of Social Cognitive Theory (SCT) with CS. In addition, this study tries to compare the CS decisions of local (Hong Kong) students with those of mainland (Chinese) students It builds a 5-factor model ((1) degree of concern about assessment methods, (2) instructor-related issues, (3) interest and career effects, (4) demanding courses and (5) weighting of assessments) using factor analysis and found that Factors 1, 2, 3 and 4 are statistically different between local and mainland students. Using qualitative analysis, themes are identified concerning CS (mainland students: (1) prefer an interesting course, but academic results are a prerequisite; (2) prefer certain qualities of the instructor, but this is not a decisive factor; (3) prefer to balance workload and individual assessment rather than conducting group projects; (4) prefer to have daytime classes and no days off; (5) take advice from peers but make their own decisions; and (6) prefer courses not to have SL elements and local students: (1) regard interest as their top priority; (2) prefer certain qualities/skills of the instructor; (3) are neutral regarding workload but prefer certain assessment methods; (4) have no preference regarding class time but wish to have a day off; (5) are minimally influenced by peers; and (6) dislike Service Learning). Two new factors emerged in this study, and they are (1) the day/time of courses and (2) service-learning elements. This study fills the research gap using a mixed-methods approach provides evidence to support the findings from previous studies and gives insights into the field of CS in the undergraduate context.

Keywords: course selection (CS), motivation, social cognitive theory (SCT) , self-efficacy, mixed-methods, liberal arts university

Dedication and Acknowledgements

First of all, I must thank my supervisors, Dr Lisa Lucas and Dr Gemma Derrick of Bristol University. Without them, this study would have been Mission Impossible. In particular, Dr Lucas has been guiding me throughout my thesis and most importantly the support and **encouragement** that I most needed. I must emphasise that I could feel the confidence and reassurance that she passed on to me after every meeting or tutorial with her. I would like to thank Prof Winnie Poon who reviewed and commented on my thesis.

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Last but not least, I would like to thank Prof Alfred Loo and the late Prof Michael Firth who supported my application to the Bristol programme.

Author’s Declaration

I declare that the work in this dissertation was carried out in accordance with the requirements of the University's Regulations and Code of Practice for Research Degree Programmes and that it has not been submitted for any other academic award. Except where indicated by specific reference in the text, this is my work. Work done in collaboration with, or with the assistance of, others, is indicated as such. Any views expressed in the dissertation are those of mine.

SIGNED: ...Wing Lun Alan LAM..... DATE:...2 Nov 2023.

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List of acronyms

ACCA	Association of Chartered Certified Accountants
AD	Associate Degree
AHP	Analytical Hierarchy Process
ANOVA	Analysis of Variance
BA	Bachelor of Art
BBA	Bachelor of Business Administration
BSc	Bachelor of Science
BSS	Bachelor of Social Science
CFA	Confirmatory Factor Analysis
CGPA	Cumulative Grade Point Average
CHC	Confucian Heritage Culture
CMA	Certified Management Accountant
CPA	Certified Public Accountants
CS	Course Selection
CUHK	Chinese University of Hong Kong
DPP	Data Protection Principles
EC	Education Commission
EFA	Exploratory Factor Analysis
ELCAUT	E-Learning Center of Amirkabir University of Technology
EMB	Education and Manpower Bureau
FA	Factor Analysis
GPA	Grade Point Average
HD	Higher Diploma
HKALE	Hong Kong A-level Examination

HKCEE	Hong Kong Certificate of Education Examination
HKDSE	Hong Kong Diploma of Secondary Education
HKICPA	Hong Kong Institute of Certified Public Accountants
HKSAR	Hong Kong Special Administrative Region
HKU	University of Hong Kong
HKUST	Hong Kong University of Science and Technology
ICMA	Institute of Certified Management Accountant
M	arithmetic mean
NSS1	New Senior School Year 1
NU	Northern University
PCA	Principal Component Analysis
QAC	Quality Assurance Council
QUAL	Qualitative
QUAN	Quantitative
R^2	Coefficient of Determination
RAM	Random Access Memory
RQ	Research Question
SD	Standard Deviation
SL	Service Learning
SRT	Student Ratings of Teaching
SSR	Staff-Student Ratio
UGC	University Grant Committee
UPGC	University and Polytechnic Grants Committee
VIF	Variance Inflation Factors

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Chapter 1 Introduction

This is a study on the Course Selection (CS) of undergraduate students at a liberal arts university in Hong Kong. This study aims to understand factors that may influence the students in selecting courses. It also explores the possible differences between the CS decisions of the mainland Chinese and local Hong Kong students. Undergraduate students face CS decisions every term throughout their undergraduate studies and making these choices can be informed by many reasons. Understanding the factors affecting their CS decision can be important to stakeholders including the students, teaching staff, administrative offices and the university senior management. In Hong Kong universities, the number of enrolments in a course, especially an elective course, can determine whether the course can be offered or not. If a course has insufficient enrolments, it may be cancelled. If this kind of cancellation continues, the course may cease to be offered in future. Therefore, the instructor and the university management need to have a better understanding of the reasons/factors to attract students to elective courses and for course planning. This can also have resource allocation implications for university administrators. For students, they should be aware of the reasons for choosing elective courses and this could be part of the learning process. Using the Social Cognitive Theory (SCT) can help understand the motivational constructs that drive the students to choose, and vice versa. Students can be aware of their CS decisions throughout their undergraduate studies and improve their learning with the enhancement of motivation. Partially, the importance was due to the change from a 3-year to a 4-year programme in the 3+3+4 reform[1]. Hong Kong universities would need to come up with additional courses to fill the additional year. These additional courses are not core courses because they would have been covered in the original programme structure. They are usually some kinds of elective courses. As a result, students are facing a long list of courses to be selected in each term throughout the four years of study.

[1] To be discussed in later section

This chapter outlines the background of the Hong Kong education system leading up to the 3+3+4 Education Reform in 2012 and the structure of the higher education sector in Hong Kong. It discusses the rationale for conducting this study and the research questions that guide the study.

1.1 Background

Hong Kong was a British colony until 1997. Before its return to China, it was already an international city with its unique culture, languages and governance. Its education system largely mirrored that of the UK. After the handover in 1997, there were calls for reforms, eventually leading to a departure from the British system.

1.1.1 The Hong Kong education system and the road to the 3+3+4 Education Reform

With the rapid development of the global economy and the Internet, information can now be shared very efficiently. As a result, there are more opportunities in the world and more intense competition than before. The 1990s marked the beginning of a debate on *globalisation* (Robertson et al. 2007). Dale (1999: 3) saw globalisation as a complex process operating at "the regime, sectoral (e.g. education system) and organizational (e.g. schools, or educational bureaucracies) levels". The effects of globalisation on the Hong Kong education system can be conceptualised as "a shift from quantitative to qualitative change, in the way that applying a sufficient quantity of heat to water results in its qualitative change into steam" (Dale and Robertson 2002: 11). For many years, like other countries, Hong Kong has focused on *quantity*, i.e. the provision of higher education to a certain number of students. However, the expansion of higher education has transformed the elite higher education system into a *massified* system (Mok and Lee 2001). In Hong Kong, the number of publicly funded universities has increased from 2 to 3 in 1991; 6 in 1994; 7 in 1999; and then increased to 8 in 2016. Altbach (1991) and

Mok and Lee (2001: 215) called this rapid increase in the number of universities the "massification of higher education". While traditional research-oriented universities are still the mainstream, there exist other models of tertiary institutions. For example, universities that were upgraded from polytechnics that used to focus on occupational training, such as radiotherapy, physiotherapy and occupational therapy. While expanding the research of these disciplines, occupational training is maintained. Some universities positioned themselves to be liberal arts universities that focus on whole-person development. Nevertheless, this massification has raised the issue of quality assurance, leading to a shift in the focus from *quantity* to *quality*. As the number of degree holders increases, the system would need to monitor the standard of these graduates and ensure that the quality of the education system is not adversely affected because of massification.

The Education Commission (EC) is the advisory body for the education policies of the Hong Kong government. The EC published six reports between 1984 and 1996 (Education Commission 1984, 1986, 1988, 1990, 1992, 1996). These reports mainly addressed "language of teaching and learning (Chinese and English), teacher quality, private school improvement, curriculum development, teaching and learning conditions and special education" (Cheng 2000:18). They paved the way for what is known as the "*first wave* of education reform in Hong Kong" (Cheng 2009:66). The EC published the seventh report in 1997 (Education Commission 1997) entitled *Quality school education*. As suggested by the title, it focused on the quality of education. To ensure this in schools, the Education and Manpower Bureau (EMB) and the Education Department initiated the School Management Initiative (SMI) in 1991. It started to shift the management of the schools from the sponsoring organisations to the stakeholders of the schools. This so-called school-based management consisting of the school principal, teaching staff, parents and external advisors is the governing body of the school. They are accountable for the education quality. The government required all aided schools in Hong Kong

to establish the Incorporated Management Committees (IMC) by 1 July 2009. This report made a major contribution to the *second wave* of education reform (Cheng 2009).

During the transfer of sovereignty over Hong Kong in 1997, Mr Tung Chee-hwa, the Chief Executive of the Hong Kong Special Administrative Region (HKSAR) at that time, started to look into the education system in Hong Kong resulting in the publication of some proposals by the EC in different sectors, such as pre-school, primary, secondary, tertiary and continuing education (Cheng 2009). Cheng (2009: 66) called this the "second wave of educational reforms", which included primary to tertiary education policies (Wan 2011). Some of the major adjustments affecting higher education were changes in senior secondary education and the structure of undergraduate programmes. Table 1 below shows the structure of the Hong Kong education system before and after the 3+3+4 Education Reform. In the new system, participation in pre-primary education is voluntary. However, the Hong Kong government introduced a Pre-primary Education Voucher Scheme in the 2007/2008 academic year to subsidise the parents for their children to attend an eligible local non-profit kindergarten (Education and Manpower Bureau 2007). Primary education and junior secondary education are still compulsory. The law states that all children aged 6 to 14 must attend school. Under the new 3+3+4 system, the Hong Kong government funds three additional years of senior secondary education for all students, even those opting for vocational training during these three years. However, a student can opt out of these three years of education and look for employment, so this scheme is not mandatory. The new system removed one public examination, the Hong Kong Certificate of Education Examination (HKCEE) for 16-year-old students. Therefore, they only need to take one public examination, the Hong Kong Diploma of Secondary Education (HKDSE) to access tertiary education. If students are not admitted to a university undergraduate programme and if they would like to further study in Hong Kong, they have the choice among a self-financed associate degree, a higher diploma or a vocational training programme. The Hong Kong government also

funds a limited number of places, so-called senior places, for these self-financed students to be integrated back into Year 3 of an undergraduate programme after graduating with an associate degree, a higher diploma or other relevant qualifications.

This new arrangement has sparked the sub-degree market. More institutions are set up to offer these sub-degree programmes, including associate degree (AD), diploma, higher diploma (HD) and vocational training. Initially, the Hong Kong government subsided some of these programmes but shifted towards a self-financed model (Cheng 2009; Wan 2011; Kember 2010).

<table>
<tr><td></td><td></td><td colspan="3">As of the 2009/2010 academic year</td><td colspan="2">Before the 2009/2010 academic year</td></tr>
<tr><td>Age</td><td>Year</td><td colspan="2">School</td><td>Type</td><td>School</td><td>Type</td></tr>
<tr><td>2</td><td>Nursery</td><td colspan="2">Playgroup</td><td rowspan="4">Voluntary</td><td>Playgroup</td><td rowspan="4">Voluntary</td></tr>
<tr><td>3</td><td>K1</td><td colspan="2" rowspan="3">Kindergarten</td><td>Kindergarten</td></tr>
<tr><td>4</td><td>K2</td><td></td></tr>
<tr><td>5</td><td>K3</td><td></td></tr>
<tr><td>6</td><td>Primary 1</td><td colspan="2" rowspan="6">Primary school (government/subsidised/private independent)</td><td rowspan="8">Compulsory</td><td rowspan="6">Primary school (government/ subsidised/private independent)</td><td rowspan="8">Compulsory</td></tr>
<tr><td>7</td><td>Primary 2</td><td></td></tr>
<tr><td>8</td><td>Primary 3</td><td></td></tr>
<tr><td>9</td><td>Primary 4</td><td></td></tr>
<tr><td>10</td><td>Primary 5</td><td></td></tr>
<tr><td>11</td><td>Primary 6</td><td></td></tr>
<tr><td>12</td><td>Secondary 1</td><td colspan="2" rowspan="3">Junior secondary school (JS1-JS3) (government/subsidised/private independent)</td><td rowspan="4">Secondary 1-5

<u>Leading to HKCEE</u></td></tr>
<tr><td>13</td><td>Secondary 2</td></tr>
<tr><td>14</td><td>Secondary 3</td></tr>
<tr><td>15</td><td>Secondary 4</td><td rowspan="3">Senior secondary school (SS1-SS3) (government/subsidised/private independent)</td><td rowspan="3">Vocational training</td><td rowspan="3">Non-compulsory</td><td rowspan="2">Non-compulsory</td></tr>
<tr><td>16</td><td>Secondary 5</td></tr>
<tr><td>17</td><td>Secondary 6</td><td>Lower sixth and upper sixth</td><td>Selective based on academic</td></tr>
</table>

		Leading to HKDSE			Leading to HKALE	results
18	Undergraduate 1	University undergraduate programme	Associate Degree/Higher Diploma, Diploma, vocational training, employment	Selective based on academic results		
19	Undergraduate 2				University undergraduate programme 1-3	Selective based on academic results
20	Undergraduate 3					
21	Undergraduate 4					

Table 1 HK education system before and after the 3+3+4 Education Reform

As a British colony, Hong Kong had an education system that duplicated the British system. In 2004, the Education and Manpower Bureau (EMB) initiated a modification to the structure of the secondary education system, from the British system of 3+2+2+3 to a 3+3+4 system, the so-called 3+3+4 Education Reform. In May 2005, the EMB formally announced the implementation of this new 3+3+4 structure (EMB 2005). As part of this reform, undergraduate programmes were extended from three to four years. The new senior school Year 1 (NSS1) was implemented during the 2009/2010 academic year. These students were required to complete four core subjects (Chinese, English, mathematics and liberal studies), two to three elective subjects and take part in the HKDSE examination. NSS3 students were admitted to local universities for a four-year programme in the summer of 2012. This change has been strongly supported by the HKSAR government. Wan (2011: 121) stated that "The Chief Executive was also determined to propose and implement policies that differed from those of the colonial era". The HKSAR government's willingness to eliminate the British colonial influence and align

itself with the education structure of mainland China may be politically motivated. This also means the articulation of secondary students into tertiary education is easier than before for both mainland and local students. With the same education structure, local students can apply to mainland universities using their HKDSE results directly and be admitted to Year 1 in mainland universities. Similarly, the same is true for mainland students who can apply to Hong Kong universities using their public examination (also known as Gaokao) results. In the past, when most of the undergraduate programmes in Hong Kong would last for three years (the British system), special 4-years programmes were designed for mainland intakes. The change has reduced the barrier for secondary students (local or mainland) to apply to undergraduate programmes in universities (local or mainland). In the long run, this would strengthen the connection between Hong Kong and mainland China. It can be expected that more mainland graduates will be working in Hong Kong and more local students will be engaged in studying, getting a job and living in the mainland.

1.1.2 Liberal arts and their effects on Course Selection (CS)

In medieval times, European universities defined the liberal arts as grammar, rhetoric, logic, geometry, arithmetic, music and astronomy, whereas in modern times, colleges and universities define the liberal arts as "literature, languages, philosophy, history, mathematics and science" (Liberal Arts 2014). There are many liberal arts colleges (universities) in the US and they are considered a particular brand of the university. Blaich et al. (2004) identified three factors that must coexist to sustain the liberal arts education, as follows.

"1. An institutional ethos and tradition that places a greater value on developing a set of intellectual arts than on developing professional or vocational skills.

2. Curricular and environmental structures that work in combination to create coherence and integrity in students' intellectual experiences.

3. An institutional ethos and tradition that places a strong value on student-student and

student-faculty interactions both in and out of the classroom" (p 2).

These factors characterise the liberal arts education in a rather comprehensive manner. In other studies, liberal arts have been defined as a small campus, small classes, high residencies, close staff-student relationships, rich extracurricular activities, encouraging critical thinking and broad terms of knowledge (Pascarella & Terenzini 1998; Blaich et al. 2004; Liberal Arts 2014). One of the results is that students in a liberal arts institution are exposed to different disciplines in different courses, which ensures well-rounded students. Students have many course choices and each term or semester, students select their courses based on day/time, personal preferences and other factors discussed in subsequent chapters. The 3+3+4 Reform has had a major effect on the higher education sector of Hong Kong. For most University Grants Committee (UGC)-funded universities, it represents an additional one-third of student intake. Year 1 students would be one year younger than before and be enrolled in a four-year programme. This also means an extra year filled with courses in the programme. How do universities rearrange the structure of their undergraduate programmes? Is this extra year simply filled with foundation courses for all students, or does it offer specialised disciplines? Are students allowed to choose their courses or are there compulsory courses for all? The UGC does not interfere with the internal administration of universities, at least not directly. However, it evaluates them from time to time to ensure the accountability of public funds via Quality Assurance Council (QAC) audits. One of the focal areas is 'Mission and strategic priorities' (QAC 2015). All Hong Kong universities must be able to justify these additional courses in their new four-year programmes.

Overall, a liberal arts university is a particular brand of university that offers many courses to students to expose them to different disciplines and focuses on the 'broad' instead of the 'narrow'. This emphasis affects how students can and are allowed to choose different courses in their undergraduate studies. As a result, this study examines the possible factors affecting a

student's choice of courses.

1.2 Rationale for the study

As mentioned earlier, CS decisions are very important to the existence of a course, especially an elective course. The overall design of a course can determine whether a student will enrol in this course. Identifying these influencing factors can contribute to different aspects of a course, in terms of curriculum design, use of different assessment methods, and selection of teaching staff or timetables. A better understanding of the students can also help improve the provision and delivery of a course. As aforestated, when the 3-year programme is extended to the 4-year programme, the universities need to add more courses into this additional year. Many of these courses are electives, and therefore, students are facing a more complex situation during course registration. They need to juggle between fulfilling the courses in university requirements, major requirements, elective requirements and/or minor requirements.

For university administrators, it can help organise a course and plan the class in terms of day/time. It can maintain a stable number of courses offered to students and supervise the headcount/enrolment to justify government funding. For the academic department, this can secure the human resources provided by the university and maintain a stable work environment for instructors. For students, this can provide better choices for their CS. This study can also increase students' awareness of their CS decisions and improve their CS experience. By giving choices to students, they are taking up responsibility and engaging in the planning of their studies. This is a kind of personal involvement and it is one of the signs of motivation defined by Dickinson (1995). The different ways that are used to choose courses could also be explained by motivation theory. For example, intrinsic motivation is one of the characteristics identified by Entwistle et al (1979) for learning.

In terms of the research gap, the literature review shows that the topic of CS has rarely been studied worldwide and no relevant study is found in Hong Kong. This is discussed in detail in Chapter 3. In brief, relatively little work has been conducted on CS in the undergraduate context. Work on CS has generally focused on age, gender and different subjects/disciplines. Also, there is a research gap in terms of the analytical techniques used in different studies. Most studies have focused on quantitative data analysis, and almost no results have been supported by qualitative data analysis. This study adopts a mixed-methods approach and attempts to fill this research gap in CS, using both quantitative and qualitative data.

This study examines students at a liberal arts institution in Hong Kong and compares the results with other studies conducted in other parts of the world, such as the US (Kerin et al. 1975; Babad et al. 1999; Pass et al 2012), Israel (Babad 2001; Babad & Tayeb 2003), Malaysia (Ting & Lee 2012), Iran (Kardan et al 2013) and Canada (Ognjanovic et al 2016). The details of these other studies are discussed in Chapter 2.

I believe the broad CS influencing factors for Hong Kong students should be similar to other studies around the world. Nevertheless, Hong Kong has gone through a structural change with the 3+3+4 reform. The additional year of study at the undergraduate level may or may not have a significant influence on students' CS decisions. This study can show if there are any differences between Hong Kong students and students from other countries when facing CS decisions. Furthermore, the use of qualitative analysis is a novel attempt to align the results with quantitative analysis to bring together the findings so that the two complement each other. The mixed-method approach in this study can offer alternative analysis techniques and use qualitative results to support the quantitative results. The details are discussed in Chapters 2 and 3. It is also expected that the CS decision is influenced by the student's cultural background and motivation constructs.

1.3 Aims and objectives

This study seeks to identify some of the major factors affecting undergraduate students' CS when choosing (cluster) courses for a particular term at a liberal arts university in Hong Kong. To this end, the study firstly uses a survey and quantitative analysis to determine some of these factors and secondly performs qualitative analysis to explain the reasons for different CS decisions. This follows the typical explanatory model identified by Creswell and Plano Clark (2007). Also, the study compares mainland and local students concerning their CS decisions. Quantitative analysis helps confirm the differences in their CS decisions and qualitative analysis compares and contrasts the two groups of students.

Furthermore, this study can provide valuable information for instructors when designing and delivering a course. It can fill the research gap on CS using a liberal arts university in Hong Kong, and qualitative analysis can help explain some of the results obtained on CS. This is especially important as most studies have relied mainly on quantitative analysis. This makes this study fundamentally different from previous research. The qualitative analysis can contribute to the CS literature. By comparing with other studies, the results of this study can reinforce the factors identified in other studies using a different technique (qualitative). This triangulation can strengthen the knowledge gained in other works. Besides, new knowledge is to be extracted from the use of different analysis techniques and advance the understanding of CS in undergraduate study.

1.4 Research questions

The focus of this study is to investigate the CS of undergraduate students at a liberal arts university in Hong Kong. In tertiary education, it is common for a course to last one term and

for students to take four to six courses per term. At a university, students usually choose from a long list of courses. They are encouraged to explore a wide range of disciplines, such as natural sciences or traditional humanities subjects. Understanding the factors influencing their CS decisions will allow course instructors and university administrators to design better courses and improve the structure of the programmes. With this in mind, the following three research questions are examined in this study.

Research Question 1 (RQ1)

How do undergraduate students at a liberal arts university in Hong Kong choose their cluster (elective) courses? During the CS process, what factors influence their course choices?

Research Question 2 (RQ2)

Do mainland students and local students select courses differently? If so, what are the similarities and differences?

Research Question 3 (RQ3)

How can the differences between the local students and the Chinese mainland students be explained?

This study will begin with a search for other research studies around the world concerning CS. It will try to consolidate what has been done and come up with possible influencing factors that can be explored with the participants in this study. This will address RQ1 and compare the results with other research studies. In addition, quantitative and qualitative techniques are used to address RQ2. The in-depth interviews in the qualitative approach can help explain the differences. RQ3 tries to look into the differences in CS decisions between mainland and local students.

Researchers have identified learning differences between students from different countries with a Confucian heritage culture (CHC) (Louie 2005; Lazarus and Trahar 2015). Do these learning differences also affect the CS decisions of students from different CHCs? The behaviour of mainland students can be very different from that of local students (Gan 2009; Martin et al. 2013; Lazarus & Trahar 2015). CHC is generally used to describe the learning characteristics of Asian students, including, but not limited to, Chinese, Korean, Singaporean, Japanese and Taiwanese (Phuong-Mai et al. 2005). In Hong Kong, a large number of mainland undergraduate students pursue their first degrees at Hong Kong universities. Despite the return of sovereignty to China, mainland students are still considered non-local students in Hong Kong universities. They pay higher tuition fees than local students and need a visa to stay in Hong Kong. Except for summer internships, they cannot be formally employed to work in Hong Kong while studying in Hong Kong. All the universities funded via the University Grant Committee (UGC) are under public funding. Therefore, the HKSAR government has capped the percentage of non-local students to 20% of the number of students funded. Overall, mainland students are considered separately in Hong Kong universities due to the ceiling set by the UGC. This study helps confirm if there are any differences in CS decisions using quantitative analysis and supplemented using qualitative analysis.

Motivation is a major topic in education research. However, different students may engage in different activities with different levels of effort. The behaviour of students can be affected or explained by their different constructs under motivation theories. The details of motivation theories are discussed in Chapter 2. It is expected that the CS decision of students is driven by their motivation and exploring these constructs can help them understand their CS decision.

1.5 Structure of the dissertation

This dissertation consists of seven chapters. The first chapter describes the background of the

higher education system in Hong Kong and the path toward the 3+3+4 Education Reform in Hong Kong. It then discusses the importance of CS for undergraduate students at a liberal arts university in Hong Kong. The reasons for the study and the research questions that guide the study are also discussed in this chapter.

The second chapter begins with motivation theories and specifically, the Social Cognitive Theory (SCT) which is used as the guiding concept for this study. It then reviews the literature on CS. Around the world, researchers have published on the topic of CS with different focuses and using different methodologies in their works. Some CS situations are fundamentally different from this study, such as the choice of subjects leading to tertiary education; the choice of major discipline when entering university; or the choice of subjects between different genders. This chapter reviews them and concentrates on the relevant studies that focus on similar CS situations, i.e. the CS in an undergraduate programme. This chapter also reviews studies that compare mainland and local students, in particular, if any cultural differences exist which is relevant to RQ2 and RQ3.

Chapter 3 describes the methodology used in this study and the beliefs of the researcher, especially the philosophical stance of pragmatism. It describes the institution that is under study, i.e. the case. It outlines the design and the mixed methods used in the study. It describes the data collection process, including the use of a pilot study, and the analysis techniques used and addresses the ethical issues raised in this study.

Chapter 4 details the quantitative analysis and the results of the quantitative data. This includes the descriptive statistics of the survey data, the factor analysis resulting in a 5-factor model, the analysis based on this model, and the comparison by different demographic backgrounds, in particular, between mainland and local students using Analysis of Variance (ANOVA) and *t*-

tests.

Chapter 5 begins with a description of the participants in the in-depth interviews. It gives the background of the participants and describes the results of the qualitative analysis using thematic analysis. First, the themes of mainland and local students are extracted separately. Then the themes of the CS decisions of the two groups are also extracted separately and a comparison between them is made.

Chapter 6 presents a discussion of the results. It compares and contrasts the results of the quantitative and qualitative analyses in Chapters 4 and 5. It explains how the results from the two different techniques can supplement each other. It then extends the comparisons to the results of other works and tries to provide incremental contributions to the study of CS in the undergraduate programme.

Finally, Chapter 7 summarises the study. It explores the limitations and delimitations of this study as a self-reflection. It explores the possible shortfalls in this study and makes suggestions for future work based on this study.

Chapter 2 Literature Review

This chapter starts with motivation in general and then focuses on the Social Cognitive Theory (SCT) in the education context. It then describes how CS is situated in the field of education and reviews the work on this topic conducted by different researchers. It discusses different types of CS: CS based on subject, gender, age, and in particular CS in the undergraduate context. Some of the factors influencing CS were used in this study to guide the survey and the in-depth interviews. Then it tries to link SCT and CS together. This chapter also explores possible differences between mainland and local students, according to different researchers.

2.1 Motivation

Motivation theory is a widely researched topic. In the education context, teachers would ask questions such as, *Why do students act in such a manner? What do they want to achieve? What drives the students to success? What maintains the momentum of performing a task?* Motivation has been a key to explaining some of the students' behaviour (Graham & Weiner 2011; Graham 2020). A large number of research studies have been conducted, in particular, over the last twenty years. Anderman (2020) has cited 28,198 studies on policy issues and motivation theories between 1990 and 2019. He accepts that there are commonalities across different theories but questions if the level of specificity is necessary, especially for researchers who would like to transfer such knowledge to practitioners and policymakers. These highly specific approaches of motivation theories may lead to confusion and is a trade-off between “precision and utility”. Anderman (2020) advocates that the use of such motivation theories as the theoretical framework could lead to different research questions and focuses for research.

2.1.1 Motivation theory (in general)

This study seeks to understand undergraduate students' CS decisions. With a better understanding, course design and delivery can be enhanced to ensure better provision, and attract more students to enrol in an elective (cluster) course. In turn, this should increase the motivation of the students, and subsequently lead to a better student experience and academic performance. Motivation theories will be used to guide the study of CS. CS would be associated with the various constructs in SCT. Aligning their CS decisions with these constructs can give us an insight into the rationale behind them.

2.2 Social Cognitive Theory (SCT)

The SCT originated from the Social Learning Theory (SLT) which was developed by Albert Bandura in the 1960s (Bandura 1986). SCT defines a model of reciprocal interactions with three processes as personal, behavioural and environmental. It argues that learning occurs with reciprocal interactions between these three processes (Schunk & DiBenedetto 2020; Koenka 2020). The effect is bidirectional such that personal thoughts can affect their behaviour and their surrounding environment. For example, a student who wants (personal) to do well in an upcoming test would revise (behaviour) and could seek help from friends and teachers (environmental). Similarly, how they behave could change their thoughts and environment, for example, a student with sufficient (or not) revision (behaviour) could change his thoughts (personal) on the performance in the test and whether the student would seek help from friends or teachers (environmental). In the same manner, the environment could affect our thoughts and behaviour. For example, with (or without) help from friends and teachers (environmental), the student may change the thought of doing well in the test (personal) and cause the student to do more (or less) revision for the test (behaviour).

2.2.1 Personal Influences of SCT

SCT has several constructs defined under the three influences (processes). Within personal influences, some have been defined (self-efficacy, values, social comparison, attributions and goals & self-evaluation of progress). Self-efficacy is an important influence. It is defined as the perceived ability that one can complete a task. For example, a student may perceive that he can achieve a good result in the coming examination (high self-efficacy) (Bandura 1994). A person with higher self-efficacy is motivated and more likely to be successful (Schunk & DiBenedetto 2016; Schunk & Usher 2019). When working on a task, a student realises that the process will enhance his self-efficacy, and in turn, become motivated in completing the task. Value is another construct within personal influences. It is the expected usefulness of the completion of a task, such as passing a driving test would allow a person to drive a car. SCT accepts that value is also a construct and will affect how students make different decisions. Different types of values are also defined in the Expectancy-Value Theory (EVT) (Wigfield & Eccles 1992). Social comparison is rooted in the SLT as modelling. SLT states that modelling is a way of learning, by reproducing the action of others merely by observation. The famous "Bobo doll" experiment conducted by Bandura (1965) has demonstrated that children can learn by observation and imitate the actions they observe. When a student observes another completing a task successfully may think that he can reproduce the success too. This can raise self-efficacy and motivation. Attribution is the study of the causal effect that results in the outcome. It is also a major construct in the Attribution Theory. Knowing the attributes for success with positive feedback would lead to higher self-efficacy and assuring effort on the task (Graham 2020). SCT takes the same view that attributes can enhance motivational outcomes. Goals and self-evaluation of progress is also a construct of personal influences. SCT calls for the setting of goals as they can stimulate the learner to work towards the goals. A specific goal (getting an A grade) is better than a general goal (taking your best shot) (Bandura 1997). The self-evaluation

of progress can tell the learner how far away they are from the goal and provide assurance towards it (Locke 2018).

These constructs under personal influences are highly associated with the learner (personal) and in particular, the study of course selection. For example, self-efficacy, values and attributions will be discussed together with course selection later in this chapter. It is expected that these constructs can help us understand why a student intends to enrol in a specific course (course selection).

2.2.2 Behavioural Influences of SCT

Schunk and DiBenedetto (2020) have outlined some key behavioural influences, that is, "choice of activities, effort, persistence, achievement, and environmental regulation" (p 4). Studies have shown that learner with higher motivation is more likely to engage in difficult tasks with persistence, make more effort and be rewarded with better results (Schunk & Usher 2019; Schunk & DiBenedetto 2016). Zimmerman et al (2015) have shown that learners with higher self-efficacy are more likely to establish an effective environment for learning, such as better time management. All in all, the way a learner behaves is by interacting with personal and environmental influences. In this study, the self-choosing (or not choosing) of a particular course (CS) will affect self-efficacy (personal) and also the time spent in the course (environment).

2.2.3 Environmental Influences of SCT

As mentioned earlier in SLT, a learner can learn by observation and this includes socially modelled influences. Learners usually model others' actions and when they see the other

completing a task and deem that they can do it too. Social comparison (personal) can view the differences between the observer and the model. Such kind of observation of a successful model will raise their self-efficacy (Schunk 2012). The way a teacher impacts the student is an instructional influence. It can act positively or negatively on the motivation of learning. That is why teachers' feedback (environment) can help raise the self-efficacy of a student.

These three influences are indeed affecting one another in a bidirectional way, as described by Schunk and DiBenedetto (2020: p2), a "triadic reciprocality" that interacts with each other. Nevertheless, personal influences are more readily used in the study of course selection. SCT is one of the most widely used theories on motivations. It can help explain the causes of the actions of a student. The constructs defined in SCT, especially the personal constructs, can be essential to explain the various choices of actions. As a result, SCT is chosen as the theoretical basis of this study on course selection and this will be discussed in a later section.

2.3 Other motivation theories

Besides SCT, other contesting theories of motivation are emerging. They are the Attribution theory; Expectancy-Value Theory (EVT); Achievement Goal Theory (AGT); and Self-Determination Theory (SDT). (Anderman 2020; Koenka 2020; Hattie, Hodis & Kang 2020).

These other motivation theories are not as good as the SCT when applied to CS. For example, SDT is too focused on the self aspect and does not consider other possible constructs; AGT is focused on the ends but not very concerned with the causes; Attribution theory and EVT are possible but not as comprehensive as SCT. As a whole, the personal influences in SCT fit well with CS and the behavioural and environmental influences interact with the personal influences.

Hence, using the three can help explain some of the causes and actions when students are making CS decisions.

2.4 Course Selection (CS) in general

CS in the undergraduate context is a particular area of research. It is very different from CS at the secondary school level. Many studies have focused on CS in secondary education (Goldenstein, Ronning and Walter 1988; Yeung and Marsh 1997; Farenga 1998; Jackson 2012; Valadez 2002). They have explored how students choose courses leading towards their tertiary education (Brown, Varley and Pal 2008; Wabwoba and Mwakondo 2011; Mercer and Puddey 2011; Biswas, Perkins and Izard 2012). This usually involves selecting subjects that last for two to three years and result in a public examination, such as the Scholastic Assessment Test (SAT), A-Level or HKDSE. These subjects may have a significant effect on the study programme of students at university and possibly their careers. Some research has focused on the CS of a particular discipline, for example, chemistry (Green, Peters and Webster 1993; Lyons 2006) or mathematics (Useem 1991; Spade, Columba and Vanfossen 1997). Also, some researchers have compared CS by gender (Stocking and Goldstein 1992; Wilson 1994; Lang 2010). Meece et al (1982) suggest that the pursuit of mathematics is affected by "their interpretation of achievement outcomes because of the different information they receive from their social environment" (p343). Later on, Meece et al (1990) demonstrated that mathematics anxiety has an indirect effect on enrolment intentions (CS) but efficacy is linked to enrolment intentions (CS). Kahle and Lakes (1983) also reported that girls between the ages of 13 to 17 would have developed a narrower view of science because "scientific activities and skills are not being experienced equally by boys and girls in elementary schools" (p136). Marsh (1989) suggests that gender differences in academic achievement, academic attitudes and CS are not as significant as traditionally thought. He

examines the gender differences in mathematics and verbal constructs but finds that the differences are small and insignificant. Linn & Hyde (1989) also suggest that gender differences are more related to cultural differences rather than gender itself. A study by Zerega et al. (1986) found that late adolescent (17 years old) has significant sex differences in science learning. They found that male students scored higher in achievement, motivation and morale. The result is that males are doing better than females in late adolescence when compared to early adolescence (13 years old). However, Jacobs et al. (2002) conducted a longitudinal study tracking children from grades 1 to 12. They found that gender differences are not general but domain-specific. Gender differences only increase in language arts where male students decrease in self-efficacy rapidly.

However, CS in an undergraduate programme setting is very different from that of a secondary school. First, CS is usually done on a term basis, which means that these courses only last for one term. Moreover, there are usually different types of courses offered depending on the structure of the undergraduate programme. There are core courses, which are usually offered in multiple sessions and can be taught by more than one instructor. Some courses must be selected from one or more course clusters, e.g. general education courses. Finally, there are free elective courses that may or may not have prerequisites. Overall, students have some degree of freedom to choose their courses, but there may be restrictions that may limit their choices (Babad 2001).

As previously discussed, the 3+3+4 Education Reform in Hong Kong means that students must spend an additional year at university and that universities have restructured their undergraduate programmes to add more courses to the original three-year programmes. In recent years, the university curriculum in Hong Kong has also switched from narrow to broad, encouraging

students to take courses outside their major. As a result, a large number of courses have been developed to fill this *one-year gap* and many of them are electives. As the number of course choices increases, students' CS decisions are more intense in a four-year programme. There is a long list of elective courses available to choose from to fill this additional year of study. Also, compared with the secondary level, parental influence decreases at the undergraduate level (Useem 1991; Subramaniam, Mohd Ariff and Iis 2012) and students make their CS decisions based on different factors[2]. This study attempts to explore these factors and the next section will discuss other research and the possible factors are identified.

2.5 CS in undergraduate programmes

Over the years, all studies on CS are primarily using quantitative techniques. Babad (1999, 2001, 2003) and his colleagues released a few studies focusing on CS and their studies are mostly based in Israel. In recent years, some highly quantitative, sophisticated techniques based on advanced use of software/hardware are also observed in Canada and Iran. Other studies are also conducted in the US and Malaysia but Hong Kong is yet to be researched concerning CS (Babad et al 1999; Babad 2001; Babad and Tayeb 2003; Zocco 2009; Ting and Lee 2012; Kardan et al. 2013; Ognjanovic et al 2016). As a whole, the number of studies specifically on CS is not large and almost all of them are quantitatively oriented.

Most of the studies reviewed are generally quantitative. Only Babad (2001) used one open-ended question in his questionnaire whereas Pass et al (2012) developed their questionnaire based on two focus groups. The results of Babad's (2001) open-ended question are not reported in his work. Pass et al (2012) use a typical exploratory design to develop a questionnaire for the

[2] A table in Chapter 2.5 will be used to summarise these major factors identified by other studies.

second phase of quantitative analysis (Creswell and Plano Clerk 2007). The analytical techniques range from simple descriptive statistics to regression analysis, then to more advanced techniques, such as conjoint analysis, principal component analysis, neural network and analytical hierarchy process. The analytical techniques used are getting more and more advanced and require heavy computation using hardware and software. It should be spelt out that little attempt had been made to engage in qualitative analysis. This has prompted the use of the qualitative technique in this study.

Except for Kerin et al.'s (1975) work, most of the studies identified *perceived difficulty* as a factor. This may indicate a possible change in influencing factors since 1975 or differences in the way the studies were conducted. In addition, 'perceived interest of subject material' and 'learning value' (or 'perceived exposure to future career skills') were identified by many studies (Kerin et al. 1975; Babad et al. 1999; Babad 2001; Babad and Tayeb 2003; Zocco 2009; Ting and Lee 2012). These factors become inputs of this study.

The following table summarises the factors identified by different researchers in various studies around the world in chronological order.

Kerin et al. (1975) (US)	Course relevancy, friends, Course description
Babad et al. (1999) (US)	Instructor: personality, knowledge/expertise, Approachability Course: workload, difficulty, interesting reading, grading leniency, interesting course, criticism
Babad (2001) (Israel)	Easy course, good lecturer, learning value, prerequisite, comfortable course, famous lecturer

Babad and Tayeb (2003) (Israel)	Learning value, lecturer style, difficulty level
Zocco (2009) (country of study not reported)	Perceived grade, negative recommendation by other students, not personally interested
Pass et al (2012) (US)	Instructor preferences
Ting and Lee (2012) (Malaysia)	Perceived exposure to future career skills, perceived interest in subject and perceived difficulty of the subject
Kardan et al (2013) (Iran)	Course characteristics, Instructor's characteristics, student's workload, course grade, course type, course time, number of time conflicts, final exam time, and student demands.
Ognjanovic et al (2016) (Canada)	Course characteristics, instructor characteristics, GPA value for a course, course scheduling, demographic characteristics, and student demands

Table 2 CS factors in different studies

Babad and his colleagues have contributed a lot to the field of CS. They have used different data analysis techniques in both observational studies as well as experiments. The factors they have identified are in line with other studies and have influenced the current study. Their findings help the design of the questionnaire used in the quantitative design of the data collection in this study, which will be explained further in Chapter 3.

Kardan et al 2013 and Ognjanovic et al 2016) use some complex techniques (neural network and Analytical Hierarchy Process (AHP)) to analyse the data which requires heavy computation

and a vast amount of data. Ognjanovic et al (2016) have used institutional data to predict CS. They extract data such as grades, course evaluation and demographic information from the institutional information system. However, some of the data extracted are very specific, such as the grade of a course for a specific student, the student's evaluation of a specific course, and the overall academic result represented by the Cumulative Grade Point Average (CGPA) of a specific student. This makes it difficult to replicate the analyses in Hong Kong, as all Hong Kong universities cannot extract such kind of information from their information system for analysis without additional consent from the concerned parties. Besides, their goal seems to be very different from the other studies. They are using the percentage of prediction to measure the success of their model whereas the understanding of the factors seems to be secondary. Therefore the current study acknowledges the work they have contributed to CS but would rather use the qualitative analysis technique to try to understand these factors.

Lastly, Zocco (2009) studies CS using risk theory. He addressed academic factors by identifying 'subject matter', 'professor', 'course environment' and 'grading' as the categories of risk factors. He conducted extensive comparisons between undergraduate and graduate students, among freshmen, sophomores, juniors and seniors, and between undergraduate business and art students. He concluded the perceptions of risk held by undergraduate and graduate students are different. Zocco's (2009) categories of subject matter, professor, course environment and grading were also reflected in many other factors identified by other authors. Even though his study was not confirmed by statistical significance, his work, in particular, the literature review and his questionnaire have covered a fairly comprehensive list of CS factors. Based on Zocco's questionnaire and some of the factors identified by other authors, a questionnaire is developed with changes made according to the context of the case at Northern University (NU) in this

study. Besides, some demographic information was also collected to help answer RQs, such as 'place of origin' for RQ2 and RQ3.

2.6 SCT constructs and CS factors in this study

Over the years, various CS factors have been identified in different studies around the world. Researchers have used different wordings for some but essentially the same factors. The exact wording can be found in Table 2 in the last section. An effort is made to consolidate them as follows.

Board	Specific	Research studies
Course	course relevancy	Kerin et al (1975); Kardan et al (2013); Ognjanovic et al (2016)
	workload	Babad et al (1999); Kardan et al (2013)
	difficulty	Babad et al (1999); Babad (2001); Babad & Tayeb (2003); Ting & Lee (2012)
	interest	Babad et al (1999); Ting & Lee (2012); Zocco (2009)
	grade	Babad et al (1999); Zocco (2009); Kardan et al (2013); Ognjanovic et al (2016)
	learning value (knowledge or career)	Babad (2001); Babad & Tayeb (2003); Ting & Lee (2012);

	Criticism or comments from friends	Babad et al (1999); Zocco (2009)
Instructor	Personality, Knowledge/expertise	Babad et al (1999); Babad (2001); Babad & Tayeb (2003); Pass et al (2012); Kardan et al (2013); Ognjanovic et al (2016)

Table 3 Consolidated CS factors

Under SCT, different constructs have been defined (rf. earlier section 2.2.1). Some of these constructs can be linked to some CS factors. These CS factors identified may be explained based on the three influences (personal, behavioural and environmental) in SCT.

2.6.1 Personal influences and CS factors

Very roughly, these CS factors are grouped under the three influences defined in SCT. This is a rough grouping because these three influences affect each other in a bi-directional way, after all, this is the "triadic reciprocality" of SCT influences (Schunl and DiBenedetto 2020: 2). Interest, learning value and grade are grouped under personal influences. Interest is a personal influence as it is initiated by the student as self-interest. Interest can enhance self-efficacy and can be an attribute for joining a course. This would have been called intrinsic motivation under SDT. This is a very strong influence on a student to select a specific course. This is evidenced later in Chapter 5. Learning value, whether it is the perceived knowledge gained in a course or the usefulness in a future career, is also a personal influence. It can drive the student to enrol in a course. Grade can be deemed as personal in the construct of goals and self-evaluation of progress. The setting of a goal (expected grade) in a course can attract or deter a student from joining it.

2.6.2 Environmental influences and CS factors

Under environmental influences, the CS factors are course relevancy, workload, difficulty, and criticism/comments from friends and instructors. Course relevancy is an environmental influence. The relevancy of a course would be external to the student and act as an attraction. The contents of the course could affect the learning value perceived by a student (personal). For example, the knowledge gained in a course could affect career prospects or future job opportunities and hence induce the likelihood of enrolling. Workload is beyond the control of the student and is external. Too much (or too little) workload could attract or deter the student from joining. Sufficient workload, with proper feedback, could also increase self-efficacy (personal) and motivate a student to work hard. Difficulty, positive/negative comments from friends, and instructors are also external to the student and they can contribute to attracting a student's enrolment. In addition, positive comments from friends can be seen as social comparison under personal influences. When a friend successfully completes a course could be an incentive for choosing this course. On the other hand, grades from personal influence can also be considered environmental because knowing a good grade can be achieved from this course could be a reason for selecting it. Again, this looks messy but this is the characteristic of these three influences in SCT. It is not like a computer instruction of "if-then-else", it shows how they can interact with each other within the educational context.

2.6.3 Behavioural influences and CS factors

On the surface, none of the CS factors is grouped under behavioural influences. However, selecting or not selecting a course (behaviour) will affect the self-efficacy of a student (personal) and getting help from other students or the teacher (environment). Therefore, past behaviour can affect personal and environmental influences. Again, the bi-directional effect between the

three influences is in place. For example, the personal and environmental influences would be affected if a student chooses (or does not) a course (behavioural). The various CS factors (such as interest, difficulty, grade and instructors) could affect how the student will perform in a course or even choose the course in the first place.

Indeed the bi-directional effect between the three influences makes it difficult to define CS factors under each of the influences and constructs. Nevertheless, this is how social sciences research can be, messy but unique.

2.7 Cultural differences between mainland and local students

Many studies have identified Confucian Heritage Culture (CHC) (Biggs 1996, 1998; Chan and Rao 2009; Yang 2011; Lazarus and Trahar 2015). This concept is generally used to distinguish between Western and Asian students. In some studies, researchers have acknowledged the differences between students within the CHC community. Lazarus and Trahar (2015) recognised the differences between Chinese Malay students from Malaysia and Chinese students from Hong Kong. Louie (2005) warned against treating CHC students as a stereotype. He pointed out that this is just as wrong as treating "Christianity as the same in all places and times" (p21). CHC countries have changed in different ways over the years. He stated that the cultural baggage of a student "whose parents are professors in Shanghai differs from that of a student whose parents are peasants in a village in Hunan" (p. 23). Ryan and Louie (2007) argue that the behaviour of students is not always stable and homogeneous and cannot simply be using the Western or the Asian label to describe them.

Martin et al. (2013) compare Chinese middle school students from Australia, Hong Kong and mainland China. They found that there are no differences in terms of motivation and engagement constructs between these students but the degree of differences (mean-level differences) exists with the highest self-reported motivation for Australian Chinese, and slightly higher for mainland than Hong Kong students. They try to explain the differences in sociocultural perspectives, in terms of school, family and society. They have used schools, the educational system, socio-economic background and parental expectations to explain the differences. The differences are larger between Australian Chinese than the other Chinese and the differences are less between Hong Kong students and mainland students. Nevertheless, they have also called for more qualitative work to explore the differences.

Gan (2009) also finds that there is a difference in learning attitudes, strategies and motivation between Hong Kong and mainland university students in learning English. He found that mainland students have higher self-efficacy in English learning than Hong Kong students. However, he suggests that the differences are due to institutional contexts and social environment rather than merely being culturally different.

Xiao et al. (2022) compare the use of formative assessment between Hong Kong and Shanghai students using the PISA 2009 data on reading achievement. They find that formative assessment slightly favours Hong Kong students with a smaller effect size than Shanghai students. They suggest that the Hong Kong government is giving constant support by incorporating an assessment for learning culture.

Rajaram (2013) reviews the characteristics of mainland Chinese students in detail. He focuses, in particular, on mainland Chinese students pursuing Western-based education in Singapore. The observations made in his work are relevant to this study, such as being passive in class, respect for the authority of the teacher and conforming to the collective. They may exhibit similar characteristics but they vary due to "their national, regional, economic, class, and cultural backgrounds, as well as age, religion and gender" (Shi 2006: p139).

Klassen and Usher (2010) have called for "culturally attentive research" (p 29). They argue that self-efficacy is affected by our social and cultural contexts. Therefore, when we want to understand the self-efficacy construct in SCT, especially between the local and mainland students, we should examine the social and cultural differences. Bandura (2002) summarises the SCT in a cultural context and acknowledges that self-efficacy is different in different cultural backgrounds.

Yan (2004) compares the motivation for participation in physical activity of children and adolescents among Chinese (PRC), American-born Chinese (ABC) and American (USA), and finds that the inter-cultural differences in sports motivation are more obvious than the intra-cultural differences. Nevertheless, ABC participants are "more likely to participate because of travel, equipment use, and having fun through physical activities and sports" than their PRC counterparts (p 378). These cultural differences evidence that can exist within an ethnic group support the Hypothesis of RQ2 and RQ3 in this study.

Leung et al (2006) compare local and mainland construction engineering students. Despite the specific discipline, they have shown that the two groups of students have different learning

approaches. Together with those studies mentioned above, differences can be observed for groups of students with different cultural backgrounds. This study seeks to show that there is a difference between these two groups of students in CS. This study will try to reflect these differences using motivation theories.

Referring to RQ2 and RQ3, this study was very specific to undergraduate programme. Since the beginning of the 2000s, universities in Hong Kong have accepted mainland students in undergraduate programmes. At that time, most Hong Kong universities were still running three-year undergraduate programmes and mainland students needed four-year programmes. A different four-year programme was designed for these mainland students. Usually, they get better grades and are extremely polite. So, do they also choose courses differently? As a result, the design of the study allows me to distinguish the two groups of students and investigate the similarities and differences between these students in their CS decisions.

2.8 Summary

This chapter reviews SCT in motivation. It looks at CS in general by gender, subject, and age. It then reviews the work done by other researchers on CS, particularly the different factors identified by different researchers in different universities around the world. Hong Kong is relatively under-researched and more work is needed. The relevancy of SCT and CS factors is explained. Zocco's (2009) questionnaire is adopted to develop an instrument for collecting quantitative data. It also reviews what other authors have described about the differences between students from different CHC countries. These findings offer a basis for the comparisons made in subsequent chapters.

Chapter 3 Research Design and Methodology

This chapter outlines the case, which is the Northern University (NU), a liberal arts university in Hong Kong, in detail. It uses the Bachelor of Business Administration (BBA) Degree to illustrate the programme structure of a four-year undergraduate programme under consideration. It lays out some of the groundwork that will be covered. It then discusses the philosophical stance, *pragmatism*, of this study. Then it describes the research methods, the mixed-methods approach for data collection and analysis and some ethical considerations.

3.1 The case: Northern University (NU)

This case study was conducted at a particular liberal arts university (the Northern University[3]) in Hong Kong. The liberal arts element makes it especially important because the liberal arts are by nature *broad*, and CS for students is more important in this institution than in other universities because of the relatively large number of courses offered. In a liberal arts university, students are encouraged to enrol in courses other than their majors. As a result, the programme structure would be designed in such a way that it will allow (or even require) the students to engage in disciplines that they are not familiar with. For example, an art student enrolling in a science course or a business student in a literature course. However, different universities usually have different programme structures and a comparison among universities would require a large-scale study. Moreover, the degree of freedom of students to choose courses differs across universities. For example, the programme structure of an engineering degree from University A may be very different from that of an English literature degree from University B. The degree of freedom to choose courses in different programmes of studies amongst universities may also be very dissimilar. Therefore, it makes this type of comparison among

[3] A pseudonym to protect the identity of the case university.

different universities inadequate and inefficient.

Like many other universities, all NU students must choose cluster[4] (elective) courses to fulfil the graduation requirement, but they are relatively free to choose from a list of courses in several clusters. The nature of cluster courses is very different from that of core courses (usually language courses) and programme/stream courses (major courses). Exploring university core courses would involve ignoring various factors common to all students, such as difficulty, interest, career prospects/learning value, workload and assessment methods, which are considered significant by many authors (Kerin et al. 1975; Babad et al. 1999; Babad 2001; Babad and Tayeb 2003; Ting and Lee 2012). Exploring the core courses of a programme/stream would also be inappropriate, as these courses are usually taught by one or two specific instructors. This would also invalidate different factors, such as instructor, grading, difficulty and career prospects, which are considered important factors by some authors (Babad et al. 1999; Babad 2001; Babad & Tayeb 2003; Ting & Lee 2012). Conversely, cluster courses offer the flexibility of choices from a long list of courses and are mandatory for all students. Therefore, focusing on cluster courses can help explore the various factors suggested by other authors.

3.1.1 Northern University (NU) as a liberal arts university in Hong Kong

In Hong Kong, there were only three universities, the University of Hong Kong (HKU), The Chinese University of Hong Kong (CUHK) and the Hong Kong University of Science and Technology (HKUST) before 1994. Only high-achieving students could go to university, which represented the so-called elite system at the time. More institutions obtained university status later and NU was one of the institutions obtaining university status (Wikipedia.org 2012a). By

[4] The nature of cluster (elective) course is discussed later in this chapter and the BBA programme structure is used to illustrate the detail in Appendix 1.

1994, eight higher education institutions were funded by the Hong Kong government through the University Grants Committee (UGC).

In 1893, the Christian College in China disassociated itself from the American Presbyterian Church and formed a Christian university in China. Northern College moved around Guangdong and Macau, before settling in Guangzhou in 1904. During World War II, it was moved to Hong Kong and was re-established in Guangzhou after the Japanese surrendered in 1945. The relocation was due to the Japanese army's advancement on different fronts during the War. By 1953, Northern College merged with other colleges in Guangzhou and formed ABC[5] University. In 1966, alumni of the Northern College founded a new site in Hong Kong. The Northern College of Hong Kong was established in 1967 to carry on the tradition of Northern University, Guangzhou (Canton in mainland China) which was founded in 1888. It primarily specialised in the sub-degree sector, offering diploma programmes to secondary school leavers who could not enter HKU or CUHK. At the beginning of the 1990s[6], the Hong Kong Council for Academic Accreditation reviewed Northern College for academic accreditation. After the review, NU started to receive funding from the University and Polytechnic Grants Committee (UPGC) and in the mid-1990s, Northern College started to offer four Bachelor's programmes (translation, social sciences, Chinese and business). The former Northern College stated in its mission statement that it "seeks to provide its students with an education in the liberal arts tradition" ([Northern College], Hong Kong 1996: 2). The following year, the mission statement was elevated to "aspire to be an internationally recognized liberal arts university with Hong Kong characteristics" ([Northern College], Hong Kong 1997: 2). This paved a path for NU, which started to proclaim itself as a liberal arts institution. Later in the 1990s, Northern College undertook a lot of reforms aimed at strengthening "its academic and administrative structure,

[5] Another attempt to protect the identity of the Northern University.

[6] Protection of the confidentiality of NU.

promoting a quality assurance mechanism, evaluating teaching and administrative staff appointment procedures and enhancing research activities" (Northern University 2012). Towards the end of the 1990s, Northern College achieved its self-accreditation status. The government formally recognised it as a university. One year later, Northern College was elevated to university status.

In 1994, the UPGC changed its name to the University Grant Committee (UGC) and supervised eight higher education institutions. The Hong Kong government funds the education of about 14,000 undergraduates (Wan 2011). The student number in the UGC-funded programmes for NU is maintained at about 2,300 (including approximately 100 senior-year intake;[7] UGC 2013). This number is unlikely to change, due to the total funding approved by the UGC unless additional funds are approved by the Hong Kong government.

Year	**04/05**		**05/06**		**06/07**		**07/08**		**08/09**	
NU	2,224	4%	2,263	4%	2,294	4%	2,295	4%	2,336	4%
Year	**09/10**		**10/11**		**11/12**		**12/13**		**13/14**	
NU	2,338	4%	2,233	4%	2,152	4%	2,622	3%	2,570	3%

Table 4 Number (and percentages) of UGC-funded undergraduate students (first-year intake, part-time + full-time students) at NU

As a publicly funded higher institution, NU must compare itself with other higher institutions in Hong Kong. Being a latecomer, NU is not comparable directly to the top research-intensive universities, such as HKU, CUHK and HKUST. Compared to NU, they receive more funding

[7] 'Senior year intake' refers to students with an associate degree or higher diploma that are articulated into Year 2 of a three-year undergraduate programme (or Year 3 of a new four-year undergraduate programme).

from the Hong Kong Government and are much larger in various manners: structure, campus, number of staff, number of students, research activities and alumni donations. Any direct comparison would be disadvantaged to NU. In terms of the number of students, NU is one of the UGC-funded institutions in Hong Kong with the smallest student numbers (Table 4). However, this smallness fits well with the liberal arts mission. Under the 3+3+4 educational reform, the 3-year programme and 4-year programme students would be admitted to universities in the summer of 2012. In anticipation of the double cohort intake in the summer of 2012, NU carefully controlled the number of first-year students each year, so that an additional year of students in four-year programmes would not increase the number of students by a third. This was to maintain a small university, which is in line with the beliefs of the liberal arts.

NU has been a small university in terms of student number, staff number and campus size. With about 2,300 students, a close staff-student relationship was established (QAC Audition Report 2010). This smallness also facilitates closeness between students. At NU, the proportion of residency is almost 100% now. This has prompted students to participate in many activities inside and outside the classroom. Most students are committee members in different student societies or associations. As part of the 3+3+4 Reform, Hong Kong universities were required to restructure the original three-year programmes into four-year programmes. With this additional year of study, more courses are included in the four-year programmes and the minimum graduation requirement is 120 credits [8] (with slight variations in different programmes). Using the Bachelor of Business Administration (BBA) programme as an example, the minimum graduation requirement is 123 credits. In addition to the core courses of the main discipline (36 credits), the NU curriculum requires students to take 18 language course credits

[8] One credit is equivalent to one contact hour per week. At NU, a typical course consists of three credits and usually corresponds to three contact hours per week per term. Depending on the major of study, a student in NU usually takes 10 courses (30 credits) each year and graduate with 120-126 credits after 4 years of study.

(English and Chinese), 12 credits of common core courses "((1) Logic and Critical Thinking; (2) The Making of Hong Kong; (3) Understanding Morality; and (4) World History and Civilisations)" (NU 2019) and 35 credits of cluster courses chosen from five clusters ((1) Creativity and Innovation; (2) Humanities and the Arts; (3) Management and Society; (4) Science, Technology and Society; and (5) Values, Cultures and Societies), with at least three credits from each of them. In this way, students are forced to space out their selection and enrol in different *types* of cluster courses. At least, one course would have been taken from each of the five clusters so that they are required to be exposed to various disciplines. Moreover, there are 15 to 21 free elective credits.[9] This requires a different level of exposure to different fields of study other than the student's major. This totals up to 123 credits, which is the minimum graduation requirement (126 credits for a student majoring in accounting) for the BBA honours degree. The structure of the BBA programme in Appendix 1 is used to illustrate the number of university core courses, major courses (core and elective), free elective courses and cluster courses required at NU.

One of the main characteristics of liberal arts education is being broad rather than narrow. The idea of interdisciplinary is for students to be exposed to different types of disciplines. At NU, this is implemented with a large number of cluster courses and free electives. In summary, a typical NU BBA undergraduate[10] must take seventeen major courses, six language courses, four common core courses, seven cluster courses and seven elective courses (a total of 41 courses). Of these 41 courses, 14 are 'free' to choose from a range of courses. This represents more than one-third of the courses required to graduate. These courses can be a combination of different

[9] The variation is due to the professional accreditation requirement for accounting students, who need three additional credits. Thus an accounting student will have 3 credits fewer of free elective when compares to a non-accounting BBA student and 6 credits fewer than a non-BBA student.

[10] See Appendix 1

disciplines, such as a cultural course on pop music, an introductory course on history or a scientific course in calculus or astronomy. The variety of choices is enormous. As of June 2014, there were 85 approved cluster courses among the five clusters. In addition, the seven free elective courses could be selected from any discipline, the prerequisites being the only restriction. As a result, students will need to make CS decisions for each term during their four years of study. They may consider various factors that may influence how they choose these cluster courses (and other free elective courses) within the degree programme. This study is to target their CS decision on cluster courses. How would they make the CS decisions? What are some of the influencing factors? Are the local and mainland students choosing differently? All these are embedded in the RQs.

3.1.2 Internal competition for student enrolment

The total number of undergraduate students at NU is approximately 2,300 in any one academic year. When students are admitted to NU, they are taken into a particular programme of study, e.g. BBA, BA in History or BSc in Social Sciences. The number of students in each programme is quite rigid and cannot be changed easily. Any changes are critical to the academic departments and will disrupt the resource allocation and manpower of the teaching staff. Therefore, the number of students in core courses (regardless of the programme) is almost fixed. However, cluster courses are more likely to be affected by student enrolment. First, these clusters are compulsory courses in the undergraduate programme structure, but students are free to choose courses in any of the five clusters offered by various departments. Second, NU has very clear guidelines on the workload of the teaching staff of different ranks. As a result, the human capital of an academic department is directly proportional to the number of courses offered (or the number of students enrolled). The staff-student ratio (SSR) becomes an indicator of the workforce. This can be an incentive to strengthen a department. If a department needs to expand, the SSR should be above average. A good way to *recruit* more students is to offer cluster courses

with the characteristics mentioned above. However, cluster courses must have sufficient enrollment to be offered. At NU, if fewer than 10 students are enrolled in a course after the add/drop period (about two weeks) at the beginning of the term, the course will be cancelled and students will be asked to choose another course. The university administration estimates that if the enrolment is lower than 10, it is not efficient to offer this course, which may be offered again in the next term when sufficient enrolment is accumulated for the course.

As a result, a course must have a reasonable number of students enrolling to be offered. This is not a problem for core (university or major) courses. However, cluster courses are relatively *free* to choose from, there must be certain elements that can *attract* students to these courses. Although there are only five clusters, there are a large number of courses that a student can choose from each cluster. A popular cluster course will ensure its existence, whilst a less popular cluster course may eventually cease to be offered.

The university administrators and academic staff would like to understand how a course should be offered to ensure its existence. Also, the understanding of the CS decision can improve student learning experience during their four years of undergraduate study at NU. It can also help improve the understanding of students' motivation to enrol in a course and lead to better teaching and academic performance (knowledge transfer). Therefore, the main objective of this study is to examine some of the key factors that may affect students' CS decisions when choosing cluster (elective) courses.

3.2 Philosophical perspective and rationale for the research design: Pragmatism and mixed methods

This study adopted pragmatism as a philosophical perspective. It followed Biesta's (2010) view that pragmatism can provide a philosophical stance for mixed methods. Punch (2011) argued that the research question is fundamental and should be considered the most important aspect of a study, this is even more so than the method or the underlying paradigm. One cannot deny that the research questions are at the centre of a study and that a study seeks to answer the research questions. Johnson and Onwuegbuzie (2004: 17) advocated "choose the combination or mixture of methods and procedures that work best for answering your research questions". Tashakkori and Teddlie (2010: 20) called this the "dictatorship of the research question". Biesta (2010) uses an analogy of a screwdriver and screws to illustrate the pragmatist method and research questions. They work best when they fit together. This study takes on this belief and was conducted under the paradigm of pragmatism, demonstrating the mixed-methods approach can answer the RQs (cf. Chapter 1).

In education research, pragmatism also provides the philosophical rationale for mixing quantitative and qualitative techniques. This study drew on the power of both techniques to answer the fundamental research questions. Johnson and Onwuegbuzie (2004: 17) defined mixed methods research as "the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study".

The *independent world* assumption in positivism cannot be easily applied to education research, which is a branch of the social sciences. Unlike the natural sciences, the social sciences are

concerned with society and the relationships between individuals in society. Social science research involves the study of people in one way or another. Therefore, positivism's *not interfering in the world* is difficult to apply in education research. However, the quantitative technique generally used in positivism remains valid in education research. The quantitative analysis deals with a large amount of numerical data and generates a result that is expected to be generalisable to a larger population. Whilst acknowledging the shortcomings of positivism and retaining quantitative analysis, researchers have introduced both quantitative and qualitative techniques to answer their research questions. Denzin (2008) considered this a compromise between quantitative and qualitative research. Teddlie and Tashakkori (2010: ix) called this the "third methodological moment". The rich results of the qualitative analysis complement that of the results from the quantitative analysis. The synergistic effect is expected to occur by combining these two very distinct analysis techniques.

Creswell and Plano Clark (2007) reviewed different ways of combining quantitative and qualitative research techniques and summarised them into four major categories: triangulation, embedded, explanatory and exploratory. In this study, an explanatory design with a participant selection model was adopted. The study had two phases. In the first phase, quantitative analysis was used. It tried to look for and confirm the various factors in the literature that may influence CS decisions. It was appropriate to use quantitative analysis to determine whether certain underlying factors or 'dimensions' affect CS. To answer RQ1, I sought to identify the process of how students choose their courses and the possible factors that may influence their decisions. Because of the pragmatic paradigm, I aimed to find a relationship in the chosen sample and to draw a statistical conclusion about the target population. In this way, it can help identify the factors that may influence a student's CS decisions. The results of the first phase also helped determine the interview questions asked during the second phase, in which qualitative analysis

was used to better understand the selection process of the student participants. This helped explain the rationale behind the CS decision. This brings to the understanding of why students choose particular cluster courses. There should be some influencing factors that can motivate or affect students to choose (or not). As discussed in Chapter 2, the differences in motivation constructs *may* be the answer to this. As Biesta (2010: 103) observed, "We need to look for intentions and reasons for action in order to provide an answer to the question of why people act as they act".

There are seven levels (layers) when conducting mixed methods research: "(1) data; (2) methods; (3) design; (4) epistemology; (5) ontology; (6) the objectives of the study; and (7) the practical roles of the study" Biesta (2010: 100). These different levels helped develop the combination of techniques used in this study. At Level 7 (the practical roles of the study), in addition to providing technical insights into students' CS decisions, it also has practical significance for the instructors, course developers and university administrators. These could help them design courses, structure programmes and balance resource allocation. In turn, students' awareness could be increased, and, ultimately, courses can be made more attractive, especially elective courses. In this way, students' motivation should be enhanced and thus it potentially improves student learning in terms of better academic results and/or knowledge retention. At Level 6 (the objectives of the study), this study sought to explain and understand students' decisions on CS. What do they consider during CS? How do these factors affect their CS decisions? (RQ1) Also, the quantitative and qualitative techniques can help answer RQ2 concerning the differences between mainland and local students. Regarding Level 5 (ontology), the approach was therefore based on social ontology: this study addressed various considerations during CS to "understand individual and social action as meaningful rather than as mechanically caused" (Biesta 2010: 103). As for Level 4 (epistemology), Biesta (2010) stated that mixing is not possible and the

researcher should choose a single epistemological position. There cannot be any mixing in terms of paradigms. Nevertheless, it does not preclude mixing data or methods in this pragmatist approach. This study adopted the *pragmatic* epistemological view that knowledge could be gained by the examination of student considerations during the CS process. At Level 3 (design), this study uses an explanatory design (to be discussed in detail in the next section) within the context of the mixed-method approach. This is chosen as opposed to an experiment. In theory, an experiment can be used but it would be unethical to *force* students to enrol in different courses (see the discussion on Babad & Tayeb (2003)). In terms of the participants of the survey and the interviews, selecting students who had enrolled in courses for at least one term can ensure that the participants had gone through the CS process at least once and had experienced it. One of the goals of this study is to raise awareness of their considerations when choosing courses. Levels 1 and 2 are the data and methods that can incorporate numbers and text, and then be analysed using various quantitative and qualitative techniques. This way, even though the numbers and text were analysed separately, the methods were indeed mixed with both numbers and text.

This study is mapped regarding Biesta's (2010) seven levels. A mixed methods research study was conducted under the pragmatist paradigm. This can triangulate the findings with the other studies and may be able to shed further light on some of their findings.

3.3 Research design

Creswell & Plano Clark (2007) identified four main types of mixed methods research design (triangulation, embedded, explanatory and exploratory). That is, the triangulation design uses the results of quantitative and qualitative techniques to conclude a phenomenon. The embedded design assigns a dominant role in quantitative or qualitative analysis, while the other plays a

supporting role. It assumes that one dataset is not sufficient to answer the research question(s) and that the second technique can help solve this problem. The exploratory design is a two-phase model. It first uses a qualitative method, then the results are used to develop the second quantitative method. This is generally used when the researcher has very little information on the research topic and requires a qualitative method to explore a phenomenon. The explanatory design is also a two-phase model but starts with the quantitative method and follows with the qualitative method. The qualitative method is used to help explain the results of the quantitative method.

Creswell & Plano Clark (2007) also identified two variants of the explanatory design: the follow-up explanations model (emphasis on QUAN) and the participant selection model (emphasis on QUAL). This study adopted the second model, with some modifications specific to this study. The quantitative data can consolidate the various factors (via statistical analysis) to boil down to the pertinent ones. The first phase was quantitative and the second was qualitative. The first phase consisted of a survey and asked the respondents questions about CS. It tried to evaluate their answers to examine different possible influencing factors. The results of the analysis influenced how the participants were selected and the focus of the in-depth interviews in the second phase. The results of the second phase helped interpret some of the results of the quantitative method, especially regarding the importance of the factors that influence the students. The research design and use of mixed methods facilitated the answering

of the research questions. They worked well together, similar to the previously mentioned analogy to the screw and the screwdriver (cf. Chapter 3.2).

As illustrated in Figure 1, this study consisted of two phases, Phase 1 (quantitative) and Phase 2 (qualitative). Both phases collected data for analysis. The data collection and analysis of Phases 1 and 2 are discussed in Chapters 4 and 5 respectively.

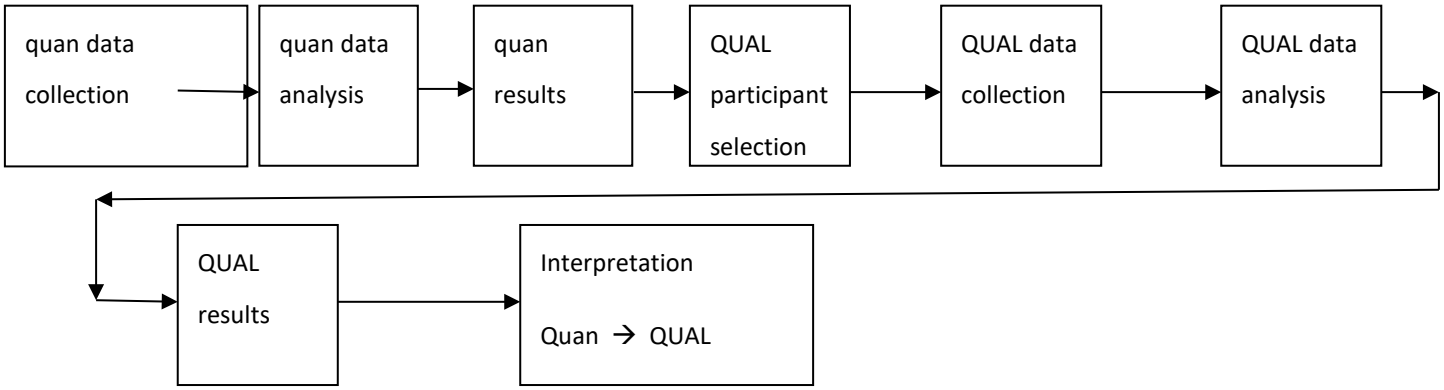

Figure 1 Explanatory design: participant selection model (emphasis on QUAL); extracted from Creswell and Plano Clark 2007:73)

3.4 Pilot study

To enhance the validity of the study, a pilot study was conducted at the beginning of Term 2 of the 2014/2015 academic year. The main purpose was to test the survey questionnaire and identify possible difficulties in practice. A group of Year 3 students (n=35) from a three-year programme were asked to complete the questionnaire and report any problems instantly in class, i.e. during the administration of the questionnaire. Next, they were asked to critically review and give their feedback on the questionnaire. These students were not part of the target population, as they were set to graduate before the actual study was conducted. Therefore, they did not interfere with the actual data collection process in Phase 1. They were in their final year of study and had the experience of CS. There were some misunderstandings of the questions

and typos were discovered and corrected. One comment concerned the cumulative GPA. The questionnaire was to be completed anonymously, and I assumed that the students would be willing to disclose their academic results under these conditions. However, some students indicated that they did not want to reveal their cumulative GPA, even in an anonymous survey. The observation was taken into account and 'do not want to disclose' was added as an option for cumulative GPA and age. Next, the department head was asked to review the questionnaire. He did not have any comment on the survey, but he did raise a point about the selection technique. As mentioned above, he pointed out that some questions referred to the instructors and that it would be better to ask for their consent before conducting the survey. As a result, Phase 1 participants were selected through the instructors, and in this way, the instructors' consent was obtained.

Besides, one Year 3 student from the 3-year programme was invited to participate in the pilot study of the in-depth interview. This allowed the researcher to check out the semi-structured guidelines. This interview helped the researcher as a trial run of Phase 2. Possible topics for discussion were experimented with, and most importantly, this interview was overshot and a very important lesson was learnt, that is, to schedule sufficient time for extended interviews. The student was very helpful and gave a lot of insight into the topics, which extended the interview by 60 minutes. Both the student and I had to rush to class afterwards and it was a very important lesson. When a participant is speaking freely, it is best to continue the interview rather than schedule a follow-up, as the atmosphere in the next session could be completely different. The pilot study helped fine-tune the questionnaire used in Phase 1 and gain experience in conducting in-depth interviews before Phase 2.

3.5 Ethical issues and considerations

Starting in 2012, undergraduate programmes in Hong Kong universities would last for four years. As a result, some first-year students may be under the age of 18, which is underage under Hong Kong law. These underage students were excluded from the survey in Phase 1 and were asked not to engage in the survey and they should have been precluded from the interviews in Phase 2. Email invitations were sent to some of the students who left their emails in Phase 1. Before the interviews, the participants in Phase 2 were advised of their right to withdraw at any stage of the study. They were told explicitly that they were participating voluntarily. The survey responses obtained during Phase 1 were anonymous and pseudonyms were assigned to those interviewees (both local and mainland students) during Phase 2 to protect their identity throughout the study. No student could be identified from the results of this study. The quantitative results would be collective findings and prevent the identification of any individual in Phase 1. The pseudo names should be able to prevent recognising the interview participants. The goal of the study was clearly explained to the participants at the beginning. During and after the data collection, their daily lives should not be affected in any manner. Nevertheless, their involvement might have alerted them about their CS decision in future and offered the opportunity for the teachers to reflect on their teaching when delivering courses.

I had two roles: as the researcher and the instructor in the cluster (elective) courses at NU. As suggested by Mercer (2007: 7), this study could be classified as an example of insider research. The “insiderness” should be viewed concerning access, intrusiveness, familiarity and rapport while “insiderness” and “outsiderness” should be viewed as different “points on a continuum” instead of opposing ideas. In addition, as the researcher myself, it is possible to incur power dynamics between myself and the participants. First of all, all the participants were recruited voluntarily, both in Phases 1 and 2. The anonymity in Phase 1 should be able to reduce, if not

remove, the power dynamics. In Phase 2, the participants were recruited voluntarily since they left their email addresses in the questionnaire. Furthermore, only two of the participants were enrolled in my courses at the time of the interview but there was no discussion relating to or referring to my courses. Their grades (academic results) were not affected in any manner (for better or worse) because of their participation or non-participation in this study. The rest of the participants were either ex-students or had never been taught by me and their academic performance or well-being was not influenced. It is believed that the data collected from these participants were genuine and reflected their thoughts. At the end of the day, the results of this study should assist in the planning, development, delivery and marketing of cluster courses to increase student enrolments. As mentioned in the last paragraph, this study could help participants better understand their CS decisions.

Consent was sought from the participants in the survey and the in-depth interviews, including the instructors of the interviewees. As this study was under the Doctor of Education programme of the University of Bristol, UK, it was governed by the ethics process of the Graduate School of Education and an ethics form[11] was submitted and upheld by the University of Bristol. The participants (Phases 1 and 2) were explicitly informed of voluntary participation in advance of any data collection process. The confidentiality of NU is a little problematic because there are only eight UGC-funded universities in Hong Kong but still, this study does not reveal the identity of NU directly but cannot prevent the reader to match or recognise NU based on the given information. As a publicly funded university in Hong Kong, NU has sufficient transparency for the general public to access some of the information from open sources. After all, accountability and transparency would be expected from a publicly funded university. It would be more alarming if this is otherwise. It is considered that all feasible work is done to

[11] A copy of the ethics form is included in Appendix 12.

protect the confidentiality of NU in this study. The data collected are protected by the Data Protection Act 1998 of the UK as well as the Personal Data (Privacy) Ordinance (Cap. 486) of HK. The data is expected to be deleted permanently after six months of the completion of the degree. During this period, the data are stored in a hard disk drive and backed up in a network drive and flash RAM. All storage is password-protected with encryption. I believe all of the ethical issues have been considered and further details can be found in the ethics form (Appendix 12) and held in a depository at the University of Bristol.

3.6 Summary

This chapter describes the case of NU in detail, using the BBA programme as an illustration. It describes and explains the methodology and methods chosen, outlines the research design, the pilot study and some key ethical issues were also addressed in this chapter.

Chapter 4 Quantitative Analysis

This chapter begins with the data collection method and the analysis techniques used in this study. It analyses the quantitative data collected in the survey. Descriptive statistics were generated and factor analysis was adopted to build a five-factor model explaining different types of influences on the students' CS decisions. These are (1) degree of concern about assessment methods, (2) instructor-related issues, (3) interest and career effect, (4) demanding course and (5) weighting of assessments. ANOVA and *t*-tests were used with reference to demographic information, in particular, whether the participants were local or mainland students (RQ2). It was found that Factors 1, 2, 3 and 4 are significantly different for local and mainland students but not for Factor 5. It concludes that there is a significant difference between the two groups of students during CS in some of the factors identified but not for the other collected demographic information (such as gender, age, programme of study, year of study and CGPA).

4.1 Phase 1

Quantitative analyses are used in this phase. Zocco's (2009) questionnaire was adopted and adapted to the context of NU to address the RQs of this study, such as place of origin to identify local and mainland students. The major reason for adopting Zocco's questionnaire is because his questions have been fairly comprehensive, covering categories of subject matter, professor (instructor), course environment and grading. It has covered most of the factors identified by other studies (see below). The questionnaire starts with a brief introduction of the purposes of the study, three selection criteria (age, NU students excluding exchange students, voluntary) and the statement of participation. It then collects background information, such as gender, age, place of origin, programme of study, year of study and CGPA. These are used to determine if any of them are possible factors affecting CS decisions. Eventually, the place of origin will lead to the analyses based on local and mainland students (RQ2 & 3) whereas the other background

information (gender, age, programme of study and CGPA) can be ruled out. Other studies have indicated some of these could affect CS decisions, such as gender (Stocking & Goldstein 1992; Wilson 1994; Lang 2010; Kahle & Lakes 1983; Marsh 1989; Zerega et al. 1986), age (Jacobs et al. 2002), year of study (Babad et al. 1999), and programme of study (Meece et al 1982; Meece et al 1990). The next part focuses on the CS factors and the questions are broadly separated into four sub-categories (subject matter, professor, course environment and grading) as Zocco has done. The following factors have been incorporated into the questions 'course difficulty', 'instructor style', 'learning value', 'perceived interest in subject' and 'exposure to future career skills' (Babad et al. 1999; Babad 2001; Babad & Tayeb 2003; Ting & Lee 2012). Zocco asked the student to assess the risk level whereas the questionnaire in this study has asked the student to indicate the level of influence on a 10-point Likert scale. A 10-point scale is chosen because it can give more diverse answers and expects to identify differences (if any). The final version of the questionnaire is provided in Appendix 2. An email address was collected as optional to recruit participants for the in-depth interview in Phase 2. In addition to the quantitative data collected, two open-ended questions at the end of the questionnaire were used to seek *possible* ideas for the second phase in terms of participant selection and guiding questions during the in-depth interviews. This was therefore implemented in the data collection process and it was proved to be substantial in later sections.

4.2 Sampling

Except in abnormal circumstances, collecting data from the entire population is usually unrealistic, time-consuming and cumbersome (Levine et al. 2016). This section describes the target population and the selected sample.

4.2.1 The population

NU has about 2,300 students in its UGC-funded four-year undergraduate programmes.[12] The target population included all undergraduate students at NU who had been attending university for more than one term but excluded underage students, that is, younger than 18 years old, to avoid the need to obtain parental consent. It is unethical to engage a minor in a research study without parental consent, but contacting parents requires minors to be identified. The identification of minor students is already problematic and unethical. The target population is approximately 2,300. This population was chosen because the students needed to adequately understand the university environment. First-year students in their first term have little or no experience with CS. This is also mostly because the courses in their study plan are usually core courses and have little flexibility. The experience in CS in Term 1 would be minimal. By the time they start Term 2, students have been exposed to peers, fellow students, professors and academic advisors. The experience and exposure should enhance students to make better informed decisions about their course choices. Furthermore, there will be fewer students below the age of 18 years old in Term 2, increasing the target population. Moreover, it was expected to exclude some exchange students from different countries. NU has a rich exchange programme and its partnering institutions are spread all over the world[13]. These 34 countries have different cultural backgrounds and exchange students may have different academic goals and expectations, as their degrees will not be awarded by NU and their grades may not be counted in their CGPA. They usually stay at NU for one term and may not fully understand the environment. Also, they have a different programme structure from that of other NU students. Including these incoming exchange students would have affected the measurement of the 'real'

[12] The last batch of students enrolled in three-year programmes graduated in summer 2015.

[13] These partnering universities are in Morocco, South Africa, China, India, Indonesia, Japan, Kazakhstan, Korea, Malaysia, the Philippines, Taiwan, Thailand, the United Arab Emirates, Australia, Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, the Netherlands, Portugal, Russia, Slovakia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, Canada, Chile, Mexico and the United States.

NU students. In particular, some incoming exchange students are only required to obtain a 'pass' to transfer their credits to their home universities. As a result, the quality of their grades does not count towards their transferred credits. This means that their incentive to get a good result is very different from that of NU students. Although the viewpoints of these incoming exchange students are undoubtedly interesting, the university usually enrols fewer than five students from each partnering university of a country, and quantitatively analysing such a small sample is ineffective. It is more logical to exclude them from the quantitative data analysis.

4.2.2 The sample in Phase 1

Permission was sought from seven instructors of various courses (including myself, the researcher). These courses were either cluster courses or functional (core) courses and all of them were open to all NU students. The only restriction was the enrolment quota for each course. Except for the students (incoming exchange and underage students) discussed in the above section, no students were excluded on purpose. However, this also meant that students from different courses could overlap. A warning was included in the questionnaire to avoid duplication of participation. However, an anonymous survey may still entail duplication, which should be minimised. The students were approached in class or by email (via the instructors). They were asked to fill in hard copies of the questionnaire in class or by email, containing a link to a site enabling them to complete the questionnaire online. Two responses were removed due to missing data as follow-up was not possible due to anonymity. In the end, 1,023 students were approached and 342 valid questionnaires were obtained. This gave a response rate of 33.4% and represented about 17% of the target population. Given the nature of cluster sampling, the sample was expected to represent the population. There was no reason to suggest that a good or bad experience with the CS process could affect the willingness to participate in the study. It is hoped that the sample is a fair representation of the population.

4.3 Quantitative Analysis in Phase 1

Descriptive statistics were generated from the participants' demographic information. By analysing this, irregularities or possible biases could be identified such as the imbalance of BBA and non-BBA students. This also aided in the selection of the participants for Phase 2 (n=9). In the questionnaire, 26 variables were measured. Exploratory Factor Analysis (EFA) was used to reduce these 26 variables to manageable influencing factors that could be interpreted. Based on the correlation coefficients of a set of variables, factor analysis is a technique used to reduce this set of observed (manifest) variables to a few (latent) factors that can provide a simpler structure, which is easier to interpret than the initial set of variables (Yong and Pearce 2013). There are two main types of factor analysis: EFA and Confirmatory Factor Analysis (CFA). CFA is used to confirm assertions and test hypotheses. It seeks to examine the goodness of fit of the set of variables with the factors. This study used EFA to reduce the number of variables identified in groups of interrelated variables to influencing factors. As the data collected were ordinal on a 10-point Likert scale, there was no outlier, which is one of the requirements for conducting factor analysis (FA) (Field 2013). There were 342 valid responses and 26 variables measured. The general rule is to have at least 10 per variable (Tabachnik & Fidell 2001) and at least 300 observations (Nunnally 1978). Again, the collected sample met these requirements. There were two sets of responses with missing data, they were removed, and all 342 participants were included in the analysis. It was noted that Variable 2 ('difficulty') had a low correlation coefficient with the other variables, but the result showed that it accounted for part of Factor 4 and was retained. In addition, the correlation matrix (Appendix 3) showed that none of the pairs of variables was highly correlated, so there was no reason to infer multicollinearity, which is also a requirement of FA (Lin 2006). All of these suggested that using FA to analyse this dataset was appropriate. FA was used to identify the factors influencing CS. Some of these factors were identified as statistically significant. Also, common statistical techniques were used to compare

the relationship between demographic information with CS. T-tests and analysis of variance (ANOVA) were used to confirm whether demographic characteristics such as gender, age, academic performance or study programme affected CS. These results were used to establish if statistical significance existed within the sample, based on the analysis of their probability (*p*-values). The results offered a generic idea of how students make their CS decisions. The results of Phase 1 are discussed in later sections. They also formed the basis for the in-depth interviews conducted in Phase 2.

4.4 Descriptive statistics

With the permission of seven instructors, 17 classes of students received the questionnaire during class. In addition, an email invitation was sent to 7 classes of students via two instructors and together giving n=1023. As these involved students from different classes who could have been enrolled across classes, the students were therefore asked not to participate if they had already filled in this questionnaire. Again, exchange students and underage students were asked not to take part in the survey. This gave a final sample size of 342 and a response rate of 33.4%. A frequency count of the sample is given below.

There were 218 female (64%) and 124 male (36%) students. The gender distribution was in line with the student population of NU (UGC 2016). There have always been more female students in higher education in Hong Kong. Indeed, this imbalance is also reflected in the Hong Kong population (Census and Statistics Department 2017).

Age	Freq.	%
18-19	123	36

20-21	172	50.3
22-23	42	12.3
24-25	1	0.3
28-29	1	0.3
30 or above	1	0.3
Do not want to disclose	2	0.6

Table 5 Age distribution of the sample

As a publicly funded university in Hong Kong, NU is responsible for providing undergraduate education to senior secondary students leaving school. The students were enrolled in four-year programmes and, as shown in Table 5, most of them were between 18 and 23 years old. There has always been a small percentage of mature students at NU[14]. The sample mean age was 20.1 with a standard deviation (SD) of 1.52, as expected. The age variation was small because the undergraduate students belonged to a particular age range.

Regarding their place of origin, there were 276 (81%) local students, 48 (14%) mainland students and 18 (5%) students classified under 'other'. Again, NU is under public finding via the UGC, and the target students were primarily local students. The Hong Kong government has limited the percentage of non-local students to 20% of the approved number of UGC-funded students for such programmes (HK Government 2017). The small percentage of 'other' referred to students from other countries pursuing an undergraduate degree at NU. The sample percentages reflected the percentages of the target population.

As there are many majors in the Bachelor of Arts (BA), BBA and Bachelor of Social Science (BSS), an analysis by major was not appropriate because the number of students in each major

[14] NU does not release the percentage of mature student but past experience shows that mature student exists in NU in a small percentage.

was too small. The details of the major breakdown can be found in Appendix 6. As a result, they were combined as 38 (11%) BA, 270 (79%) BBA and 34 (10%) BSS students. Due to the ethical constraints involved in obtaining the instructors' permission, all of the instructors were from the business faculty, although they did not all teach business courses. As a result, they attracted more BBA students. The ratio in the sample was highly skewed towards the business programme (BBA:BSS:BA = 79%:10%:11%) compared with the population (33%:23%:45%). However, the smaller number of BA students did not necessarily affect the conclusions drawn based on 'programme of study' because hypothesis testing techniques take into account the volume of data. Nevertheless, related analysis must be conducted carefully. As a result, selecting students for the qualitative phase could help overcome the disadvantages of the skewed quantitative data for 'programme of study' even though the sample size is small in the qualitative phase, it allowed non-BBA students to express their opinions on CS.

There were 107 (31%) Year 1 students, 82 (24%) Year 2 students, 150 (43%) Year 3 students and 3 (1%) Year 4 students. As outlined in Chapter 1, Hong Kong tertiary education switched to the 3+3+4 system in 2012 and only a small number of Year 4 students existed in 2015, as most undergraduates joined NU in September 2012. However, NU admitted a small number of students in a four-year programme from mainland China even before 2012. This explains the small number of Year 4 students in the sample.

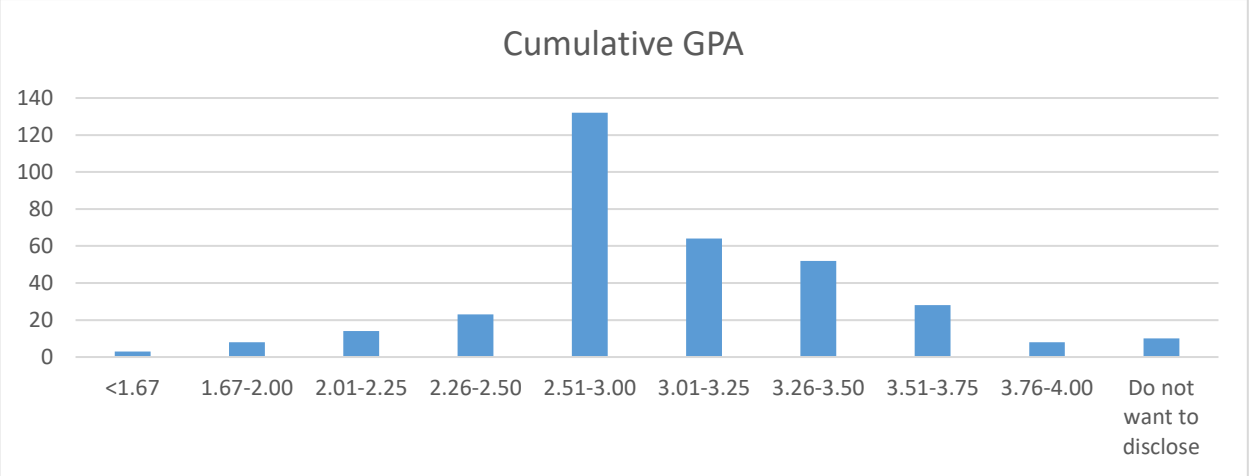

Figure 2 CGPA distribution in the sample

The mean CGPA in the sample was 2.98 with a SD of 0.45. The CGPA was in line with the Grade Distribution Guideline set by NU with respect to the bell-shaped normal distribution. Most of the data were around the middle, with fewer at either end of the bell curve as shown in Figure 2.

4.4.1 Data reliability

To confirm the consistency of the data collected, Cronbach's alpha was generated to measure internal consistency (Cronbach 1951). Cronbach's alpha is a reliability measure, ranging from 0 to 1. It measures the correlations between the items in a questionnaire. In this sample, the initial 26 variables have a Cronbach's alpha of 0.907, indicating that there was a high level of internal consistency in the sample. Nunnally (1978) recommended using 0.7 as the minimum acceptable value. Also, Cronbach's alpha is generated when the 5-factor model is built and again when the overseas students are removed in order to compare mainland and local students. These will be reported in later sections.

4.5 Factor Analysis (FA)

This section describes the Factor Analysis used, the results and the interpretation of the 5-factor

model built.

4.5.1 Exploratory factor analysis (EFA)

Based on the correlation coefficients of a set of variables, FA is used to reduce this set of observed (manifest) variables to a few (latent) factors with a simpler structure, which is easier to interpret than the initial set of variables (Yong and Pearce 2013). There were 342 valid responses and 26 variables measured. The sample mean and standard deviation of these 26 variables are presented in Appendix 9.

4.5.2 EFA results and interpretation

The determinant score of the correlation matrix was 3.97×10^{-6}, which was slightly low. This could indicate possible multicollinearity in the data. As a result, the variance inflation factors (VIF) for each combination of the 26 variables were computed, and none were above 4. This confirmed the absence of multicollinearity, which is one of the requirements of FA (Lin 2006).

The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.889, which was well above the required 0.5 and suggested that this dataset could produce distinct and reliable factors. Bartlett's test of sphericity was conducted to test the null hypothesis that the correlation matrix was an identity matrix, i.e., there was no relationship between the variables. The *p*-value of 0.000 rejected this null hypothesis and concluded that relationships existed between the variables.

Principal component analysis (PCA) was used as the extraction method with varimax rotation. It assumes that no error term can predict the components from the measured variables (Field 2013). PCA uses all variables and extracts the first few important factors, which account for the majority of the variance. The varimax rotation method is usually recommended if there is no

prior assumption regarding the correlation of the factors (Child 2006). The table of communalities in Appendix 7 shows that the communalities of each of the variables ranged from 0.412 to 0.725. They represented the proportion of variance explained in the FA model for each variable. The values were considered acceptable for this field of analysis because they are all >0.3 (Field 2013).

Regarding the total variance explained, the initial eigenvalues are ranked in Table 6 in descending order, showing the variables in terms of the proportion of variance explained by each variable. As a correlation matrix was used for the extraction, the standardised variance should be 1 for each variance, giving a total variance of 26 for the 26 variables. The extraction sums of squared loadings are the same as the initial eigenvalues, except that they do not show initial eigenvalues with less than 1, to facilitate interpretation. Component 1 with an initial eigenvalue of 8.526 is by far the largest of them. Component 2 started to decrease to 2.283 and down to 1.219 for component 5 and the next component is smaller than 1 (0.943). The results showed five components with initial eigenvalues greater than 1, giving us an initial number of factors that should be retained as the Kaiser criterion (Kaiser 1960). From the total variance explained table (see Table 6 and Appendix 8), the average extraction was 0.596, which barely met the requirement for applying the Kaiser criterion (Child 2006). However, the number of factors to be retained should be carefully determined using the scree plot (Figure 3) and other considerations in the next paragraph (Loehlin 2004).

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	8.526	32.794	32.794

2	2.283	8.783	41.577
3	2.124	8.167	49.744
4	1.351	5.196	54.94
5	1.219	4.69	59.63
6	0.943	3.627	63.256

Table 6 Total variance explained (partial; the full table is presented in Appendix 8)

A scree plot is used to locate the 'elbow' where the gradient stabilises as the number of factors

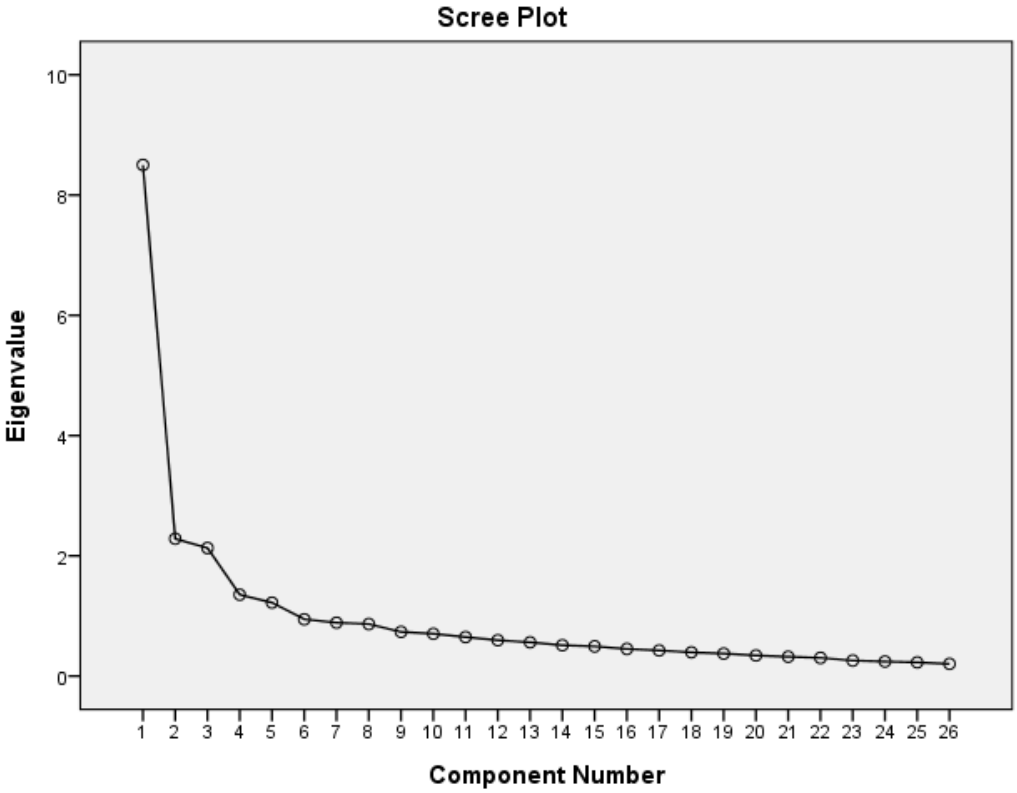

Figure 3 Scree plot of eigenvalues against the number of factors (components)

to retain. The scree plot above suggests that four to six factors should be considered. As a result, SPSS outputs were generated using a forced number of four to six factors to consider. In the total variance explained table, comparing the cumulative percentages showed that the additional percentage was 5.2% for the fourth factor, 4.7% for the fifth factor and 3.6% for the sixth factor. These additional percentages decreased. However, the eigenvalue for the sixth factor was less

than 1. The 6-factor model stretched the limitation and quickly deteriorated compared with the

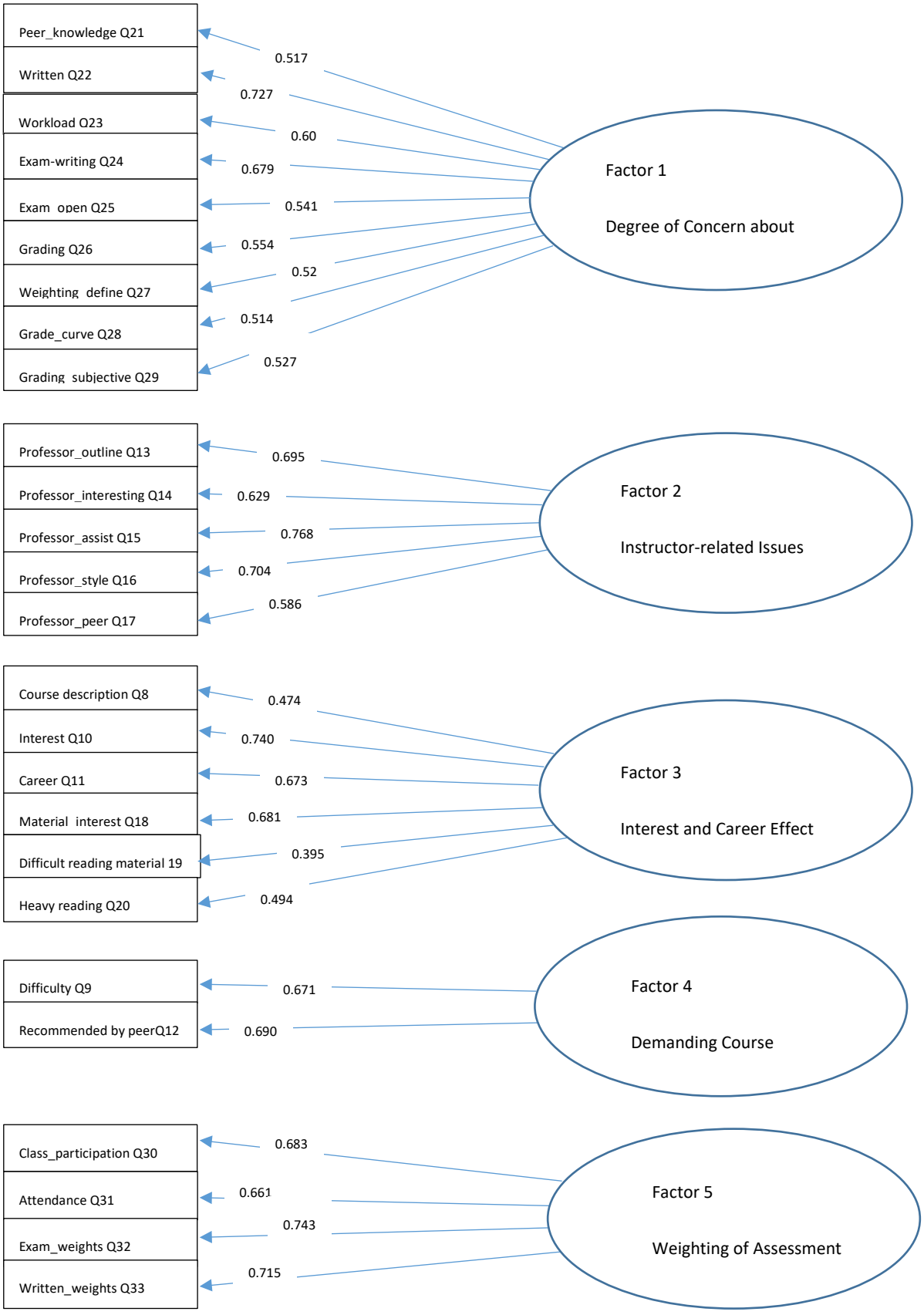

Figure 4 The 5-factor model

4- and 5-factor models. Given these elements, a 5-factor model was used for FA.

The above considerations showed that it was appropriate to use FA to analyse the data collected and a reduced 5-factor model was chosen for simpler interpretation. The rotated factor loadings are shown in Appendix 10. The grouping of the items in the five factors was mainly based on the loadings. A larger factor loading preceded a lower one. All the variables are loaded into one of the five factors to construct this 5-factor model.

Table 7 below shows the identified factors and their correlated items. The total variance of this model was 59.596%, indicating that this model accounted for 59.596% of the variance. It was reasonable to use this model to explain the influence of these factors on the students' CS decisions. The Conbach's alpha of this 5-factor model is 0.943 and the correlation matrix of the five factors is presented in Appendix 18.

	Factors with suggested names	Items	Eigenvalues	% of variance	Cumulative % of variance
1	Degree of Concern about Assessment Methods	Peer_knowledge Q21 Written Q22 Workload Q23 Exam_writing Q24 Exam_open Q25 Grading Q26 Weighting_define Q27 Grade_curve Q28 Grading_subjective Q29	8.5	32.7%	32.7%
2	Instructor-related Issues	Professor_outline Q13 Professor_interesting Q14 Professor_assist Q15 Professor_style Q16	2.3	8.8%	41.5%

		Professor_peer Q17			
3	Interest and Career Effect	Course description Q8 Interest Q10 Career Q11 Material_interest Q18 Difficult reading material Q19 Heavy reading Q20	2.10	8.2%	49.7%
4	Demanding Course	Difficulty Q9 Recommended by peer Q12	1.4	5.2%	54.9%
5	Weighting of Assessment	Class_participation Q30 Attendance Q31 Exam_weights Q32 Written_weights Q33	1.2	4.7%	59.6%

Table 7 Identified factors

4.5.3 The 5-factor model

4.5.3.1 Factor 1: Degree of Concern about Assessment Methods

This factor consists of the following questions (items) and a brief explanation of them is given below. This included the following:

Q21 Peer_knowledge – other students have similar knowledge of the course material

Q22 Written – assessment with long written requirement

Q23 Workload – heavy workload

Q24 Exam_writing – exam in essay format

Q25 Exam_open – open book exam

Q26 Grading – difficult exam grading

Q27 Weighting_define – well-defined grading policy (weighting)

Q28 Grade_curve – grading on a curve, i.e. norm-referenced grading

Q29 Grading_subjective – grading is subjective

The total variance explained by Factor 1 was 32.7%. This is fairly high and could be explained by the relatively large number of items (Q21-29) included. This showed that 'degree of concern about assessment methods' was a major factor in CS. Based on these items, the different forms of assessment in a course were of similar concern to the students, who tended to report the same influence of these items. These included other students' knowledge of the course, written work, writing an essay in an examination or open-book examination format, difficult examination grading, grading policy, norm-referencing and subjective grading. All of these affected the students' final academic results in a course. This indicated that the students were results-oriented. As SCT was not initially used as the guiding theory for this study, the questionnaire did not measure specific SCT constructs. For example, the questionnaire did not measure any of the self-efficacy, goals, values, and self-evaluation of progress. However, we can still observe that students are very concerned about their academic results. Knowing the assessment methods could raise students' awareness of the academic results. The knowledge that they prefer or are proficient in a particular method of assessment, such as oral presentation, can give them confidence in the final grade. Also, these methods of assessment can allow students to set up their expectations in the course. For example, students could set up target marks/grades for a midterm test, group projects and assignments to enhance the motivation outcomes. These can be classified as personal influences but at the same time, methods of assessment can be deemed as environmental influences. It is external to the students and it attracts them to select a course. All in all, students are taking these into consideration in order to achieve good academic results.

Nineteen students commented on this factor in the open-ended questions at the end of the questionnaire.

'The easiness to get good grades…'

'Less portion of grading regarded to participation is preferred'.

'No final exam is desirable'.

'Is the course consist of service-learning programme will affect the choice'.

'The format of the assignment is very important. Normal project presentations and essay writing will be very boring because every subject included that. I would rather choose clusters with interesting parts included. Like doing funny activities'.

(Not all comments are shown here, as some were repetitive.)

These variables in Factor 1 suggested that the students were concerned about how they would be assessed and how their possible academic results at the end (final grades) would affect their GPA. When compared to other studies, some related factors are workload, grading leniency (Babad et al. 1999); easy course (Babad 2001); student workload, and course grade (Kardan et al. 2013). It can be observed that other studies did not focus specifically on assessment methods. The theme identified here is a collective factor but specifically focused on how the students are being assessed. This is a relatively new factor in the study of CS.

4.5.3.2 Factor 2: Instructor-related issues

Instructor-related issues included the following:

Q13 Professor_outline – the instructor teaches the course as specified in the course outline

Q14 Professor_interesting – the instructor delivers the course in an interesting way

Q15 Professor_assist – the instructor helps students outside the classroom

Q16 Professor_style – the instructor uses the Socratic method to lecture

Q17 Professor_peer – other students have positive opinions of the instructor

The total variance explained by this factor was 8.8%, suggesting that the students rated these instructor-related items in the same way. Interestingly, there were only five comments related to this factor in the open-ended questions.

'It is better if the professor is open-minded allows students to make some certain decisions made by students. For example, the topic of choice for assessment, the deadline due date for submission, some absence because of activities crashes or studying'.

'Less use in Socratic teaching method is preferred [prefer lectures]'.

'Comments of the professor from friends. It is very [important] as the class atmosphere could be totally different'.

Based on the means of the standardised score (see Appendix 9), the students were very concerned about how the instructor delivered the course. This was one of the key factors influencing a student's choice of a course. It was noted that the students usually collect this information from other students. The instructor-related issue is a factor identified by many other studies, instructor: personality, knowledge/expertise, approachability (Babad et al. 1999); good lecturer, famous lecturer (Babad 2001); lecturer style (Zocco 2009); instructor preferences (Pass et al. 2012); Instructor's characteristics (Kardan et al 2013; Ognjanovic et al 2016). This study agrees with the other studies on the theme of instructor-related issues. Instructor is no doubt an environmental influence, yet perceiving a good instructor could enhance student's expectations and can also be an *attribute* (personal) for a student to choose a course.

4.5.3.3 Factor 3: Interest and Career Effect

Interest and career effect included the following:

Q8 Course_description – the course corresponds to the course description

Q10 Interest – students are interested in the topics of the course

Q11 Career – the topics of the course are relevant to the career path

Q18 Material_interest – students are interested in the reading material

Q19 Difficult reading material – the reading material is at the appropriate difficulty level

Q20 Heavy reading – the amount of reading is appropriate in this course

The total variance explained by this factor was 8.2%, which was close to that of Factor 2. The student considered the interest of a course during CS. In addition to interest, the students considered whether the course would help them in their future careers. This contributed significantly to this 5-factor model. This factor generated 11 comments from the open-ended questions.

'I always put my interest as the first priority when selecting a cluster course'.
'The degree of relevance to my major of study, whether it is useful to a future career'.
(Not all comments are shown here, as some were repetitive.)

A number of students expressed their preference for an interesting course. It seemed to have a direct influence on their choices. Some students would prefer to take courses related to their major. Interestingly, some students appreciated the chance to study courses outside their major. Interest and career prospects are also identified by other studies, interesting reading, interesting courses (Babad et al. 1999); learning value (Babad 2001; Babad and Tayeb 2003); not personally interested (Zocco 2009); perceived exposure to future career skills, perceived interest in subject (Ting & Lee 2012); student demands (Kardan et al 2013; Ognjanovic et al (2016). It is not unexpected for this study to agree with the other studies on interest and career effects. Interest and learning value are well situated in the personal influences. Interest is directly associated with self-efficacy (Bandura 1994) and (learning) value is also one of the constructs of personal influences. When students are interested in the course (on the topic) and perceive that it has learning value, they are more likely to enrol in this course.

4.5.3.4 Factor 4: Demanding Course

This included the following:

Q9 Difficulty – the course is difficult for students

Q12 Recommended by peer – other students have positive comments on the course

The total variance explained for this factor dropped to 5.3%. The items were associated with the course. There is a potential limitation that there are only two items included in this factor. A general rule is to have at least 3 items in a factor (Raubenheimer 2004; MacCallum et al 1999). However, some studies argued the possibility of using two items when there are theoretical and practical reasons and a low correlation between the two items and the other items (Gosling et al 2003; Yoo & Donthu 2001). It is decided to keep this factor of two items because both items (difficulty and peer) are identified as CS factors by other studies (Babad et al 1999; Babad 2001; Babad & Tayeb 2003; Ting & Lee 2012; Zocco 2009) and they are very different from other items. The correlation with the other items ranged from -0.112 to 0.440, which is relatively low. This factor was an important consideration for the students. There were four comments in response to the open-ended questions.

'Previous students' opinions (very important)'.

'And if my friend got a good grade (> B) in this course, I will probably take the course'.

'If there are common friends taking the same course, it would encourage me to take the same course with them, to some extent'.

It can be seen that the students took advice from other students regarding the course, the instructor, the difficulty and the workload of the course. They highly appreciated the point of view of other students. Other studies also have similar findings, difficulty (Babad et al. 1999); easy course, comfortable course (Babad 2001); difficulty level (Babad and Tayeb 2003); and

perceived difficulty of the subject (Ting and Lee 2012). Difficulty is, of course, an environmental influence that is not controlled by students but students would consider this when choosing a course. This may interact with *self-efficacy* when it comes to the SCT construct. If students think that a course is very difficult, this might reduce their self-efficacy. Also, comments from friends are associated with the social comparison construct. Making comparisons to friends allows students to raise or lower their motivation for taking a course.

4.5.3.5 Factor 5: Weighting of Assessment

Weighting of assessment included the following:

Q30 Class_participation – a part of the mark is determined by active participation in class

Q31 Attendance – a part of the mark is determined by attendance

Q32 Exam_weighting – the weighting of the examination is too much (or little)

Q33 Written_weighting – the weighting of the written assignment is too much (or little)

The total variance explained for this factor was 4.7%. This factor was also related to assessments, but FA distinguished it from Factor 1 'Degree of Concern About Assessment Methods'. Factor 1 was more concerned with 'how' the students were assessed, thus it was labelled 'Assessment Methods'. Factor 5 was more about the explicit weighting, in terms of percentage, of the different assessments. All four items focused on the 'amount' of assessment leading to the final grade. It could be considered different from Factor 1, but overall Factors 1 and 5 were related to assessment. This was a clear indicator of what the students thought when choosing courses. The assessments of the final outcome, in terms of grade, were an important issue when considering CS. Again, the different weightings could affect students' self-efficacy. Four comments were made in response to the open-ended questions and were all related to Factor 5.

'Less importance in attendance because I believe if students want to learn, they will attend class.

If not, it's useless to force them to come to school by calculating attendance into the grade.'

'A small part of the mark grading regarded to participation is preferred'.

'No final exam is desirable'.

(Not all comments are shown here, as some were repetitive.)

The students were very aware of their academic performance. This was not simply about the assessment methods (Factor 1), but also about how the grades were determined. The weighting assigned to the final examination, assignments, class participation and attendance were all important considerations for a student when choosing a course. Compared to other studies, only one factor, grading leniency (Babad et al. 1999) was found to be related to this theme (weighting of assessment). None of the previous works measured the weightings for the different kinds of assessments. In this regard, the study gave evidence of a relatively new or unexamined factor in the study of CS.

4.5.3.6 Additional issues

In addition to the comments related to the five factors, 30 comments are related to the day/time of the course. Some examples are listed below.

'Class in the early morning or late evening, I cannot take a too early lesson, like 8:30 am'.

'Late evening like until 6:30 is not preferable'.

'The day of the course. The class time because I want to have a day off…'

'time of course as I have to match the time with my part-time jobs'.

'Usually, prefer class after 11 am'.

These comments boiled down to two issues, as follows. (1) Day off – some students preferred to have a day off during the week. Some students indicated this as a preference without

explanation, and others said they did so because of a part-time job. (2) Time – despite NU's possible 100% residential rate (that is, all students can choose to live on campus if they wish), some of the students preferred to avoid morning classes, such as those at 8:30 am or 9:30 am. Some of the students did not prefer evening classes, because of their part-time jobs in some cases. The students seemed to have strong preferences regarding the time of the course. The day/time of course is an environmental influence. However, this could be because of their self-choosing (personal) or environmental pressure because of a part-time job.

These results were interesting but could not be explained solely by quantitative analysis. Therefore, the qualitative results presented in the next chapter further explored the questions raised. In particular, the rationale for the choice of influencing factors: the FA could only reduce the data to a 5-factor model but could not explain why these factors were used for CS decisions. Interestingly, two studies have identified similar factors as course time, the number of time conflicts, final examination time (Kardan et al. 2013), and course scheduling (Ognjanovic et al. 2016). It should be pointed out that these two studies used sophisticated computing techniques and information extracted from the institutional information system (cf. Chapter 2). This information (day/time scheduling) is very detailed that only the system can store and analyse. They cannot be collected and analysed easily using a mere questionnaire, thus most of the other studies (including the quantitative part of this study) were not able to collect and handle them. Chapter 3 has already outlined the ethical issues of using all the information from the institutional information system. Yet this study can help to investigate this in the qualitative analysis in the next chapter. This is a good justification for using the mixed-method approach in this study.

4.6 Analysis based on the 5-factor model

Once this 5-factor model had been established, five new variables were computed using the

standardised loadings and the standardised values of the relevant variables from the original dataset. Using standardised loadings means that they are comparable to each other. As a result, the following items were combined:

Factor 1

The factor score of Peer_knowledge Q21, Written Q22, Workload Q23, Exam_writing Q24, Exam_open Q25, Grading Q26, Weighting_define Q27, Grade_curve Q28 and Grading_subjective Q29.

Factor 2

The factor score of Professor_outline Q13, Professor_interesting Q14, Professor_assist Q15, Professor_style Q16 and Professor_peer Q17.

Factor 3

The factor score of Course description Q8, Interest Q10, Career Q11 and Material_interest, Q18, Difficult reading material Q19 and Heavy reading Q20.

Factor 4

The factor score of Difficulty Q9, Peer Q12,

Factor 5

The factor score of Class_participation Q30, Attendance Q31, Exam_weights Q32 and Written_weights Q33.

These five new variables formed a new dataset for further analysis (Child 2006).

When the 5-factor model is constructed, Cronbach's alpha (0.943), was generated. This is above the recommended 0.7 and is reasonable for further analysis (Nunnally 1978). Using the combined dataset, *t*-tests and ANOVA were used to look for possible influencing factors. The *t*-test and ANOVA were used to find the difference in means (if any) for the five factors with respect to the demographic information collected. These categories were gender, age, place of

origin, programme of study, year of study and cumulative GPA. For all the following tests, an alpha level of 0.05 has been chosen (except when the Holm-Bonferroni method is applied using 0.05). 0.05 is the amount of committing a Type I error that I am willing to accept. It is a scientific norm and this study is no different from other scientific studies (Glen 2022).

4.6.1 Gender

An independent-sample *t*-test for equality of means related to gender was conducted for the five factors with the following results.

	Male $n = 124$	Female $n = 218$	*t*-test results (df=340)
Factor 1 Degree of Concern about Assessment Methods	$M = 0.021$; $SD = 4.55$	$M = -0.012$; $SD = 4.88$	t = 0.06; $p = 0.952$
Factor 2 Instructor-related Issues	$M = -0.176$; $SD = 4.74$	$M = 0.100$; $SD = 4.56$	t = -0.531; $p = 0.596$
Factor 3 Interest and Career Effect	$M = 0.079$; $SD = 4.12$	$M = -0.045$; $SD = 4.41$	t = 0.257; $p = 0.798$
Factor 4 Demanding Course	$M = -0.124$; $SD = 3.35$	$M = 0.071$; $SD = 3.64$	t = -0.488; $p = 0.626$
Factor 5 Weighting of Assessment	$M = -0.080$; $SD = 3.23$	$M = 0.045$; $SD = 3.23$	t = -0.344; $p = 0.731$

Table 8 ANOVA results for 'Gender'

All *p*-values were greater than 0.05 for the five factors. There was no evidence to conclude that male and female students considered the five factors differently. Even though some studies suggested that gender differences exist for CS (Stocking and Goldstein 1992; Wilson 1994; Lang 2010; Kahle and Lakes 1983; Marsh 1989; Zerega et al. 1986), these studies were not

specifically targeting the undergraduate level as this study.

4.6.2 Age

Regarding age, there were two cases of 'do not want to disclose' in the sample. These cases were removed before the analysis, as it would have been inappropriate to include them as a distinct group and the sample size is reduced to n=340. In addition, three age groups (24-25; 28-29; 30 or above) had a frequency of 1 and the 26-27 group had none. Therefore, they were grouped together so that the last group was 22 or above. ANOVA related to age was conducted with the following results.

	18-19 years old n = 123	20-21 years old n = 172	22 years old or above n = 45	ANOVA results
Factor 1 Degree of Concern about Assessment Methods	M = -0.451; SD = 4.79	M = 0.3282; SD = 4.93	M = -0.092; SD = 3.98	F(2, 337) = 0.966; p = 0.382
Factor 2 Instructor-related Issues	M = -0.370; SD = 4.37	M = 0.064; SD = 4.79	M = 0.763; SD = 4.70	F(2,337) = 1.02; p = 0.362
Factor 3 Interest and Career Effect	M = -0.291; SD = 4.09	M = 0.081; SD = 4.55	M = 0.515; SD = 3.98	F(2,337) = 0.630; p = 0.533
Factor 4 Demanding Course	M = -0.343; SD = 3.51	M = 0.346; SD = 3.74	M = -0.372; SD = 2.72	F(2,337) = 1.65; p = 0.194
Factor 5 Weighting of Assessment	M = -0.078; SD = 2.98	M = 0.078; SD = 3.61	M = -0.195; SD = 2.19	F(2,337) = 0.165; p = 0.848

Table 9 ANOVA results for 'age'

Again, age was not a consideration for the five factors, as all of the p-values were greater than 0.05. It is not surprising that the result is different from Jacobs et al. (2002) because of the small

age variation resulting from targeting undergraduate students. There is no evidence to suggest age will affect the five factors.

4.6.3 Place of origin

Regarding place of origin, there were three variables: local, mainland and overseas. Most of the students were local (n=276). All of the students were analysed together at the beginning and then overseas students were removed to answer RQ2.

	Local students n = 276	Mainland students n = 48	Overseas students n = 18	ANOVA results
Factor 1 Degree of Concern about Assessment Methods	M = -0.226; SD = 4.78	M = 1.613; SD = 3.92	M = -0.841; SD = 5.74	F(2, 339) = 3.40; p = 0.035 (>α=0.025);
Factor 2 Instructor-related Issues	M = -0.4366; SD = 4.40	M = 1.831; SD = 4.34	M = 1.80; SD = 6.91	F(2,339) = 6.57; **p = 0.002 (<α=0.0125)**
Factor 3 Interest and Career Effect	M = -0.401; SD = 4.22	M = 1.58; SD = 3.52	M = 1.94; SD = 5.89	F(2,339) = 6.45; **p = 0.002 (<α=0.0167)**
Factor 4 Demanding Course	M = -0.164; SD = 3.59	M = 1.17; SD = 2.79	M = -0.598; SD = 4.04	F(2,339) = 3.20; **p = 0.042 (<α=0.05)**
Factor 5 Weighting of Assessment	M = -0.061; SD = 3.26	M = 0.514; SD = 2.77	M = -0.432; SD = 3.77	F(2,337) = 0.819; p = 0.442

Table 10 ANOVA results for 'place of origin'

For ‘place of origin’, the *p*-values were less than 0.05 for Factors 2, 3 and 4, but not for Factors 1 and 5. As these are multiple comparisons within a study, Holm-Bonferroni correction is used to adjust the alpha level to 0.0125, 0.0167, 0.025 and 0.05 for Factor 2, Factor 3, Factor 1 and Factor 4, respectively (Holm 1979). This indicated that the differences in means for Factors 2, 3 and 4 among local, mainland and overseas students were statistically significant. To answer RQ2, a *t*-test was conducted with local (n=276) and mainland students (n=48) only. With a degree of freedom of 322, the results are as follows: (1) Factor 1, t = -2.522; ***p* = 0.012 (<α=0.05)**; (2) Factor 2 t = -3.304; ***p* = 0.001(<α=0.0125)**; (3) Factor 3, t = -3.061; ***p* = 0.002(<α=0.0167)**; (4) Factor 4, t = -2.904; ***p* = 0.005(<α=0.025);** and (5) Factor 5, t = -1.150; *p* = 0.251. Again, Holm-Bonferroni correction is applied to adjust the alpha level. Even with the adjusted alpha level, Factors 1, 2, 3 and 4 are found to be statistically significant. There is sufficient evidence to conclude that the local and mainland students showed differences in Factors 1, 2, 3 and 4. Looking at the sample means, mainland students have higher means than local students in all four factors. This could answer RQ2, indicating that local and mainland students indeed choose courses differently. This suggested that compared with the local students, mainland students considered Factors 1 to 4 to have more influence on their CS decisions. The differences for Factor 5 were not large enough to be statistically significant. The results are in line with other studies suggesting differences exist between local and mainland students (Lazarus and Trahar 2015; Louie 2005; Martin et al. 2013; Gan 2009; Leung et al. 2006).

4.6.4 Programme of study

There were many majors in different programmes. As a result, each major had a small number of data and it made sense to combine the different majors into three programmes (BA, BBA and BSS). ANOVA related to the programme of study was conducted and the following results are shown in Table 11.

	BA students n = 38	BBA students n = 270	BSS students n = 34	ANOVA results
Factor 1 Degree of Concern about Assessment Methods	M = -0.76; SD = 5.59	M = 0.060; SD = 4.72	M = 0.376; SD = 4.07	F(2, 339) = 0.611; p = 0.543
Factor 2 Instructor-related Issues	M = -0.658; SD = 5.71	M = -0.053; SD = 4.42	M = 1.153; SD = 4.80	F(2,339) = 1.465; p = 0.232
Factor 3 Interest and Career Effect	M = -0.484; SD = 5.57	M = -0.046; SD = 4.17	M = 0.903; SD = 4.13	F(2,339) = 1.00; p = 0.368
Factor 4 Demanding Course	M = -0.731; SD = 4.29	M = 0.060; SD = 3.45	M = 0.343; SD = 3.25	F(2,339) = 1.012 p = 0.365
Factor 5 Weighting of Assessment	M = -0.364; SD = 3.72	M = 0.047; SD = 3.22	M = 0.035; SD = 2.73	F(2,337) = 0.271 p = 0.763

Table 11 ANOVA results for 'programme of study'

For 'programme of study', none of the factors were statistically significant. There is no evidence to support that programmes of study would affect the five factors. Although there were more BBA students than BA or BSS students in this sample, the statistical results suggested that there was no difference among the three groups in these respects. The qualitative results in the next chapter were expected to reinforce this conclusion.

4.6.5 Year of study

As mentioned earlier, there were only three Year 4 students, as most students were from the 2012 intake. It was decided to remove these three students from the analysis, as grouping them with Year 3 was not appropriate. The ANOVA results related to year of study are shown below.

	Year 1 students n = 107	Year 2 students n = 82	Year 3 students n = 150	ANOVA results
Factor 1 Degree of Concern about Assessment Methods	M = -0.806; SD = 4.75	M = 0.959; SD = 4.39	M = 0.0938; SD = 4.92	F(2, 336) = 3.251; **p = 0.040 (<α=0.05)**
Factor 2 Instructor-related Issues	M = -0.852; SD = 4.52	M = 0.675; SD = 4.05	M = 0.274; SD = 4.92	F(2,336) = 2.985; p = 0.052
Factor 3 Interest and Career Effect	M = -0.744; SD = 4.29	M = 0.772; SD = 3.72	M = 0.130; SD = 4.56	F(2,336) = 3.010; p = 0.051
Factor 4 Demanding Course	M = -0.741; SD = 3.49	M = 0.850; SD = 3.22	M = 0.063; SD = 3.67	F(2,336) = 4.819; **p = 0.009 (<α=0.025)**
Factor 5 Weighting of Assessment	M = -0.140; SD = 3.11	M = 0.353; SD = 2.98	M = -0.072; SD = 3.47	F(2,336) = 0.620; p = 0.539

Table 12 ANOVA results for 'year of study'

The p-values for 'year of study' were statistically significant for Factors 1 and 4. Again, Holm-Bonferroni corrections were applied with adjusted α values of 0.025 and 0.05. Both Turkey HST and Scheffe in the post-hoc tests show that there is a significant difference between Year 1 and Year 2. The mean of Year 2 is significantly higher than the mean of Year 1, indicating a higher influence in factors 1 and 4. This provides evidence to support Babad et al (1999)'s findings that CS decision evolves over the years. However, this study does not find any difference between Year 3 and the other two years of study. This may be because of the elements of liberal

arts institutions or differences in the geographic region. Being a student in a liberal arts institution means that CS is done every term and there are a lot of different kinds of courses that can be chosen. This could suggest that students from a liberal arts institution are more adapted to CS than the results from Babad et al. (1999) done in the US. As reviewed in Chapter 2, different countries have different cultural backgrounds and Babad et al. (1999) research in the US could be different from the result of this study done in Hong Kong.

4.6.6 Academic results (CGPA)

In the questionnaire, the CGPA range was divided by academic honours. It was more appropriate to group them into high, medium and low CGPA for analysis purposes. In addition, all ten 'do not want to disclose' responses were removed. The ANOVA results related to CGPA are as follows.

	Low CGPA (0-2.0) n = 11	Medium CGPA (2.01-3.0) n = 169	High CGPA (3.01-4.0) n = 152	ANOVA results
Factor 1 Degree of Concern about Assessment Methods	M = 0.215; SD = 4.05	M = -0.332 SD = 4.84	M = 0.433; SD = 4.79	F(2, 329) = 1.025; p = 0.360
Factor 2 Instructor-related Issues	M = -0.799; SD = 3.82	M = -0.416; SD = 4.65	M = 0.478; SD = 4.68	F(2,329) = 1.648; p = 0.194
Factor 3 Interest and Career Effect	M = -0.559; SD = 3.27	M = -0.430; SD = 4.30	M = 0.514; SD = 4.34	F(2,329) = 20.32; p = 0.133
Factor 4 Demanding	M = -0.632;	M = -0.151;	M = 0.349;	F(2,329) = 1.012; p = 0.365

Course	*SD* = 2.95	*SD* = 3.44	*SD* = 3.70	
Factor 5 Weighting of Assessment	*M* = -0.824; *SD* = 2.37	*M* = -0.197; *SD* = 3.44	*M* = 0.286; *SD* = 3.10	F(2,329) = 1.246; *p* = 0.289

Table 13 ANOVA results for 'CGPA'

Again, none of the *p*-values was statistically significant and there is no evidence to support that high or low academic results would affect the five factors. It was also noted that there were 11 students in the low CGPA group. However, 10 'do not want to disclose' responses were removed. The relatively small size (n=11) in this category may be the reason for insignificance.

The results of the ANOVA and *t*-tests suggested that gender, age, programme of study, and CGPA were not influencing factors and were not related to CS decisions. To a certain extent, year of study is significant between Years 1 and 2 for Factors 1 and 4. The results are expected and are in line with the findings of Babad et al (1999). Given the skewed data for the BBA students, this was taken into account when selecting the participants for the in-depth interviews for the qualitative data collection. Place of origin affected Factor 2 Factor 3 and Factor 4. Further analysis showed that there were statistically significant differences between the mainland and local students for Factors 1, 2, 3 and 4. This supported RQ2, in which there are significant differences in the CS decisions of local and mainland students. This result was also part of the selection criteria for the qualitative data collection.

Ognjanovic et al (2016) found demographic characteristics as a CS factor but did not elaborate on which of the demographic characteristics. Babad et al (1999) show that CS decision changes with respect to the level of courses[15] and this is partially supported by the year of study in the

[15] Usually level 100 courses are for year 1 student and level 200 for year 2 student and so forth.

current study. However, the place of origin was found to be one of the determining factors. And this answers RQ2 directly that mainland and local students do select courses differently. Further analyses were conducted comparing mainland and local students and the results are discussed in the next section.

4.7 Comparison between the mainland and local students

To address RQ2, the following analyses are based on the mainland and local students only by removing the overseas students. Therefore, Cronbach's alpha is generated again as 0.772 which is above the recommended 0.7 (Nunnally 1978). Based on the mainland and local students, other profile information (gender, age, programme of study, year of study and CGPA) was used to compare the five factors. For example, as this comparison focused on mainland and local students, I wanted to see whether other profile information together with the place of origin would affect the five factors identified. Two-way ANOVA was conducted using the place of origin and the other profile information as the independent variables and Factors 1 to 5 as the dependent variables. The table below illustrates the comparison.

Dependent variable	Independent variables	Test
Each of Factors 1, 2, 3, 4, 5	Place of origin and gender	Two-way ANOVA
	Place of origin and age	
	Place of origin and programme of study	
	Place of origin and year of study	
	Place of origin and CGPA	

Table 14 The dependent & independent variables of the two-way ANOVA

Most of the results were not statistically significant ($p > 0.05$).[16] However, some p-values were <0.05, but after the application of the Holm-Bonferroni method, the number of significant results was further reduced. The following table summarises the results.

[16] The detailed results can be found in Appendix 11.

Factor	Main Effect/interaction	p-values (ascending order)	Alpha (adjusted)	Significant
Place of origin and Gender				
Factor 2	interaction	0.021	0.01250	No
Factor 5	interaction	0.035	0.01667	No
Factor 3	Place of origin	0.045	0.02500	No
Factor 2	**gender**	0.047	0.05000	**Yes**
Place of origin and Age				
Factor 2	**Place of origin**	<0.001	0.01667	**Yes**
Factor 1	**Place of origin**	0.005	0.02500	**Yes**
Factor 3	**Place of origin**	0.008	0.05000	**Yes**
Place of origin and Programme of study				
Factor2	Place of origin	0.024	0.01667	No
Factor4	Place of origin	0.041	0.02500	No
Factor3	**Place of origin**	0.049	0.05000	**Yes**
Place of origin and Year of study				
Factor 2	Place of origin	0.008	0.00714	No
Factor 2	Year of study	0.009	0.00833	No
Factor 2	Interaction	0.012	0.01000	No
Factor 3	Place of origin	0.018	0.01250	No
Factor 1	interaction	0.042	0.01667	No
Factor 4	Year of study	0.045111	0.02500	No
Factor 1	**Place of origin**	0.045202	0.05000	**Yes**
Place of study and CGPA				
Factor 3	**Place of origin**	0.016	0.0500	**Yes**

Table 15 Results of two-way ANOVA after alpha level adjusted

For the place of origin and gender, the gender of Factor 2 is significant ($p=0.047<0.05$). The mean of female students (1.067) is higher than the mean of male students (-0.478), indicating female students are more concerned about instructor-related issues than male students. Again, one test found gender is significant with place of origin in 2-way ANOVA.

For the place of origin and age, the place of origin of Factors 1, 2 and 3 are significant ($p=0.005$, <0.001 and 0.008 respectively). The means of the mainland students (1.6132, 1.8308,1.5757) are higher than the means of the local students (-0.2391, -0.4396, -0.3991) with df=316 in Factors 1, 2 and 3 respectively. This shows that mainland students are more concerned about

the weighting of assessment, instructor-related issues as well as interest and career effects than local students. Factor 1 could indicate that concern for mainland students is higher than that of local students. Again, Factor 2 is an environmental influence and mainland students are more aware of the environmental influence. Factor 3 (learning value) is also more of a concern for mainland students than local ones. All these comparisons show that mainland students are more concerned about the environmental influence when compared to local students.

For the place of origin and programme of study, the place of origin in Factor 3 is significant ($p=0.049$). The mean of mainland students (1.582) is higher than the mean of local students (-0.311). Again, mainland students are more concerned about Factor 3 (learning value).

For the place of origin and year of study, only the place of origin is significant in Factor 1 after the Bonferroni Correction ($p=0.045$). The mean of mainland students (1.667) is higher than the mean of local students (-0.2179), indicating mainland students are more concerned with assessment methods than local students.

For the place of origin and CGPA, the place of origin in Factor 3 is significant ($p=0.016$). The mean of mainland students (3.114) is higher than the mean of local students (-0.597). This has a similar conclusion as the other results for Factor 3, that mainland students are more concerned with interest and career effects.

Summarising the results from the two-way ANOVA above, most of the main effects and interactions are not statistically significant. For the significant results, most of them are associated with the place of origin. The only exception is gender in Factor 2. This is in line with the results from the one-way ANOVA and t-tests with the 5-factor model that place of origin is significant in Factors 1, 2, 3 and 4. Furthermore, all these statistically significant results between

mainland and local students in different factors, have the same pattern that the sample means of mainland students are always higher than those of the sample means of local students. This can answer RQ2 that there is a difference in CS decision-making for mainland and local students and the differences in Factors 1, 2, 3 and 4 but not Factor 5.

4.8 Summary

Descriptive statistics, factor analysis, ANOVA and *t*-tests were performed on the data collected. The descriptive statistics revealed the demographic information of the dataset. The only thing that was out of the ordinary was the programme of study variable. Based on the percentage of the population, there were too many BBA students compared with non-BBA students. Although the volume of data in each category was sufficient to conduct the data analysis and hypothesis testing took into account the amount of data, this should be compensated for by purposive sampling when conducting qualitative data analyses.

Factor analysis reduced the variables to five factors (degree of concern about assessment methods, instructor-related issues, interest and career effect, demanding course and weighting of assessment). This 5-factor model accounted for 59.6% of the total variance. The five factors were supported by the answers to the open-ended questions offered by some students. They helped us understand that these are the latent variables which addressed RQ1. Except for Factor 5 (weighting of assessment), the other four factors can also be identified in other studies (cf. Chapter 2). Factor 5 is rather new but not unexpected because it is associated with assessment. Using this 5-factor model, RQ1 is answered. The students from a liberal arts university in Hong Kong, when selecting cluster (elective) courses would consider these five factors when making CS decisions.

ANOVA and *t*-tests compared the different backgrounds of the students with respect to the five

factors and place of origin is the primary statistically significant factor. There is statistical significance between mainland and local students for Factors 1, 2, 3 and 4 but not Factor 5. In particular, they helped answer RQ2, implying that local students and mainland students considered these factors differently. Further analyses using two-way ANOVA have shown that mainland students place higher concerns on Factors 1, 2, 3 and 4 than local students. There is evidence to suggest that Factors 1, 2, 3 and 4 are different between the mainland and local students but it is not strong enough for Factor 5. As a result, mainland students have higher consideration than local students in Factors 1 (degree of concern about assessment methods), Factor 2 (instructor-related issues), Factor 3 (interest and career effect) and Factor 4 (Demanding Course).

Chapter 5 Qualitative Analysis

The results of the quantitative analysis in Chapter 4 provided evidence of *how* students make their decisions based on different factors and differences between local and mainland students. Five factors were identified in Chapter 4 and were used for discussion during the interviews. This chapter starts by describing the selection process of the interviewees based on purposive sampling. Thematic analysis was used to identify the themes from the data. For RQ2, the qualitative data were analysed by groups (local and mainland students). The quantitative results showed that four of the five factors were considered differently by the two groups of students. This chapter discusses in detail how the two groups considered these factors during their CS decisions using qualitative data. Two new factors have emerged in qualitative analysis (day/time of course and service-learning (SL)). Some of their preferences were similar (such as interest, instructor qualities, and dislike for SL), whilst others were not (such as class time, day off and peer influence). These themes were identified and discussed in relation to CS. Next, a comparison was made between these two groups of students.

5.1 Phase 2

In this phase of the study, in-depth interviews were used for data collection. This method was chosen because of the perceived richness of participant information. According to Lichtman, "the purpose in this style of interviewing is to hear what the participant has to say in his or her own words, in his or her voice, with his or her language and narrative" (2013: 195). This helped to understand why the participants chose a particular course. Whilst the quantitative research in Phase 1 revealed the CS factors and differences in relation to the demographic background, the qualitative research in Phase 2 answered the 'why' through an overview of the underlying context from a cultural perspective. The mixed quantitative and qualitative techniques complemented each other, mapping the students' state of mind during CS. In addition, in-depth

interviews were chosen over a focus group for the fear of embarrassment over personal questions on topics such as academic goals and results, personal preferences and reasons for choices. Some students think that academic results are a sensitive topic to discuss openly.

In Phase 1, a sample should represent the entire population. However, qualitative research rarely seeks generalisation and sample selection is usually based on the objectives of the study or research questions. The sampling strategy for Phase 2 was purposive sampling rather than random sampling. Miles & Huberman (1994: 28) identified 16 sampling strategies for different purposes in qualitative research. For this study, stratified purposeful sampling was used to select different groups of students based on the results of Phase 1. This sampling technique was useful for comparing groups of students (Patton 1990), which worked well with RQ2 and RQ3 in the comparison between the mainland and local students.

The interview schedule was chosen carefully. Most mainland students return home during the summer holidays, as the break lasts for almost three months. Therefore, all of the interviews were conducted after the students had finished their final exams, but before leaving for home. Local students may have summer internships and summer jobs, again making it desirable to conduct the interviews right after their final exams.

5.1.1 The sample in Phase 2

As mentioned earlier, stratified purposeful sampling was the strategy used to select the participants. The main consideration was their willingness to participate in this study. The participants in Phase 1 (survey) were given the option to submit their email addresses voluntarily.

They were informed that leaving their email was optional and was not essential. Given this and the results of Phase 1, students were selected based on the following considerations:

(1) Balance in gender: both male and female students could express themselves, even if there was a higher percentage of female than male students in the population and the sample of Phase 1.
(2) Balance in GPA: this enabled high-achieving students and students with poor academic results to be represented and compared.
(3) Non-BBA students: as the percentage of non-BBA students was not fairly represented in Phase 1, their views had to be included in Phase 2 to voice out their opinions.
(4) Mainland and local students: to answer RQ2, they have to be compared in Phase 2.
(5) Academic progress: senior students were expected to have different views on CS, as they had gone through the process more times than Year 1 students. The year of study was identified as a factor by Babad et al (1999) (even though this was not confirmed in Chapter 4).

As a result, an email was sent to 10 potential students but one did not respond. In the end, nine students agreed to participate in the in-depth interviews. There were five mainland students and four local students. There was a good balance between the five points considered above, such as a balance of mixed genders, different ends of academic performance, BBA or non-BBA students, mainland and local students, and students from different years of study. The details of the participants are discussed in a later section.

5.1.2 Data collection in Phase 2 (qualitative)

For ethical reasons, all of the participants were volunteers. Thus, the selection was largely limited by availability. To answer RQ2, concerning mainland and local students, this was one

of the primary considerations. As there was a larger proportion of BBA students than non-BBA students in the survey, it was important to consider this imbalance in this part of the sample. The goal was to make sure that non-BBA students were adequately represented. Also, the year of study and gender were considered when selecting the participants.

The interviews were expected to take about an hour each but were flexible enough to last for longer. This was a point identified in the pilot study. The interviews began with an explanation of the purpose of the study and the participant's right to withdraw at any stage. The interviewees were asked to sign a consent form[17] to indicate their understanding of their participation in the study. Cantonese is the main dialect in Hong Kong and is widely used by local students. Putonghua is the official dialect in mainland China, and all mainland students are proficient in Putonghua. The medium of instruction at NU is English for most courses, with some exceptions for Chinese, translation and foreign language courses. As a result, all of the students (local or non-local) were expected to be able to participate in the interviews in English. I, as the researcher, am proficient in both Cantonese and English, but not Putonghua (Mandarin). The participants were given the choice of dialect (Cantonese or English) before the interviews. All of the local students chose to speak in Cantonese. As a result, they were more comfortable and were able to express themselves clearly. Conversely, three of the five mainland students used English for the interviews and the other two used Cantonese. The participants were informed that all of the interviews would be tape-recorded and were given the choice to stop the recording at any time during the interviews, but none of them did.

[17] See Appendix 4 for the consent form used for the in-depth interviews.

A semi-structured interview guideline [18] was prepared to guide the interviews. This was developed based on the results of Phase 1 (the quantitative results and the findings of the two open-ended questions), previous studies by other authors mentioned in Chapter 2, the in-depth interview in the pilot study and some of my personal beliefs as a researcher. I began by explaining the purpose of the study and asked the participants about their lives/studies in general, on the campus. After that, I would start to prompt the participants on those topics listed in the interview guide. By the end, I had gone through all of the topics listed and prompted for any other factors and anything that they thought relevant to the study. Most of the interviews were conducted in my office, which was a quiet place where the interviews would not be interrupted. One of the interviews was conducted via Skype because the student was involved in an (outgoing) exchange abroad. The interviews were recorded for transcription. As previously mentioned, the interviews with the local students were conducted in Cantonese, as both the local students and I were native Cantonese speakers. Three of the interviews with the five mainland students were conducted in English, our common language and two were conducted in Cantonese. The interviews conducted in English were transcribed into text files. As I am not proficient in written Chinese, the interviews conducted in Cantonese were translated and transcribed into text files in English simultaneously. The text files were later sent to the interviewees to confirm their validity. Except for typos, there were no major misunderstandings in the translated transcripts.

Thematic analysis was used to identify the themes and patterns, especially by student group (mainland or local). This method was chosen because it is one of the most common and easy-to-use techniques for analysing qualitative data. Braun and Clarke (2006) defined a step-by-step guide for conducting a thematic analysis. It is relatively simple for a researcher who is not too

[18] See Appendix 5 Interview guide.

familiar with qualitative analysis to use. The thematic analysis provides flexibility to the researcher as it can be applied to a wide range of frameworks and models. In this study, a deductive approach was adopted, because the literature review and the quantitative results of Phase 1 identified some possible themes that could be explored further in Phase 2. With this in mind, the codes and themes based on these existing concepts[19] were developed. I have read the transcripts many times to get myself familiarised with the data and then pick out the relevant initial codes until I have exhausted all of the possible codes. Then I examined and re-examined them and tried to merge and consolidate some of the codes together and start to have a sense of the possible themes. It was an iterative process I needed to grasp the underlying patterns from the data. In addition, the comparison between mainland and local students could be included without difficulty. The two groups of students (mainland and local) were analysed separately. These themes also allowed for a comparison of the two groups of students (mainland or local). The details of the results are discussed in a later section.

The interview via Skype was not intentionally conducted in this way. Initially, an email was sent to students who had chosen to participate in Phase 2 after giving their email addresses in Phase 1. One of the participants turned out to be involved in an exchange with the London School of Economics in the UK. I pondered the situation and did not see any issue that could jeopardise the study, thus I decided to proceed with the interview with the student via Skype. We arranged the time and conducted the interview when she was in her hostel room via Skype. It went well until the return of her roommate. There was a brief interruption, which was not planned. There was another incident at the end when the connection was lost. It turned out that the student had not plugged in the power cable of her notebook computer and the battery was

[19] A sample is shown in Appendix 15.

flat. I do not believe that the data were distorted because of these. However, I acknowledge that accidents can happen and as a researcher, it should have been planned ahead.

Besides, one of the mainland participants was considered passive when answering questions. He only gave short answers and seemed reluctant to elaborate. I was a little worried about this and researched 'passive interviewee'. Some researchers have reviewed 'failed' interviews (Nairn et al. 2005; Jacobsson & Akerstrom 2012). Compared with their descriptions, I did not consider this interview to be a 'failed' interview. Nairn et al.'s (2005) participating students were unwillingly recruited, while my participant was a volunteer from Phase 1. Their participants were not interested in answering their questions because they did not see their relevance. Conversely, my participant was able to learn more about his own CS choices when participating in both phases of this study. His passivity could be due to his personality: he may not usually open up to others, which is a common characteristic in CHC (Biggs 1996,1998; Chan & Rao 2009; Yang 2011). In terms of data collection, I got less than I wanted from this particular student. However, the data I collected from him were genuine. His answers were comparable to those of the other students and he had no reason to lie about his CS choices. Therefore, I decided to include his interview in the data analysis, which did not invalidate the overall results but reinforced the results from other mainland students.

To enhance the credibility of the results, one set of transcripts (using pseudonyms) was sent to a colleague familiar with thematic analysis. He was asked to identify the themes independently and the results were similar to mine.

5.2.1 Transcription and translation of the interviews

With the participants' permission, all interviews were audio-recorded. Three of the interviews were conducted in English and all of them were mainland students. They had no difficulty in expressing themselves in English. The transcription was a lengthy process, but it was only the first step in reviewing the data. This process helped to become familiar with the interviews by repeatedly revisiting them. As some researchers have argued, this process should be done by the researcher because data can be better represented and understood (Hammersley 2010; Lichtman 2013; Halai 2007; Davidson 2009).

In addition, six interviews were conducted in Cantonese.[20] Some mainland students from southern China were also proficient in Cantonese. Considering myself not fluent in written Chinese, I decided that all Cantonese interviews would be translated and transcribed into English and analysed with the other English interviews. Temple & Young (2004) pointed out that engaging a translator for the translation process only for a short time could not reflect the perspective. In addition to funding considerations, this is doctorate research and it would be more appropriate to go through the entire research process myself, not just the analyses, but also the transcription and translation. Overall, the goal was to obtain results that best described the sources (Temple & Young 2004).

5.2 Summary of the participants (all names are pseudonyms)

Interviewee	Amy	Candy	Dave	Doug	Sally	Daniel	Jessie	Tammy	Yan
Origin	Mainland					Local			
Year of study	2	1	1	2	3	2	3	3	1

[20] Cantonese is the most commonly used dialect in HK (Hong Kong Government 2018).

Programme	BBA	BA	BA	BBA	BBA	BBA	BSS	BBA	BBA
Gender	F	F	M	M	F	M	F	F	F

Table 16 Selected background information on the participants

First, the sample was divided into mainland and local students. Some non-BBA students were specifically chosen because of the imbalance (in percentage) in the quantitative sample. Chapter 4 shows that the influence of the programme of study was not statistically significant. The selection of non-BBA students in this qualitative stage helped to ensure that being a BBA or non-BBA student would not affect the findings. For the same reason, different genders and different years of study were selected. Due to the 3+3+4 Education Reform in Hong Kong, the first batch of students in these four-year programmes was admitted in 2012, so there were few Year 4 students at the time of data collection. RQ2 identified the two groups of students (local and mainland) as the first choice. The willingness to participate also limited the choice and number of participants. Indeed, their voluntary participation helped to ensure the reliability of the study (Nairn et al. 2005).

5.3 Participants

5.3.1 Mainland students (Amy, Candy, Dave, Doug and Sally)

Amy

Amy was a mainland student. She passed her Gaokao (higher education exam 高考) in mainland China before coming to Hong Kong. She could have successfully applied to good universities in mainland China, but instead decided to study in Hong Kong, and applied to Northern University. She was in Year 2 and enrolled in the BBA programme, with a major in accounting. Her hometown was Kunming, Yunnan Province, located in southwestern China. Cantonese is the main dialect in Hong Kong, and Amy did not speak Cantonese when she arrived in Hong Kong. However, having lived in Hong Kong for a while, she had managed to pick up some of

it. Nevertheless, the interview was conducted in English. Amy was a typical mainland student with a good learning attitude; she was hard-working and clearly motivated to succeed academically.

Candy

Candy was a mainland student. She came to study in Hong Kong because her mother's colleague had children studying in Hong Kong. Candy and her mother thought that Hong Kong had a better education system in general. She was enrolled in Year 1 of the BA programme. She had not yet decided on a major. Her goal was to major in translation, but she also wanted to switch to BBA. Her hometown was Shenzhen, which is very close to Hong Kong, on the other side of the border. She had moved to Shenzhen when she was in Grade 2 and did not consider herself to be a Shenzhen local. As a result, she understood Cantonese but could not speak it. She felt that this prevented her from participating in some extracurricular activities and hindered her job/internship search in Hong Kong. She chose English for the interview.

Dave

Dave was a mainland student. He had visited Hong Kong before and liked it very much, so he wanted to study in Hong Kong. He was a Year 1 student in the BA programme. He had not yet decided on his major but was thinking about transferring to the BBA programme. His hometown was in Guizhou Province, southwestern China. He did not speak Cantonese, so the interview was conducted in English. He was a quiet person and was reluctant to show his feelings too much during the interview. He was very passive when answering the questions. Most of his answers were short and he did not seem to want to elaborate. I felt that he was very careful when he answered my questions.

Doug

Doug was a mainland student. He was a Year 2 student in the BBA programme, with a major in accounting. He really liked the business discipline, and his main reason for studying in Hong Kong was that Hong Kong is a financial centre with many business opportunities. NU was the only university offering him a place in a BBA programme. His hometown was Zhanjiang City, Guangdong Province. This province is right next to Hong Kong and has close ties with Hong Kong. Doug was proficient in both Cantonese and English and chose to use Cantonese for the interview.

Sally

Sally was a mainland student. She was a Year 3 student in the BBA programme, with a major in accounting and a minor in finance. She had really wanted to study in a BBA programme, and NU had offered her a place. She lived in Beijing and studied in both Xinjiang and Beijing. She did not know Cantonese in Year 1, but her roommate was a local student and taught her. At the time of the interview, she spoke Cantonese fluently and the interview was conducted in Cantonese.

5.3.2 Local students (Daniel, Jessie, Tammy and Yan)

All interviews with the local students were conducted in Cantonese.

Daniel

Daniel was a Year 2 student in the BBA programme, with a major in accounting. He wanted to participate in the student exchange programme and could not take a minor in finance because of the tight programme structure of the accounting major. Due to the accreditation of professional bodies, such as the HKICPA, the ACCA, CPA Australia and the ICMA (also known as CMA Australia), NU's accounting major has a rigid structure. Accounting students have little room to participate in student exchanges and minor in other disciplines.

Jessie

Jessie was a Year 3 student in the BSS programme, with a major in social and public policy. She had not yet decided on a minor. She was involved in a student exchange with the London School of Economics in the UK at the time of the interview. Her exchange was for one academic year. She was on a full scholarship. The interview was therefore conducted via Skype.

Tammy

Tammy was a Year 3 student in the BBA programme, with a major in risk and insurance management and a minor in marketing. She had experienced health issues in Year 1 and Year 2. At one point, her heart condition prevented her from going outside. As a result, she felt miserable in Year 1 and Year 2 and her GPA (2.47) was below expectations. At the time of the interview, she was in better health and physically stronger than before, but recovering from a simple cold could take her a whole week. She had not considered a student exchange because of her relatively low GPA and health status.

Yan

Yan was a Year 1 student in the BBA programme. She wanted to major in accounting. She had studied at primary school in mainland China but came back to Hong Kong for secondary education. She considered herself a local student. She offered some comments on education in mainland China, especially compared with Hong Kong. She was considering a student exchange and/or a minor in psychology or economics.

5.4 Mainland and Local Students

NU began admitting mainland students to undergraduate programmes as early as 2000. In the beginning, these places were limited to top students from mainland China with full scholarships.

Over the years, undergraduate programmes have also been opened to individual fee-paying applicants. As a publicly funded university, NU is subject to a 20% maximum limit of the number of UGC-funded students who can be admitted as non-local students, as imposed by the Hong Kong government. Despite the sovereignty issue, mainland students are considered non-local students (Hong Kong Government 2017). As a result, the number of mainland students admitted to NU has always been low, and usually, only top-tier students are admitted. On average, mainland students at NU perform better academically than local students. For teachers, this special group of students is distinct and usually thinks differently from local students. These differences, even for students from CHC countries, have been acknowledged by other researchers (Louie 2005; Lazarus & Trahar 2015). With this in mind, RQ2 was designed to identify and understand differences in CS decisions between these two groups of students (local and mainland students). The results of Chapter 4 suggested that (1) degree of concern about assessment methods, (2) instructor-related issues, (3) interest and career effect and (4) demanding course were considered differently by these two groups. The interviews were geared to address these differences and other possible preferences suggested in the two open-ended questions in the survey.

5.4.1 Themes of mainland students

The following themes were identified in the data obtained from mainland students. This group was very homogeneous and negative case analysis was very difficult (Creswell 1999). It shared the following characteristics: (1) a positive attitude towards studying in Hong Kong; (2) a high degree of concern about academic results; (3) active engagement in extracurricular activities; (4) a high likelihood of participating in a student exchange programme; and (5) experience gained through internships/part-time jobs.

(1) Positive attitudes towards studying in Hong Kong

All of the mainland students indicated that they had the choice to attend 'better' universities in mainland China, in terms of more funding and support from the Chinese central government, such as 'National Key Universities' (Best universities in China 2020 (2020)). However, the participants believed that they would have a better education, greater exposure to different cultures and a better learning environment in Hong Kong.

> *Amy: Previously, I could have applied to good universities in the mainland. Then my parents and I decided to challenge myself in a new environment and to see how far I can go. And also HK, this city is very attractive and I love it. Open-minded and it's kind of free environment, so I came here to try to learn in a different way.*

They all knew that NU was not among the top universities in Hong Kong, but they perceived that it offered better opportunities than universities in mainland China. These opportunities included a better chance for an internship, a student exchange or a job in Hong Kong after graduation. After coming to NU, none of them regretted their decision. There were twenty references to adapting to study in Hong Kong and fifteen to studying at NU. They valued the opportunity to study in Hong Kong, which prompted them to work hard to achieve high academic results. They felt that they had greater exposure to different cultures with international students and other possible resources, such as internships or participating in competitions. Overall, this group had a positive attitude towards studying in Hong Kong. This positive attitude has shown self-efficacy within this group of students (Schunk & DiBenedetto 2016; Schunk & Usher 2019). This is also echoed in the study by Gan (2009) that mainland students have high self-efficacy.

(2) High degree of concern about academic results

All of the mainland participants were high-achieving students. As NU is a publicly funded

university, supported by the HKSAR government via the UGC, its target students were mainly local students. The UGC has limited the maximum quota of non-local students to 20% of the approved number of UGC-funded students, and mainland students fall into this category (UGC 2016). In addition to their good Gaokao academic results, these mainland students went through a rigorous selection process, including an interview with NU academic staff. On average, they had better academic results than local students. A GPA of 3.0 out of 4.0 was considered low for them. They had a strong desire to succeed academically. During the in-depth interviews, they repeatedly emphasised their goal of good academic results and their concern for failure. They believed that they needed to work hard as students. Most of them were not pressured by their families but pushed themselves to succeed. However, this could be an underlying cultural characteristic of CHC students (Biggs 1996, 1998; Chan & Rao 2009; Yang 2011). This was an intrinsic characteristic of this group of mainland students.

> *Amy: Students are told that academic result is very important when they were very young. It may be the only way to change your life so they take this very seriously. I do face some academic stress. Because I choose this social and economic indicator cluster course in the first year. I didn't know a lot about economics and maybe I was a bit overconfident on myself. I chose this difficult course and messed up and my GPA for that was 3.2. Compare to what I should achieve, it was much lower. I want to get a first-class honour when I graduate.*

Their state of mind was positive and all of the mainland participants were very confident. They felt that if they worked hard, they would succeed. They did not doubt their abilities. Most of them felt that the process was very important and that if they could focus on the subject, good academic results would follow. There were 37 references to the code 'Academic results', which

was significantly higher than other codes (10-15).[21] Again, self-efficacy is in line with the first theme and other work (Gan 2009; Klassen & Usher 2010; Leung et al. 2006).

(3) Active engagement in extracurricular activities

Upon enrolling in NU, mainland students were exposed to a greater range of extracurricular activities. They participated in different committees/societies as general members or committee members and joined external competitions. They felt that there were more opportunities and resources to engage in extracurricular activities. They could balance academic and extracurricular activities.

> *Amy: However when I came to HK, I can live in a different way. I can participate in different activities. And now my academic and extra-curricular activities are balanced and not just academic like before [NU]. This kind of study style has been changed a lot.*

The mainland students were involved in campus life. They actively participated in various extracurricular activities. They perceived that they would not have had these opportunities if they had chosen a mainland university. There were 12 references associated with this theme, which was significantly higher than the others. They valued their experience at NU. As a liberal arts university, NU encourages its students to participate in various extracurricular activities. This is one of the key features of NU. The mainland students had adapted to NU's liberal arts environment.

(4) A high likelihood of participating in a student exchange programme

[21] The consolidated codes can be found in Appendix 13.

The mainland students saw this as an opportunity to experience a different environment. Given the chance, all of the participants wished to engage in a student exchange programme. They had various reasons for an exchange, ranging from a new learning environment to sightseeing, a personal interest in fashion design, meeting other Chinese abroad or a good QS ranking. Their reasons were not the same, but they all agreed that it would be a good experience and they cherished the chance to spend a term at another university.

> When asked where to go for student exchange, Amy said, *'The University of Groningen in the Netherlands. It's got a very good QS ranking. I don't like the place very much but because of the ranking, I'm going there.'*

> Candy wanted to go to France. She stated, '*It's because I always want to study clothes [fashion] design. I used to want to be a clothes [fashion] designer. Also, I'm interested to make dessert. I want to learn to make dessert.'*

They had different motives for participating in the student exchange programme at NU. However, they all planned to participate in an exchange visit with another university abroad, even though NU already seemed to be 'abroad' to them. There were 14 references to this theme, which was reasonable compared with the other themes. All of them perceived that participating in the exchange would be a beneficial experience. Again, this is the value construct in the personal influences of SCT.

(5) Experience gained through internships/part-time jobs

The mainland students understood the importance of gaining experience. They did not need the extra income generated from a part-time job, but they saw the benefits of an internship.

Candy: If I can get an internship, this can give me some experience. Nowadays, a company would like you to have one year of experience.

They all understood the advantage of gaining work experience through an internship, especially after graduation and in their future career. All of them intended to participate in an internship (reference counted: 9). This theme is directly linked to Factor 3 (Interest and Career Effect) in the last chapter and the value construct of SCT.

5.4.2 Summary of the section (mainland students)

This section discussed the themes for mainland students. They were very positive in general. They took their academic results seriously and had high academic expectations. They were positive about studying in Hong Kong and felt they had better opportunities. They were all good students in terms of better academic performance, more hard-working, embraced life with a positive attitude and seemed to know what they wanted to achieve. They were utilising the different resources on campus, in a student exchange programme, work experience/internship and extra-curricular activity. It is as if they were striving for success in a range of ways. The personal influences (self-efficacy, values, social comparison) in SCT can explain some of their behaviour. The determination to be successful and using academic results to measure their 'successes' so that their behaviour is being steered toward being 'successful'. All of these show the constructs of personal influences in SCT. The high level of self-efficacy may be able to explain the differences between mainland and local students in answer RQ3.

5.4.3 CS of mainland students

During the interviews, the topic of CS was discussed. The participants were asked about their first consideration during CS, and then about other factors, they might consider. Eventually, the

interviewer prompted the participants with some factors identified in the work of others, the questionnaire in Phase 1 and the results from quantitative analyses. Six themes emerged from the data: (1) prefer an interesting course but academic results are a prerequisite; (2) prefer certain qualities of the instructor, but this is not a decisive factor; (3) prefer to balance workload and individual assessments rather than conducting a group project; (4) prefer to have daytime classes and no day off; (5) take advice from peers but make their own decision; and (6) prefer not to have a service-learning (SL) element in a course.

(1) Prefer an interesting course, but academic results are a prerequisite

During the in-depth interviews, the topic of CS was explained to and discussed with the students. They were asked to think about the first factor they considered during their CS decisions and other factors were also used to prompt them later. All mainland students reported that 'interest' was their first consideration. They preferred to choose a course that interested them. They were very confident and did not worry too much about the subject or topic in a course. They did not consider the difficulty of the course directly, but they were very conscious of their academic results, mainly their GPA. As mentioned in the previous section, they were all high-achieving students and sought to do their best. They worried about their GPA, in the sense that good academic results were a default requirement.

> *Dave: Because I'm interested in a course, so I'll more focus on the course and again the process will get me a good grade. I'll study well and I think the result will be good then.*

Although mainland students considered interest in the course to be important, there was an overwhelming feeling that they were very concerned about their GPA. Throughout the interviews, they hinted that they did not want to "*mess up"* their GPA; "*I want to graduate with*

first-class (honours)" or *"I need 3.55 or higher in the following terms to get my GPA up".* These types of statements were observed frequently. Amy even indicated that she focused on her target course, accounting and finance, rather than the one in which she was most interested.

> *Amy: At this stage, I think I'll choose the course that is helpful to my career. But from the bottom of my heart, I also wish to choose a course that really interests me. For example, I would like to choose some courses in literature or in translation. ……but this kind, of course, is risky to the GPA so I might just read literature by myself.*

Overall, the participants considered their interests when making CS decisions but also focused on maintaining their GPA. Although this was not explicitly stated, affecting their GPA was not an option. All of their choices were based on ensuring good academic results. Their academic results were a prerequisite and interest was the next thing they considered during CS. This type of behaviour was observed throughout the interviews with all mainland students. It was like a hidden agenda: they had to be able to achieve this, regardless of other CS decisions. Nevertheless, this is partially linked to Factor 3 (Interest and Career Effect). This theme is connected to the values and self-efficacy constructs in SCT. Their interests gave them confidence in the subject and enhanced their self-efficacy. The hidden agenda of good academic results is perceived to be beneficial to graduation and career. This motivates them to select a course due to the learning value behind it. The belief that they will do well is self-efficacy. This can be observed in all of the mainland students and this is supported by other studies (Leung et al. 2006; Yan 2004; Klassen & Usher 2010; Rajaram 2013; Gan 2009).

(2) Prefer certain qualities of the instructor, but this is not a decisive factor

The participants preferred their instructors to have certain specific qualities, such as kindness,

the ability to listen and respond to students, or credentials as a 'star professor'. They did not like boring instructors, those who taught material that was different from the syllabus and those who read out PowerPoint slides with no examples and no in-depth explanations. On one occasion, Doug mentioned that he did not like a professor because s/he brought his/her political beliefs[22] into the classroom. As a result, Doug considered instructor-related issues in his CS decisions.

In general, the instructor was not a big concern for mainland students. However, Sally mentioned that interest in a course could supersede the disadvantages of a poor instructor.

> *Sally: In Year 1, I had a professor whose English was poor. It was not just me, the others also didn't understand [him/her].*
> Interviewer: So, if you had the choice, would you avoid them?
> *Sally: Not necessarily, it also depends on my interest. For example, I had this professor in another course in Year 2. I struggled but still enrolled in this course and had an A [grade].*

According to the participants from the mainland, the instructor was not a very important factor so long as the grade was good. They preferred certain qualities of the instructor, but this was not necessarily a decisive factor when choosing a course. This is supporting the identified Factor 2 (Instructor-related Issues) in the previous chapter. Also, this is under the environmental influences of SCT. This is indeed secondary to those personal influences in the previous section.

(3) Prefer to balance workload and individual assessments rather than conducting a group

[22] The 'Occupy Central' event took place between September and December 2014 in Hong Kong and many teachers and students were involved. It was probably for this reason that the teacher talked to the students about his/her political beliefs.

project

In this study, the workload of a course was defined as the amount of work required of the students. It was equivalent to the time spent on the course (excluding regular classes). The assessment methods reflected the differences in assessment and their relative contributions to students' final grades. For example, assessments in a course at NU usually consist of a final examination and continuous assessments. The final examination is usually a two-hour written exam and accounts for 20% to 60% of the overall grade. Continuous assessments can be a combination of individual or group projects, individual assignments, oral presentations, class participation, quiz or midterm tests and written term papers. Students may have different preferences during CS.

Most of the mainland students did not care much about their workload. However, they tried to select courses in which the workload could be balanced during a term. For example, pairing a course that was perceived as demanding with one that was perceived as less demanding. They usually judge this based on other mainland students who have done the course before. In this way, the cluster courses or elective courses were used flexibly. The course outlines and the syllabus can be found online and are available to all students. Kerin et al. (1975) highlighted the importance of making this information available to students. In addition, word of mouth from other students allowed them to make a judgement about whether a course was demanding.

> *Sally: Cluster courses can be balanced with core courses. Usually, core courses are demanding, while cluster courses are less. So, balancing the two is good.*

Compared with the workload, assessment methods were more of a concern for mainland students. An individual assignment is preferred because group members are usually randomly assigned. As a result, a group project was considered 'riskier' because one cannot guarantee the

performance of your group mates.

> *Amy: I'll consider the proportion of the individual or group works. This ratio is very important to me.*
>
> Researcher: Let me go a little further, do you prefer individual or group work?
>
> *Amy: It depends, but group work is more risky than individual to me. Because you have a risk of a free rider in a group project. Also, if your groupmate is not academic-oriented, you could be very upset and disappointing. Doing more individual work is more convenient and less risky.*

The mainland students were very confident and did not mind the use of different assessment methods. However, in a group project, they could not 'control' the progress and outcomes because other group members could affect the performance of the entire group. This added more uncertainty to the overall performance of the group. This was the main reason why they preferred to work individually. This observation has also been reported by other authors (Campbell & Li 2008; Burdett 2003; Jung et al 2002). Again, this was linked with the student's academic results. An individual assignment is easier to 'control' and given the effort, they can achieve a good result on an individual assignment. Depending on the instructors, students may be assigned into different groups (randomly) or asked to form a group on their own. Nevertheless, one cannot ascertain the academic 'quality' of a groupmate nor their willingness to work on the project, so sometimes free-riding[23] may occur in some groups. Therefore this kind of assessment method is linked to Factor 1 (Degree of Concern about Assessment Methods) in the quantitative findings. This is also related to the personal and environmental influences in SCT. The balance of workload and group projects could affect their good academic results which

[23] Free-riding is a common term amongst Hong Kong students to describe some people not doing their fair share of work in a group work (Ark 2016).

are perceived to be mandatory for selecting a course. It is a part of the self-efficacy towards success in a course while the workload is also an environmental influence that can affect the CS decision.

(4) Prefer to have daytime classes and no day off

When making CS decisions, most of the mainland students did not really care about class time, even if classes were early in the morning. They usually preferred a regular schedule and going to class was not a problem. However, some of the mainland students did not like having late classes, such as 6:30 pm or later.

> *Amy: I'm very different from most of the local students. I actually prefer a class at 9:30. Because I'm a person who is more concentrated during the daytime. I keep regular and good schedule. I want to take more difficult courses in the morning or afternoon. I don't want it to be too late.*

Class time was an important issue for mainland students. They preferred to have a class during the day rather than late in the afternoon or evening. Sibanda et al (2015: 110) identified regular attendance at lectures as one of the factors influencing academic performance, but this was not the same as the preference for attending class. A regular schedule and good time management could help explain why the students were high achieving.

'Day of the week' refers to choosing a particular day of the week so that the students can 'create' a day off during term time such that there is no class on that day. In theory, the students are still supposed to be conducting learning activities whether on campus or at home. Occasionally, a student can choose courses carefully and have one or two days off during the week. Most of the mainland students did not care about having a day off; some of them even preferred not to.

Candy: In fact, I don't like a day off.

Researcher: Why's that?

Candy: If I get a day off, I won't have good use of my time and I'll just waste it.

The mainland students kept a regular schedule and managed their time well. They studied and worked during the week and did not like the idea of having a day off. It actually disrupted their routine. Only Sally liked having a day off to gain work experience in an accounting firm. She worked as a part-time intern for an accounting firm during term time. No study can be located to have directly focused on the preference for a day off among undergraduate students. Some studies of days off have examined the four-day week in primary or secondary schools (Plucker et al. 2012; Reeves 1999; Anderson & Walker 2012). They focused on the benefits to the school, teachers and students if the school operates for four days a week. Hitchens and Lister (2009) linked the issue of poor timetabling with low attendance. Therefore, a high-achieving student is generally concerned about his/her timetable and has a preference for class time (daytime) but not a time to suit the student for a day off. There was no quantitative data collected for this theme as they were not included in the questionnaire, but some comments were obtained from the open-ended questions at the end of the questionnaire.

(5) Take advice from peers but make their own decisions

Most mainland students sought advice from their peers for CS. They took advice from their peers and then made their own decisions.

Amy: Most of the mainland students have similar goals, similar tastes. Most of the time they make rational choices. So their choices are important references to me.

These mainland students thought similarly and understood each other's goal, which was to succeed academically. As a result, they listened to one another and cherished others' opinions. This is consistent with the results of Kerin et al. (1975), who suggested that 'friends' was a CS factor. However, this factor was considered secondary to other factors, such as 'course' and 'grade', as discussed in Chapter 3 (Kerin et al. 1975; Babad et al. 1999; Babad 2001; Babad & Tayeb 2003; Zocco 2009; Ting & Lee 2012). As the use of qualitative analysis was limited in other studies (discussed in Chapter 2), the use of qualitative data in this study helped fill the gap in previous studies. This study is able to explain the reasons mainland students are thinking alike. Their motivation constructs, such as personal influences (self-efficacy, values. social comparison) and environmental influences (workload and criticism from friends) are similar and affect their behaviour towards their CS decisions.

(6) Prefer no Service Learning (SL) element in a course

From the open-ended questions in the survey, the topic of SL was observed several times. This was also included in the interviews. All of the mainland students perceived that service learning was good, but it was not worth the effort.

> *Amy: Actually, I think that service-learning is a good thing. But the problem is that it takes a lot of effort. It is very difficult when you have enrolled in five courses at the same time.*

They were not dissuaded from taking a course because of the SL element, but they would also like to avoid SL. This was still related to their hidden agenda. SL was considered secondary to their academic results. Whilst most researchers argued that SL positively affects student learning and community engagement (Astin et al. 2000; Hatcher & Bringle 2016), some authors have explored the limitations and possible difficulties in implementation. These may include but are

not limited to, quantifying the value-added of SL, difficulties in applying 'hard' disciplines in SL and unaffordable resources for students 'in terms of time, finances, or job future' (Butin 2006). Kezar and Rhoads (2001) argued that the success of SL depends on whether SL is a faculty activity or a co-curricular activity and the top management commitment of universities. This study revealed some concerns from the student's perspective. The mainland students saw SL as a burden and did not prefer it. Similarly, this is an environmental influence that they could try to avoid.

5.4.4 Summary of mainland students

The mainland students were very concerned about their academic results, and this seemed to be their primary consideration. Many factors were discussed in the interviews, however, they all led back to academic results. For example, the preference for individual assignments instead of group projects was due to the uncertainty of the performance of group members in a group project. The other factors, such as 'interest', 'workload' or 'assessment methods', were all secondary to academic results. They prefer having daytime classes but do not need the class time to suit them to create a day off. There were references to other factors, but the main focus was academic results. Mainland students had the qualities necessary for high achievers, such as hard work, perseverance, confidence and a clear goal. With these in mind, it was not surprising that they made such CS decisions.

Regarding previous studies, some factors are also identified by other authors, such as interest, instructor qualities, workload, and daytime class (cf. *Table 2 CS factors in different studies* in Chapter 2). However, the other authors did not go into the details of the different assessment methods nor the preference for individual over group (project) assessment as this study has shown. Furthermore, the non-preference for service learning during CS was not identified in other studies on CS. This could be because the SL element is relatively new and was not included

in the (quantitative) data collection stage of any previous studies whereas the data collection of the qualitative data allowed the SL to be identified in the analysis process. Still, this study provides evidence for the difficulties of the implementation of SL (Butin 2006; Kezar & Rhoads 2001). If students perceive that SL is a burden, they may not want to enrol in the course at all or if being forced into such a course, would reduce their motivation when engaging in the course. Again, this is linked to the environmental influence of SCT as mentioned earlier.

It should also be noted that the *hidden agenda* of academic results is linked directly to personal influences (self-efficacy and goals and evaluation of progress). They have set their eyes on this particular target and because they want to achieve good academic results, therefore they are choosing courses in such a manner. Their behaviour revolves around their academic results. The personal influences fit well with mainland students' behaviour in this study. It can be seen that their academic result is of the utmost importance and other factors are all secondary. In order to achieve their goal (academic result), they would make various decisions to achieve the ends. Indeed, CS is one of them so that they would not *mess up their grades (Amy)* and they would strategically do this to enrol in a course that can potentially result in high academic performance.

I would like to acknowledge the potential influence of my perceptions towards mainland students. I have been engaging with this group of students since they started to enrol in my courses almost 20 years ago. At first, only the top mainland students were able to get into NU because there were only a few places for non-local students. Therefore, they have always been good students with good academic performance. Over the years, more mainland students were coming to NU and indeed some of them were less academically oriented and some of them even dropped out. But on average, this group of students have been performing better than local students academically. Based on my experiences of working with mainland students and in

terms of their academic results on average, they tend to exhibit similar qualities, although it is important also to recognise where there are differences within this group of mainland students, in the small sample for this study, these differences may not be easily established.

5.4.5 Themes of local students

The interviews with the local students were conducted in the same way. The interviewer started with generic questions about their lives at NU and then moved on to CS. The following themes were identified from the local students: (1) consider a part-time job and an internship; (2) a comfortable academic environment with less competition; and (3) participation in a student exchange programme. Except for the student exchange programme, the other themes were quite different from those of the mainland students.

(1) Consider a part-time job and an internship

In general, the local students were looking for part-time jobs. This was mainly due to financial pressure. They saw this as an extra allowance to ease the financial pressure. They also see the importance of an internship and are willing to give up a part-time job for an internship, especially when the salary is lower. Compared to mainland students, local students seemed to give higher consideration to employment prospects than academic results, relatively speaking.

> *Daniel: But still, I have a part-time [job]. I try to have a day off so that I can work part-time. It is mostly financial and I want to see if I can balance my studies and a part-time job. It's a challenge for me.*

All local students expressed their interest in an internship. Some had the experience of internships, whilst others were either applying or had the intention to apply. They also

understood the benefits of exposure to real work experience (Beard & Morton 1998; Kane et al. 1992). This is linked to the career aspect in Factor 3 Interest and Career Effect of the previous chapter and also values within personal influences.

(2) A comfortable academic environment with less competition

Local students noted that the academic pressure they faced was not as strong as that of their friends from other universities in Hong Kong, and they were comfortable with this.

> *Yan: At first, I thought of taking another HKDSE instead of coming to NU. Then I came to [NU], I looked at my friends' notes from other universities and there isn't much difference. But they have their major or stream in Year 1 already. We don't have a stream until Year 2. Also, I heard that the size of our teaching staff is small.*
>
> Interviewer: So, after one year, are you satisfied with [NU] then?
>
> *Yan: Yes, I'm satisfied here. I heard that at HKUST it is very tough and I may not have been able to follow.*

Local students acknowledged that NU is not one of the top-tier universities in Hong Kong. In fact, as discussed in Chapter 3 NU is one of the newest universities, which started to offer undergraduate degree programmes in the mid-90s and gained university status in the late 90s. Despite its research and teaching achievements over the years, the size of NU has limited its advancement and the public usually sees NU as one of the lower-ranked universities in Hong Kong.

Local students seemed to be worried about their ability to do well academically and found it 'comfortable' to study at NU. This comparatively lower self-efficacy could be a major difference from mainland students. Many researchers have linked self-efficacy with academic performance

(Masitoh & Fitriyani 2018; Lunenburg 2011; Zimmerman 2000), which could explain why mainland students are high-achieving students. Compared with section 5.4.1, mainland students have a higher self-efficacy than local students. The difference in self-efficacy could lead to different CS decisions between local and mainland students.

(3) Participation in the student exchange programme

Local students were also very keen to engage in a student exchange programme. Except for Tammy, who had health issues, all of the other local students intended to participate or had already participated in a student exchange.

Interviewer: How about a student exchange?

Yan: Yes, I'm thinking of doing it in term time or during the summer holidays.

NU has a comprehensive student exchange programme with partner universities around the world. Up to 25% of the students can join this programme each year. Most of the students who want to participate can spend one term abroad or in mainland China. In addition, about 300 incoming exchange students spend one term at NU each year ([Northern University] 2017). Given the small size of NU, a lot of effort has been devoted to the student exchange programme. When students want to participate in this programme, they need to carefully plan their CS decisions because the choice of courses in a foreign university can be very limited. This may, in turn, affect their CS decisions at NU. Nevertheless, NU students are exposed to foreign students while abroad and on campus.

This phenomenon has been supported by other researchers (Daly & Barker 2005; Daly 2011; Van Hoof & Verbeeten 2005; Llewellyn-Smith & McCabe 2008). Messer and Wolter (2007) highlighted the linkage between CS and participation in a student exchange programme, but

denied any causal relationship. Local students were able to see the benefits of participating in student exchange and planned to engage in this programme. Participation is an external influence whereas the perceived value gained in an exchange programme is a personal influence.

5.4.6 Summary of the section (local students)

In general, local students were more likely to have a part-time job or an internship. Being a local, the only legal restriction is age. As long as they are 13 or older, they are allowed to work (Hong Kong Government 2019). As local undergraduate students, they were able to look for part-time jobs during term time. For mainland students, they had immigration restrictions on their visas preventing them from engaging in any part-time job. However, an internship is not on the list of restrictions. In addition, local students were comfortable with the environment at NU. They feared that if they had attended other universities, such as HKUST, they would have ended up at the bottom or not been able to follow their studies. This is a clear difference in self-efficacy when compared to mainland students in section 5.4.1. Both local and mainland students wanted to join the student exchange programme. Both groups showed great interest in studying abroad for at least one term. They perceived this as a beneficial experience for their lives and their studies. Martin et al (2013) also identified such differences in motivation between mainland and local students. However, this study has attributed the differences is self-efficacy. The qualitative data collected in this study has shown higher self-efficacy in mainland students because of their parental and societal background. As Amy mentioned mainland students were told of the importance of academic results when they were very small.

5.4.7 CS of local students

Regarding the CS decisions of the local students, the factors identified were similar to those of the mainland students, although, on some occasions, the preference was in the opposite direction.

The six themes were (1) interest as the top priority; (2) prefer certain qualities/skills of the instructor; (3) neutral for workload but prefer some assessment methods; (4) no preference on class time but prefer a day off; (5) little influence of peers; and (6) dislike SL.

(1) Interest as the top priority

Local students also indicated that 'interest' was their main consideration during CS. They were also concerned about their academic results. However, the level of concern did not seem as overwhelming as during the interviews with mainland students.

> *Daniel: The first one must be interest. Because if I'm interested, I'll spend more time on it and automatically get a better grade. So that's why this term I took three CLD[24] courses, which are closer to science or mathematics. This is what I like.*

As mentioned above, all of the local students indicated interest as their main consideration. However, throughout the interviews, they made fewer comments about their academic results. They understood the importance of their academic results, yet throughout the interviews, the impression was not as clear and overwhelming as that of mainland students, especially compared with the *hidden agenda* (academic performance) of mainland students mentioned in the previous section. Compared to mainland students, there were fewer references to their academic performance. If there were a scale to measure this, the concern of mainland students on academic performance would be greater than that of the local students. This can be viewed as lower motivation compared to mainland students (Gan 2009; Martin et al. 2013).

(2) Prefer certain qualities/skills of the instructor

[24] Cluster course Category D: Science, Technology and Society.

For local students, the instructor did not have a major influence on their CS decisions. Again, certain qualities were preferred, such as not simply reading out PowerPoint slides, responding to student inquiries, being kind and not being too harsh when marking.

> *Yan: I'm more concerned about teaching. For example, when I was in this economics course, the instructor was very plain, he was just reading the ppt. We were just reading the slides and I revised some topics that he didn't even mention. I felt very lucky I did that. Why didn't he mention it before? So now, I ask my friends if the instructor teaches or reads in class. Then if this instructor is a 'killer'.*

Comparatively, local students were slightly more concerned about the teaching style. During CS, it seemed that they considered the instructor as an issue, but it was not their main concern. The effect of the instructor on their CS decisions was relatively small.

Helterbran (2008: 129) identified three core attitudes and behaviours for good teaching: "(1) Knowledge and presentation; (2) Personal qualities of the professor; and (3) Professional/instructional qualities". Local students in this study echoed Helterbran's (2008) work and they preferred some of the qualities of the instructor, such as response to an enquiry, teaching style and the way to present the knowledge. They examined these teaching qualities as additional information during CS. This is under the environmental influences of SCT.

(3) Neutral for workload but prefer some assessment methods

Workload can be perceived as related to the 'difficulty' of a course, as a heavier workload involves spending more time on it. Local students were not too concerned about the workload of the course.

Daniel: I don't look at the workload too much. But will I choose a course if there is not much work? If the workload is light, it may mean that the weight of a particular assessment may be heavy, say presentation. As I'm weak in presentation, I might not choose this course.

Jessie: I think about it [workload] and balance it out. We usually have five courses in one term, I usually choose one that has less work. But it does not completely determine how I choose my courses. If I want to take a course, it does not matter if it has a heavy workload.

The interviewees were all aware of courses with perceived heavy workloads. Yet they were able to balance them with courses that were not perceived as heavy. As a result, 'workload' was not a major factor during CS. There are some research studies on the relationship between workload and teaching evaluation. Dee (2007) found that a heavy workload would not lead to poor teacher evaluation, whereas Marsh (2001) actually showed that the workload was related to teacher evaluation in a slightly positive way. This indicates that when the workload increases to an 'optimal' level, the evaluation of the teacher also increases. This is different from some of the other studies, such as Babad et al. (1999) and Kardan et al. (2013), which advocated 'workload' as an influencing factor. Although not directly, this study showed that 'workload' was not a major consideration for the local students.

In terms of assessment methods, they had certain preferences, but mainly they tried to avoid more work.

Yan: Yes, I consider this [assessment method] as well. Say one final exam is better

than a final exam and a presentation. Especially because I'm not very good at presentations, so I avoid it if possible.

There was a tendency to avoid oral presentations if possible. This type of assessment method was disliked by this sample of local students. This could have been a language problem, as English was their second language. Typical local students start learning English as early as kindergarten. However, they still lack confidence when using English for oral communication. Woodrow (2006) developed a second language speaking anxiety scale and found that English language learners from CHCs were more anxious than other ethnic groups. Al-North, Abdul-Kareem and Taqi (2015) showed that both academic results and nationalities affected students' perceptions of the difficulties encountered in an oral presentation. Other studies have shown similar anxiety or perceived difficulty in an oral presentation, especially for English as a Second Language (ESL) students (MacIntyre & Gardner 1991; Wen & Clément 2003; Chuang 2009). This is aligned with the Factor 1 Degree of Concern about Assessment methods in the last chapter.

(4) No preference regarding class time but prefer a day off

Local students did not mind having classes as early as 9:30 am, or as late as 6:30 pm. Being a small university, NU has accommodations for all undergraduate students. As most students live on campus, all accommodation is within a five-minute walk. This could be the reason why time was not an issue in the students' CS decisions. As for the day of the week, local students preferred to have a day off during term time. This was usually because of their part-time jobs, they had to go home at weekends or preferred to have a day off to handle revision, pre-reading and extracurricular activities.

Daniel: But still, I work part-time. I try to have a day off so that I can work part-

time.

Yan: If I have a choice, a day off is better … Yes, it is better. Because I need to go home on weekends. So, if I can have a day off, I can use the time to handle my committee matters and other things. Like this term, I had a day off on Thursday. I could do all my revisions, pre-reading on Thursday and I could go home on Saturday without these in my mind.

Although time was not an issue for these local students, they had preferences regarding the day of the week, as they wanted to arrange a day off for other activities, such as part-time jobs or extracurricular activities. They would prefer the class time to suit their needs to create a day off but have no preferences on the specific time of classes. Partly because mainland students could not go home as easily as the local students, going home was not a consideration during term time for mainland students.

(5) Little influence of peers

For the local students, the influence of peers was minimal. They recognised the contributions of friends and senior students. However, they made their own choices.

Daniel: In Year 1, I listened to my fellow students. But since Year 2, I haven't. There are many things to consider. For example, there was this professor whom I was told was a killer. But I thought that he was also restricted by the grade distribution, so I could be one of those who didn't get killed.

Local students also agreed that the advice of friends was subjective. For example, a difficult or easy course depended on whether one had knowledge of the topic or not. As Daniel mentioned,

'There are many things to consider'.

(6) Dislike for Service Learning

Again, the topic of SL was raised during the interviews with local students. Their main strategy was to avoid it, as they perceived SL as onerous.

> *Yan: Yes, I try to avoid this [service learning] too.*
> Interviewer: Why's that?
> *Yan: It's very troublesome. You need to make a lot of effort. I'd rather take a midterm or a final exam.*

Whilst the mainland students preferred not to pursue SL, the local students actually disliked it and tried their best to avoid it. Both groups showed similar reasons for their dislike or lack of preference for SL.

5.4.8 Summary of local students

When considering different factors, local students highly appreciated 'interest' in the subject during CS. Other factors were also considered. Some local students worked part-time during term time. It was easier for them to look for part-time employment since they had no language barrier or immigration restrictions.

When matching with the other studies, factors such as interest, instructor qualities and class time (cf. Table 2 CS factors in different studies in Chapter 2), this study has findings that are similar to other studies. However, this study found that local students are fairly neutral to workload but are concerned with some of the assessment methods. Again, the assessment method was not discussed in detail in other studies as the current study has done. In this study,

local students thought that peer influence was not strong, unlike Kerin et al. (1975) and Zocco (2009). And lastly, the SL element is also a 'dislike' for local students and it seems they are more averse to SL than mainland students. The differences between the two groups are not too much. It felt that mainland students see SL as troublesome and local students would try to avoid it. Again, SL was not measured in other CS-related studies but indeed this study has shown evidence of the difficulty in the implementation of SL when attracting students during CS.

When compared to mainland students, local students showed more differences within them. Themes 1, 5 and 6 were agreed upon by all local students. However, their opinions were more diverse in themes 2, 3 and 4. For example, in theme 2 Prefer certain qualities/skills of the instructor, Daniel did "*not put too much emphasis on the instructor*". Similarly in theme 3 Neutral for workload but prefer some assessment methods, Daniel and Yan "did not prefer presentation" while Jessie and Tammy "did not prefer a final exam". In theme 4 No preference regarding class time but a preference for having a day off, though Tammy also "felt lazy" for having a day off. This diversity among the local students means that themes 2, 3 and 4 are secondary to themes 1, 5 and 6. Even with theme 2, their preferences for assessment methods are different. These may be able to explain the difference in motivational outcomes. When compared to mainland students, local students did not show the same determination to achieve high academic results. Again, it is not true that the local students do not want to achieve academic success, but at least for the sample included here, it could be interpreted that their motivation to achieve academic success is not as strong as this group of mainland students.

I should acknowledge that the interpretation of the data is subjective and is one of the characteristics of qualitative techniques. Looking back, I have a personal belief that, in general, mainland students are getting better academic results than local students. This is coming from my personal experience but is also supported by the average CGPA of the two groups (average CGPA: local 2.87; mainland 3.18). My personal belief could be due to (1) that I was right that mainland students outperformed local students or (2) I was examining a specific group of *good* mainland students. Given that only a small percentage of mainland students are being admitted into NU every year, it is likely that the better students would be admitted which led to a difference in the average *quality* between local and mainland students. However, qualitative analyses do not seek to generalise. My interpretation and findings under the qualitative technique are limited to my sample only, which is small. My personal belief may affect my interpretation of the data but it did not invalidate my findings. My sample of the mainland and local students exhibit the qualities that my themes have described. Indeed, the differences within the mainland group are less diverse than the local group. The variation within the local students can be seen as differences in personal influences in SCT. Within this sample, the diversity within the local students is more than that of mainland students. This may be explained by the *hidden agenda* of the mainland students who have a focus on their academic results and this has led to similar personal influences of SCT and in turn, their CS decisions. Within the sample of local students, there was not a specific focus and thus they may consider CS differently. They are more influenced by their intrinsic interest in CS. This group of local students may be distinct from the other local students. Nevertheless, evidence from these students shows insight into their motivations and can inform further studies of local students in Hong Kong. With the limitation of the small sample size in the qualitative data, this can be seen as preliminary conclusions for the difference between the mainland and local students and warrants further studies.

5.5 Comparison of CS between the mainland and local students

Analysing these two groups of students separately, similarities and differences were identified. Both groups considered 'interest' in the subject as their main reason for choosing a course. However, a closer look revealed that mainland students had a hidden agenda for academic results which was a default requirement. This was not true for the local students, who did not express as much concern about their academic results comparatively. We should interpret this as mainland students giving higher priority to their academic results than local students. Indeed, the number of codes (37) associated with this hidden agenda for mainland students was slightly higher than that of local students (32). Local students also considered academic results during CS, though, in comparison term, the mainland students seemed to give it a higher priority. Self-efficacy may be able to explain the difference between the two groups. The mainland group seemed to have higher self-efficacy than the local group which is also reported by other studies (Martin et al. 2013; Gan 2009; Klassen & Usher 2010; Yan 2004; Leung et al. 2006).

In this sample, mainland students were hard-working and high-achieving students, while the academic performance of local students was more varied. This gave the impression that mainland students had better academic results than local students, on average. In turn, their academic results were a major motivating factor for mainland students. Based on this sample, it could be argued that their decision-making on CS was focused on the goal of achieving good academic results; everything else was secondary.

Both groups had similar dislikes regarding instructor qualities, such as 'reading out PowerPoint slides with no examples and no in-depth explanations', but the influence of this factor on their CS decisions was not significant for either group of students.

In terms of class time, mainland students preferred classes during the day and not late in the afternoon or the evening, whereas the local students had no preference regarding class time but preferred the time of classes to suit them to create a day off. This was mostly due to the regular schedule of mainland students. They were more organised and had better time management. The number of references to the preference for a day off was six for local students and one for mainland students, whereas the number for *not* preferring a day off was three for mainland students against zero for local students. The two groups expressed different views on a day off, which could be explained to some extent, by the regular schedule preferred by mainland students which is a personal influence of SCT.

The families of the non-local students had little obligation to financially support their studies in Hong Kong. They studied in Hong Kong with a student visa, which has some restrictions on part-time work. They could take up internships but not working part-time. Even so, they were not willing to jeopardise their academic performance by working. In contrast, local students had more incentive to work part-time during term time. Therefore, choosing a particular day of the week was a preference for local students and juggling the commitments of paid employment with the studies.

In terms of workload, neither group minded the workload imposed by a particular course, but they tried to balance the workloads of different courses in a term so that courses with heavy workloads were not paired. However, the two groups had different preferences in terms of assessment methods. Mainland students preferred individual assessments to group projects. This could be because of academic results again as there is more uncertainty in a group project. The result could be affected by other group members who may be free riders, not *academic-oriented*, or simply someone struggling to achieve in the course. Again, the method of assessment is *subconsciously* affected by the academic result. Other than this, mainland students

do not have a specific preference for methods of assessment. On the other hand, local students' preferences in assessment methods seemed to be very specific. They do not prefer an oral presentation or final exams as a method of assessment. As mentioned in the last section, English was a second language for most local students. Although they had started learning English more than 15 years ago, some of the local students were still not confident in oral communication using English, such as conducting oral presentations.

Both groups perceived that SL in a course was troublesome, problematic and required a lot of effort. Yan said that she would prefer to have a midterm test or final exam rather than engage in SL. This indicated a significant dislike for this element in the course. It seems to be more of a problem for local students than for mainland students.

In general, students at NU can access course information in different ways. Course descriptions, course syllabus and course outlines are formally available on the official university website and students have full access to them. A course description usually includes only a few sentences. The course syllabus is the official document, with indicative content and learning goals. A course outline is a detailed operation plan for the course throughout the term. An example can be found in Appendix 14. In addition, students can talk with friends, senior students, instructors and academic advisors. The sources of information were explored during the interviews.

Mainland students were more likely than local students to take advice from their peers. Amy helped to explain this: *'Most of the mainland students have similar goals, similar tastes. Most of the time they make rational choices. So, their choices are important references for me'.* Mainland students understood each other's goals and worked towards these goals. The word *rational* was commonly used by mainland students. Their CS decisions were led by their main goal, which was their academic results. For local students, there were more factors to consider.

However, it seemed that their interest in different courses was the most important.

The behaviour of mainland students may be due to their self-efficacy and personal influences. This is usually reflected in improved grades or a better understanding (Tseng et al. 2006; Entwistle & Ramsden 1983). In this case, mainland students made their CS decisions because of these motivation constructs. Their CS decisions led to their academic results. The differences may be due to culture. Although both mainland and local students were Chinese, the ways they were raised and the types of education they received were quite different (Martin et al. 2013; Gan 2009; Klassen & Usher 2010; Yan 2004; Leung et al. 2006). In addition to this possible cultural difference between mainland and local students, their desire to succeed was very different, leading them to think differently during their CS decisions.

5.6 Summary

This chapter described the qualitative analysis of the data gathered from the students, particularly with respect to the similarities and differences between mainland students and local students. Thematic analysis was used to extract the themes from the two groups of students. The themes of CS and the various influencing factors were largely based on the results of the quantitative analysis presented in Chapter 4. Some references were made to other CS-related studies and indeed, some of the themes are also identified in this study, such as interest, instructor qualities, and workload. They were not exactly the same for the two groups of students (mainland and local) but there were more similarities than differences. However, some of the similarities may not be to the same degree if there is a scale to measure them. For example, the emphasis on interest is not the same even if both groups exhibit the same factor. These were detailed in the previous sections. In terms of their motivational constructs, mainland students have stronger self-efficacy and personal influences than local students which helps explain their differences in CS decisions. As discussed in Chapter 2, even though both mainland and local

students are considered to belong to the CHC, there still exist cultural differences that may affect their behaviour and thus their CS decisions. Finally, a comparison was performed to help better understand how and why different types of students make different CS decisions.

Chapter 6 Discussion

This chapter starts with a comparison of the results of the quantitative and qualitative chapters. Two new factors have emerged, namely the "day/time of classes" and the element of SL. These two new factors were not identified in any previous studies concerning CS. It then compares this study with other relevant studies and discusses their similarities and differences. Besides these two new factors, most of the findings are in line with previous studies. Regarding CS and their motivation in choosing courses, this chapter also compares the local and the mainland students. This chapter describes how this study adds knowledge to the field of CS in the undergraduate context.

6.1 Quantitative and qualitative results of this study

The five factors identified from the quantitative analysis were: Factor (1) degree of concern about assessment methods; Factor (2) instructor-related issues; Factor (3) interest and career effect; Factor (4) demanding course; and Factor (5) weighting of assessment.

The themes identified in Chapter 5 are presented below for a clear comparison:

Mainland students (M)

(M1) Prefer an interesting course, but academic results are a prerequisite

(M2) Prefer certain qualities of the instructor, but this is not a decisive factor

(M3) Prefer to balance workload and individual assessment rather than conducting group projects

(M4) Prefer to have daytime classes and no days off

(M5) Take advice from peers but make their own decisions

(M6) Prefer courses not to have SL elements

Local students (L)

(L1) Regard interest as their top priority

(L2) Prefer certain qualities/skills of the instructor

(L3) Are neutral regarding workload but prefer certain assessment methods

(L4) Have no preference regarding class time but wish to have a day off

(L5) Are minimally influenced by peers

(L6) Dislike Service Learning

Quantitative analysis factors	Qualitative analysis themes
(1) Degree of Concern about Assessment Methods	(M3), (M6), (L3), (L6)
(2) Instructor-related Issues	(M2), (L2)
(3) Interest and Career Effect	(M1), (L1)
(4) Demanding Course	(M3), (M5), (L3), (L5)
(5) Weighting of Assessment	(M3), (L3)
Not mapped	(M4), (L4)

Table 17 Mapping of quantitative and qualitative results

In this study, the qualitative results supported the quantitative results. The five factors addressed in the quantitative analysis were also identified in the themes emerging from the qualitative analysis.

Factor (1) focused on assessment methods. This was reflected in (M3) and (L3). In addition, SL was part of the assessment of a course. Mainland and local students had slightly different

degrees of concern regarding SL in (M6) and (L6), yet the themes showed that they are linked with Factor (1).

Factor (2) was directly linked with the themes about the qualities of the instructor of (M2) and (L2). Again, Factor (3) was related to the interest themes of (M1) and (L1). Factor (4) was associated with course difficulty, heavy reading material and peer recommendations (see Chapter 4.5.3). It was linked with (M3) and (L3), which were concerned with the workload. The two peer influence themes, (M5) and (L5) showed little effect, which was also reflected as a small item in Factor (4).

Factor (5), the weighting of assessment, included class participation, attendance, exam and written weighting (cf. Chapter 4.5.3). Even though both Factors 1 and 5 are related to assessment, I still believe that they are distinct from one another as separated by the FA result. The themes identified ((M3) and (L3)) did not explicitly support this factor, but I believe that the preference for different types of assessments also affected the preference for the weighting of the assessment.

The two themes related to class day/time ((M4) and (L4)) did not map onto the five factors. This was because the questionnaire used did not measure this at the beginning. First, most studies have not identified class day/time as an important factor. Babad (2001) included 'day and hour comfortable for me' as one of the 22 items initially measured, which was then summarised in the 'comfortable course' factor, but only accounted for 7% of the variance explained. As a result, class day/time was not included in the initial quantitative data collection. However, it was suggested by a number of respondents in the open-ended questions in Phase 1. About 60 responses (out of 342) indicated that class day/time was an important consideration in CS. This

number is an approximation as it comes from the open-ended question of the survey. Sometimes the answers were not specific and did not give details. For example, '*Day/time and morning or evening classes'*; *'Class time of the course, very important'*; '*Whether it fits with desired timetable (i.e. don't ruin a day-off)'*; *'I need to work, so time is important for me'*. As a result, class day/time was included in Phase 2 during the interviews, with very clear results. Class time was an important consideration for mainland students (who prefer daytime classes), but they had no preference regarding a day off, while the local students preferred to have a day off. (cf. chapter 5.5). In hindsight, this question should have been included in the initial questionnaire in the hope that it would emerge from the factor analysis. Mainland students prefer to have a regular schedule but no day off whereas local students prefer a day off. The difference in choice of activities and environmental regulation are key behaviour influences (Schunk & DiBenedetto 2020).

As discussed, the qualitative and quantitative results were consistent. Except for class day/time, which was not measured initially, the quantitative results were supported by the qualitative results. The mixed-methods approach offered a triangulation leading to a similar conclusion for CS (Cohen et al. 2000; Altrichter et al. 2008; O'Donoghue & Punch 2003). It provided evidence using both qualitative and quantitative results, which is an additional piece of the puzzle in the investigation of CS. This study fills a research gap using a different methodology (mixed-methods approach), which is very different from the quantitative analysis used in most previous CS studies. In contrast, this study engaged in both quantitative and qualitative techniques in the data collection and the analyses. The findings support some of the work done by the other authors (interest, instructor qualities, workload, etc.) but also gave some differences, such as concerns on assessment methods and weighting of assessment which are more explicit than merely *workload* or *grade* (Babad et al. 1999; Zocco 2009; Kardan et al. 2013; Ognjanovic et

al. 2016). This study has been able to give a clearer and more meaningful definition of the factors. In addition, two new factors have emerged, the day/time of class and service-learning. These are new factors that were not identified in previous studies and they should be considered in any future investigations of CS. The qualitative findings were able to give insights into the CS decisions made by undergraduate students and reflected this with the personal influences under the SCT of motivation.

Some of the factors/themes can be classified under the personal influences of SCT, for example, assessment methods, instructor, interest and career, whereas some of them are under the environmental influences, such as demanding course/workload, day/time of class, peer influence and service-learning. These are personal choices but at the same time, some of them can be regarded as environmental influences, such as assessment methods, instructor, and weighting of assessment which are external to the students. Similarly, their behaviour in choosing a course could in turn affect their self-efficacy, values and goal (person) when taking this course. However, the SCT tells us that these influences affect each other in a bidirectional manner and therefore they are not mutually exclusive. Nevertheless, the findings suggest that personal influence is the major reason for CS with environmental influences as secondary and resulting in students' CS decisions (behavioural).

6.2 Mainland and local students

Chapter 2.7 discussed the possible cultural differences in the CHC community. This study identified these differences during the CS decisions of mainland and local students using both quantitative and qualitative techniques. It showed that there were differences between CHC students, as suggested by Louie (2005) and Lazarus & Trahar (2015). In the quantitative analysis,

Factors 1, 2, 3 and 4 were found to differ with statistical significance between the mainland and local students (cf. Chapter 4). This indicated that they considered these four factors differently during their CS decisions. The sample means show that mainland students have a higher influence on these factors than local students. However, these quantitative results did not explain why they chose courses differently based on these factors. Nevertheless, the qualitative analysis allowed further discussion and attention to more details. Based on the quantitative results, the interviews addressed the identified factors. The themes identified were focused on these factors. However, the interviews examined the similarities and differences between mainland and local students. The qualitative results were discussed in detail in Chapter 5. They indicated that mainland and local students had different considerations when making their CS decisions. Chapter 5 suggested that this was due to the different personal influences between mainland students and local students. As the goal (academic result) is similar for the mainland students and led to similar personal influences and thus the variation within the mainland group is not very obvious; whereas the local students do not seem to have a similar goal/concern and are affected by different personal influences which led to higher differences among local students. The major differences between the two groups can be reflected using the different motivational constructs in SCT in the qualitative results.

The quantitative results (Chapter 4) evidenced that there were differences between mainland and local students when they were choosing courses and the qualitative results (Chapter 5) suggested that these differences may be linked to their different personal influences under SCT. It was clear that the mainland students were focusing on their academic results and had their own personal influences to motivate their CS decisions. On the other hand, some local students did not have a specific focus and have differences in their personal influences and therefore may be making different CS decisions. This addressed RQ3 that their CS decision is affected by their

personal influences and drove them differently. One comment made by Amy was clear, "*Students are told that academic result is very important when they were very young."* and this may help understand the cultural difference between mainland and local students. It is suggested that the higher concerns about their academic results led to the different CS decisions and that personal influences are affecting their CS decisions. As a result, better academic achievement can be observed for mainland students included in this study, though this may not necessarily be the case for all mainland students.

6.3 Comparison with other research studies

The results of this study were consistent with most of the factors identified in other studies. Referring to the summary table 2 in Chapter 2.5, Factors 2, 3 and 4 were directly reflected in the work of others (Kerin et al. 1975; Babad et al. 1999; Babad 2001; Babad & Tayeb 2003; Zocco 2009; Ting & Lee 2012). Factor 1 Degree of Concern about Assessment Methods and 5 Weighting of Assessment are both associated with assessment, which is also related to some of the factors identified in other research, such as 'course workload' and 'grading leniency' (Babad et al. 1999); 'difficulty level' (Babad & Tayeb 2003); 'perceived grade' (Zocco 2009); and 'perceived difficulty of the subject material' (Ting & Lee 2012).

Factor 2 'instructor-related issues' was also identified in Babad (1999, 2001, 2003). Factor 3 was 'interest and career effect', also highlighted in Babad et al. (1999), Babad (2001), Babad & Tayeb (2003), Zocco (2009) and Ting & Lee (2012). Factor 4 was 'demanding course', which was referred to as 'difficulty' by Babad et al. (1999); 'difficulty level' by Babad & Tayeb (2003); and 'perceived difficulty' by Ting & Lee (2012).

This study is in line with previous studies. In addition, it seems that these factors have evolved over the years. Kerin et al.'s (1975) results were rather simple (course relevancy, friends and course description) compared with more recent research, such as the study by Zocco (2009) who showed that 'negative recommendation by other students' was important or 'perceived exposure to future career skills' (Ting & Lee 2012). Recent studies have been much more specific. For example, Factors 1[25] and 5 in this study were both associated with the assessment but were more explicit than simply 'perceived grade' or 'workload'. This could be due to the development of sophisticated quantitative techniques, the increase in computer processing power and the evolution of the algorithm used for analysis over the years. Overall, this represents progress in this area of study rather than disagreements.

Given the nature of the qualitative analysis, the results of this study were more specific, as the in-depth interviews yielded some themes rather than focusing on generic influencing factors. For example, both mainland and local students were concerned about a day off (non-teaching day), but in the opposite way. Quantitative analysis may not be able to highlight this unless a specific question is used in the questionnaire.[26] Most of the time, quantitative techniques can identify the influencing factors, but may not be able to indicate whether the influence is positive or negative. The qualitative analysis of this study generated various conclusions. The qualitative data allows detailed themes to emerge and helps explain the CS decisions. The mixed-methods approach allows us to collect data twice and gives us a second chance to identify new factors that were not measured in the questionnaire. Some of these themes were also similar to the quantitative results in this study and those of other research studies. For example, the qualities

[25] Factor 1 Degree of Concern about Assessment Methods and Factor 5 Weighting of Assessment

[26] For example, 'You prefer to organise your classes to *create* a day off during term time' (strongly disagree, disagree, neutral, agree, strongly agree).

of the instructor, the workload/assessment, interest, peer influence, and academic results/difficulty are common factors in other studies. Different studies may have shown different priorities, but these factors have been observed in other studies.

Due to the specific target population of NU in Hong Kong and the use of qualitative analysis with a small sample size, the results of this study should not be generalised to other populations. However, this study provided evidence of the various factors considered during CS in a liberal arts university in Hong Kong. It highlighted Hong Kong local and mainland Chinese students, compared with students from other countries, in their CS decisions during their undergraduate studies.

6.4 Summary

This chapter discussed how the qualitative results supported the quantitative results for CS. It compared the results of this study with those of previous works on CS. More importantly, it showed how qualitative analyses added value to CS research. It adds two new factors that other studies have not identified, namely the day/time of classes and the SL element. It is evidenced that CS decision is largely affected by the student's personal influence which drives their behaviour to select a particular course and therefore better academic performance or knowledge retention can begin with a better CS decision.

Chapter 7 Conclusions, limitations, delimitations and recommendations for future works

This chapter summarises the key findings of this study. It addresses the three RQs and highlights two new factors (day/time of class and Service-learning) that have been identified in this study as this is the first attempt to apply qualitative analysis to the study of CS and these two new factors could impact the implementation of timetabling of courses in the undergraduate context. Recommendations are put forward for different stakeholders in considering the importance of CS decisions for students. Finally, this chapter provides a self-reflection on the research work carried out, in particular on the limitations and delimitations of this study, and suggests recommendations for future research.

7.1 Conclusions

The study primarily focuses on answering the following questions.

RQ1

How do undergraduate students at a liberal arts university in Hong Kong choose their cluster (elective) courses? During the CS process, what factors influence their course choices?

RQ2

Do mainland students and local students select courses differently? If so, what are the similarities and differences?

RQ3

How can any differences between the local students and the Chinese mainland students be explained?

Quantitative data were collected from 342 NU students in Hong Kong. There were 276 local students, 46 mainland students and 18 overseas students; the latter were excluded later to enable a comparison between mainland and local students. Subsequently, 9 students were selected to participate in the in-depth interviews: 5 mainland students and 4 local students. Most of the quantitative and qualitative results were consistent. In summary, **methods, weighting of assessment, instructor-related issues** and **interest,** were the key influencing factors. These are the major considerations when students are choosing courses in an undergraduate programme. The qualitative results provided a detailed reflection on these factors. These results are consistent with those of other studies conducted in different places, such as the US (Kerin et al. 1975; Babad et al. 1999; Pass et al. 2012), Canada (Ognjanovic et al. 2016), Malaysia (Ting & Lee 2012), Jerusalem (Babad 2001; Babad & Tayeb 2003) and Iran (Kardan et al. 2013). As noted in Chapters 4 and 5, the factors identified in this study were close to the results of other research, yet some priorities may differ from study to study. This could be explained by the location of the study or by their cultural differences, requiring further research. These quantitative and qualitative results can answer RQ1. In addition to the above factors, the open-ended questions in the survey and the qualitative analyses helped identify two new factors, namely, **day/time of class** and **service-learning element** in a course. These two factors were not identified in any other studies and they emerged from the qualitative data. These two factors can be implemented into a course without disrupting the delivery and the learning goals of a course. Even though the qualitative analysis prevents generalising the results to other populations, this could serve as a preliminary finding that requires further research based on these two new factors. The use of qualitative techniques in this study shed light on the details and differences from other research studies.

This study fills a research gap in CS. Previous studies have focused on quantitative techniques. The results of Babad's (2001) open-ended question were not reported and Pass et al. (2012) only

used focus groups to develop the questionnaire and did not report any findings based on the focus group. This study used qualitative analysis to triangulate with the quantitative results to add knowledge to the study of CS. The mixed-methods approach used in this study opened up another aspect of the investigation of CS, contributing to the knowledge of CS by providing evidence of various influencing factors cited by other researchers. The use of qualitative analysis added value to CS by backing the quantitative results. Chapter 6 shows how the quantitative and qualitative results support each other and Table 17 in the last chapter shows how each of the factors is being mapped with one another.

To answer RQ2, mainland and local students were compared in Chapters 5 and 6. Most of the factors were similar for both groups, but some were different or even polarized. Mainland students find day/times classes more favourable and less for a day off than local students due to their high priority for academic results; while the latter group prefer a day free for part-time or extracurricular activities. These differences could be related to their goal which leads to different personal influences under SCT. The generic goal of their academic results has led to very similar personal influence for mainland students whereas the lack of a specific goal for local students has led to rather different personal influences in their motivational constructs. In the sample, it was found that the consideration of CS for mainland students was driven by their academic results. As for the local students in this sample, they do not seem to have a common goal. Some of them think interest is a factor but some would consider a day off and these choices are not driven by a common goal. This helps explain the differences among the local students. It was clear that the two groups have different personal influences which could be caused by their cultural differences. This study did not measure cultural differences specifically, but it was observed that the two groups have differences in self-efficacy, value, goal and environmental regulation (in the qualitative data) which are the motivational constructions in SCT.

As for RQ3, the differences between the mainland and local students were reflected using their characteristics in their personal influences under SCT, or the differences within the local students leading to diverse personal influences. The goals and self-evaluation of progress motivational construct in the SCT interact with other personal influences, such as self-efficacy, value and social comparison (Schunk & DiBenedetto 2020; Koenka 2020). Mainland students exhibit the determination to be successful (in terms of academic results) and are diligent with an organised schedule. They believed these characteristics could help them achieve better results. In contrast, the local students did not express similar goals. They have some common factors in terms of CS, such as interest, preferring a day off and career. Yet the degree of concern is not as focused as mainland students. For example, the 5-factor model[27] discussed in Chapter 4 shows that the sample means of all of the five factors are higher for mainland students than those of local students (cf. chapter 4.6.3). The findings in Chapter 5 also yield a common aim (academic result) from mainland students. All these pointed to the conclusion that local students within this study have different personal influences which in turn, affected their CS decisions.

Using a mixed-methods approach and the SCT in motivation theory, this study is able to reflect the differences in CS decisions between mainland students and local students. The quantitative and qualitative analyses supplemented each other and the qualitative results provide a reflection (using SCT) of how and why students are making CS decisions.

[27] Factor 1 Degree of Concern about Assessment Methods, Factor 2 Instructor-related Issues, Factor 3 Interest and Career Effect, Factor 4 Demanding Course and Factor 5 Weighting of Assessment

7.2 Recommendations for Key Stakeholders

For students, this study identifies the factors they may want to consider during CS. They may not be aware of all of the factors listed or studied. They can also note why other students consider these during CS, even though they may consider these factors differently. Indeed, their personal influences could be affecting their CS decisions. Before choosing a course, students should start to identify their goals (which is also part of personal influences in SCT). These personal influences may motivate them to consider the CS factors and lead to the choice of a particular course (behaviour). This way, students are more likely to choose a course that is in line with their objectives and achieve better outcomes because they are being driven by their personal influences. By knowing various CS factors, this study paves the way for students to think about and be more aware of their own CS decisions.

For course instructors, the study highlights some of the factors taken into account by students during CS. Some of these factors can be facilitated in the course syllabus and implemented in the courses. For example, 'assessment methods' and 'weighting of assessment' can be modified or adjusted accordingly without affecting the course learning goals. In the context of a course, the instructor can balance the methods and weighting of assessments to attract more students to the course. For example, reducing the weight of a group project can reduce the effect of uncertainty associated with group mates for mainland students. The delivery skills of instructors can also attract students to the instructor as well as the course. Service-learning (SL) elements could be made optional so that students have a choice to opt out of the SL but still be able to enrol in a course without worrying about SL. The findings of this study can also help instructors to think and understand the factors that motivate students in a course. This may affect the planning of a course in terms of the delivery and assessment of the course.

For university management, such as Registry staff who arrange the class schedules, there may be different restrictions during scheduling, such as the availability of teaching venues

(classrooms and computer labs), class size and the number of instructors. If possible, they can consider day/time class preferences to give more choices of courses to students. For example, avoid scheduling classes in the late afternoon or evening. To go even further, a software developer could include these preferences as options so that users (university management) can select these options when using scheduling software. However, NU is a small university in Hong Kong and the main restriction is its resources, like the number of classrooms and the number of instructors. More of these will allow more flexibility in timetabling. As a result, this may be easier to implement at a larger university with more resources.

7.3 Limitations

The limitations of this study were the restrictions faced but could not be controlled. First, the number of published research studies in CS is small compared with other fields of study. As mentioned in the literature review, several studies have examined subject selection up to tertiary education, which is very different from course selection in an undergraduate programme. Published studies directly addressing CS were discussed in Chapter 2. It would be ideal to have more work on CS in different countries. This would facilitate comparison with students from different countries in different settings.

This study provides evidence (statistical significance) of some of the beliefs in RQ1 and RQ2, but not all of the statistical results were statistically significant. Also, the imbalance of the participants (BBA and non-BBA) cannot be controlled due to the participating instructors. As all of them were from the BBA faculty, they attracted more BBA students even though not all of the courses they taught were business courses. Nevertheless, they attracted more BBA respondents to the quantitative data. It is expected that the purposive sampling in Phase 2 helped

voice out the opinions of non-BBA students. The findings should not be invalidated because of this. Also, there is a potential limitation of having two items in Factor 4 of the 5-factor model. Most of the researchers suggest at least three items in a factor (Raubenheimer 2004; MacCallum et al 1999) but some have argued the use of two items when there are theoretical and practical reasons and a low correlation between the two items and the other items (Gosling et al 2003; Yoo & Donthu 2001). Unlike CFA, EFA has no control over the number of items in each factor and the two items (difficulty and peer) are identified as CS factors by other studies (Babad et al 1999; Babad 2001; Babad & Tayeb 2003; Ting & Lee 2012; Zocco 2009). It was decided to retain this 5-factor model. Subsequential analyses were able to find that Factor 4 is statistically significant between the mainland and local students.

In the qualitative analysis, the main restriction was voluntary participants. The participants of Phase 2 were recruited via the questionnaire in Phase 1. They were asked to provide their email addresses if they were willing to participate in the interviews in Phase 2. Some participants were hand-picked, as described in Chapter 3, but others declined to engage further. Nine interviews were successfully conducted and the number of participants was restricted. As discussed in Chapter 6, the two new factors (day/time of class and Service-learning element) were not included in the questionnaire but emerged in the open-ended questions and the weighting of assessment was not specific during the interviews. In hindsight, it would have made this study more comprehensive if the questionnaire had covered the day/time of class and Service-learning and the interviews had a specific question about assessment weighting.

When comparing mainland and local students, this study identified differences in CS. The quantitative and qualitative results supported this comparison. However, there was a possible

factor that could not be confirmed by this study. In Chapter 4, the quantitative results showed that CGPA alone did not affect the five factors with $p > 0.05$. Bearing in mind that the CGPA distribution of mainland students was skewed to the left, this indicated that the number of mainland students with a low CGPA was small and the insignificance could have been caused by this. Ideally, mainland and local students should be able to be compared at different levels of CGPA. However, the raw data did not allow such a comparison, as most mainland students were high achievers.

7.4 Delimitations

The delimitations are the decisions I made that may or may not have restricted the study. First, my resources were limited in terms of manpower and time. As a Doctor of Education thesis, manpower was limited to myself, although I paid my daughter to help with the data entry of the hard copies of the questionnaires. Therefore, I had to limit the scope of this study and chose NU in Hong Kong because students were accessible. It was easier for me to contact them. I thought that the scope of this study would allow me to conduct my investigation with enough participants to draw conclusions about part of the CS study field.

A questionnaire rather than a controlled experiment was used to collect quantitative data. Babad (2001) advocated a controlled experiment to study CS and attempted to do so in Babad & Tayeb (2003). However, the authors used three factors (learning value, lecturer style, difficulty level) with different levels (2x2x3) to construct twelve hypothetical courses. As CS had never been studied in Hong Kong before, I did not want to limit the investigation to three factors only. Other factors may apply to Hong Kong such as assessment methods, interest and workload and they were proved in this study. It was more logical to identify these factors first and to conduct

a follow-up study with a few specific factors. This is also one of the reasons for using the explanatory model of mixed methods design (Creswell & Plano Clark 2007).

There was also an issue with the instructors. As some of the questions in the questionnaire were associated with the instructors, it was ethical to ask for their consent before I approached their students. This also limited my accessible sample size, but I had to honour their willingness regarding the participation of their students. This explains why there was a greater proportion of business students in the sample, as most of the instructors were from the business faculty. Nevertheless, the quantitative and qualitative results did not identify 'programme of study' as a factor.

The choice of four-year undergraduate programmes meant that Year 1 students could be underage and that parental consent was required, which was difficult to implement. Due to data privacy, I did not have access to the ages of the students. Therefore, I could not identify or verify whether a given participant was underage. As a result, I made the decision to completely exclude underage students. I stated this at the beginning of the questionnaire and expected the participants to read it and follow it. As it was an anonymous questionnaire, I had no way of checking if the students did not cooperate. This was a risk I took in this study and I acknowledge that the number of minor students should be small. I do not believe that an underage student would deliberately fill in the questionnaire to reduce the reliability of the study. The exclusion of minor students should not jeopardise the results of this study.

During the selection of the participants for the interviews, the participants were selected based on specific characteristics, such as gender, year of study, programme and CGPA, as discussed

in Chapters 3, 4 and 5. The variability in age was very low and I perceived that the year of study could also integrate this. I believe that the selected participants were able to give evidence to support the conclusions drawn.

7.5 Recommendations for future research

First, this study was localised in Hong Kong. All other published research studies in CS have been conducted outside of Hong Kong. Even though this study can supplement other studies, it would be logical to conduct a comparative study with different parts of the world. This study compared CS decisions within the CHC spectrum. Therefore, it would be interesting to compare CS decisions between CHC and non-CHC students from different parts of the world. Second, the differences between mainland and local students were identified. It would be interesting to extend this study to other aspects, such as liberal arts universities vs research-intensive universities, or different student groups such as engineering students vs arts students. Third, the possible factor of CGPA mentioned earlier requires further research. When all else is the same, is CGPA a factor affecting CS decisions for mainland students? The CGPA factor was not conclusive in this study because of the small number of low-achieving mainland students. If the sample size of mainland students can be expanded, it may facilitate a better comparison with mainland students based on CGPA.

SCT was not the initial guiding theory for this study. SCT was brought into the study after the quantitative and qualitative data were collected. As a result, SCT cannot be used to explain some of the findings in the quantitative results. However, SCT was applied once some of the motivational constructs were identified in the qualitative results. It was found that SCT fits well

with the study of CS, in particular, the self-efficacy of the personal influences. Therefore, any future work should incorporate SCT and measure the personal influences to look into CS.

Finally, in the field of CS, it is important to understand the rationale behind CS decisions. Very often, quantitative analysis can only help identify factors, but may not be able to give detailed reasons for these choices. Qualitative analysis can help understand these choices of factors. This can help participants express their views, which quantitative analysis cannot. Therefore, more research should be conducted using qualitative analysis or mixed methods research. This study was able to collect and analyse quantitative and qualitative data to study CS. It would be interesting to see CS research using qualitative techniques only, to compare with other quantitative results.

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Appendix 1 The structure of the BBA programme in NU

University Requirements		
	No. of Credits	
Core Curriculum		
Common Core		
CCC8001 Logic and Critical Thinking (R)	3	
CCC8002 The Making of Hong Kong (R)	3	
CCC8003 Understanding Morality (R)	3	
CCC8004 World History and Civilisations (R)	3	
	12	
Cluster Courses		
Seven courses from the following five clusters; at least one course from each cluster:	21	
~ Creativity and Innovation		
~ Humanities and the Arts		
~ Management and Society		
~ Science, Technology and Society		
~ Values, Cultures and Societies		
Chinese Language		
LCC1010 Practical Chinese I (R)	3	
LCC2010 Practical Chinese II (R)	3	
	6	
English Language		
LCE1010 English for Communication I (R)	3	

LCE1020 English for Communication II (R)	3	
LCE2010 English for Communication III (R)	3	
ENG2020 Varieties of English (R)	3	
	12	
Free Electives	21	(all streams except Accounting)
	18	(Accounting stream)
Foundation Core		
BUS1102 Statistics for Business (R)	3	
BUS1103 Financial Accounting (R)	3	
BUS1104 Managerial Accounting (R)	3	
BUS2105 Microeconomics for Business (R)	3	
BUS2107 Legal Aspects of Business (R)	3	
BUS2108 Global Business Environment (R)	3	
	18	
Functional Core		
BUS2201 Financial Management (R)	3	
BUS2202 Organisational behaviour (R)	3	
BUS2205 Marketing Management (R)	3	
BUS2206 Information Systems Management (R)	3	
BUS2211 Operations Management (R)	3	
	15	
Capstone Course		
BUS4301 Strategic Management (R)	3	
Stream Course	15	(all streams except Accounting)
	21	(Accounting stream)

Minimum Credits for Honours Degree:	**123** **126**	(all streams except Accounting) (Accounting stream[28])

Appendix 2 Final version of the questionnaire used

Course selection survey on cluster course in LU

This is a study on Course Selection (CS) in Lingnan University(LU), that is, how do students choose their cluster courses in LU. In order to gather valid data, there are a few criteria that you must fulfill:
a) You must be 18 years old or above
b) You must have studied in LU for more than one term.
c) You must be enrolled in an undergraduate programme in LU (i.e. not an incoming exchange student).
If you cannot fulfill all of the above requirements, I thank you for your time and interest but will need to turn down your participation.

This is a scholarly research which is entirely voluntary and you are free to opt out at any stage. The information you provided will be confidential and will be used for quantitative analysis. The result may be published collectively in a report but no individual can be identified.

*Required

Background information

1. **Gender** *
   Mark only one oval.
   - ◯ Male
   - ◯ Female

2. **Age** *
   Mark only one oval.
   - ◯ 18-19
   - ◯ 20-21
   - ◯ 22-23
   - ◯ 24-25
   - ◯ 26-27
   - ◯ 28-29
   - ◯ 30 or above
   - ◯ Do not want to disclose

3. **Place of origin** *
   Mark only one oval.
   - ◯ HK
   - ◯ Mainland China
   - ◯ Others

4. **Programme of study** *
Mark only one oval.

- BA - Chinese
- BA - Contemporary English
- BA - Cultural Studies
- BA - History
- BA - Philosophy
- BA - Translation
- BA - Visual Studies
- BA
- BBA - Accounting
- BBA - Finance
- BBA - General Business Management
- BBA - Human Resource Management
- BBA - Marketing
- BBA - Risk and Insurance Management
- BBA
- BSS - Economics
- BSS - Political Science
- BSS - Psychology
- BSS - Sociology
- BSS - China and Asia Pacific Studies
- BSS - Social and Public Policy Studies
- BSS

5. **Year of Study**
Mark only one oval.

- Year 1
- Year 2
- Year 3
- Year 4

6. **Cumulative GPA** *
Mark only one oval.

- ◯ <1.67
- ◯ 1.67-2.00
- ◯ 2.01-2.25
- ◯ 2.26-2.50
- ◯ 2.51-3.00
- ◯ 3.01-3.25
- ◯ 3.26-3.50
- ◯ 3.51-3.75
- ◯ 3.76-4.00
- ◯ Do not want to disclose

7. **There will be a follow up study and if you are interested to participate, please leave your email here**
(optional)

.....

Course Selection

Please respond to the following as they pertain to any cluster course you are considering and not exclusively to the cluster course in which you are currently enrolled, but any cluster course you took or you're planning to take.

Subject Matter

8. **The subject presents in the course description in the university's Registry web site.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Extremely High influence

9. **The subject presents in the course will be too difficult for me to handle and achieve my grade objective.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

10. **The subject matter presents in the course will be personally interesting to me.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

11. **When the course is completed, I will find that the material I learned will assist me in advancing through my career path.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

12. **A friend or fellow student has told me positive things regarding the subject matter taught in the course.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

Professor

13. **The course professor will present the course material as specified in his/her course syllabus and course outline.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

14. **The course professor will present the course material in an interesting way.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Extremely High influence

15. **The course professor will be available to assist me with the course work outside the classroom.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Extremely High influence

16. **The professor extensively uses the Socratic method, that is, instead of lecturing in class, the professor asks a sequence of questions and, through answering, the student eventually comes to the desired knowledge.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Extremely High influence

17. **A friend or fellow student has told me positive things regarding the professor of the course.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Extremely High influence

Course Environment

18. **The textbook and other reading material will be interesting to me.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Extremely High influence

19. **The textbook and other reading material will be in appropriate level of difficulty (i.e. not too difficult).** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Extremely High influence

20. **The amount of reading in the course will be appropriate (i.e. not too demanding).** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Extremely High influence

21. **Other students in the course will be similarly knowledgeable about the subject at the beginning of the course as I am.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Extremely High influence

22. **There will not be a lengthy writing requirement for the course such as large research papers/reports.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Extremely High influence

23. **There will not be a lot of busy work assigned for this course.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	◯	◯	◯	◯	◯	◯	◯	◯	◯	◯	Extremely High influence

24. **The exams will not be essay-writing format.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

25. **The exams will be an open-book exam.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

Grading

26. **The professor will not be too demanding in grading.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

27. **The grading policy (e.g. weightings) will be completely defined.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

28. **The professor will grade on a curve.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

29. **The grading will not be too subjective.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

30. **A portion of my grade will be determined by active class participant.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

31. **My grade will be influenced by my class attendance.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

32. **My grade will be weighted too much or too few based on exams.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

33. **My grade will be weighted too much or too few based on written assignments.** *
Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
No influence	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	⬭	Extremely High influence

Other Factors? Other Opinions?

34. **Is there other factors that you find to be important when selecting a cluster course? (e.g. Day/Time of the course, Class in the early morning or late evening, Class size, others?) If so, how important are they to you?**

.....

.....

.....

.....

.....

35. **Is there anything else that you would like to share? About this topic of Course Selection? About this questionnaire? Or simply just a thought?**

.....

.....

.....

.....

.....

Appendix 3 Correlation matrix of measured variables

	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Q8	1.000	.014	.433	.432	.231	.542	.366	.394	.290
Q9	.014	1.000	.065	-.082	.269	-.011	.025	-.024	-.112
Q10	.433	.065	1.000	.494	.440	.323	.505	.282	.293
Q11	.432	-.082	.494	1.000	.267	.436	.419	.448	.375
Q12	.231	.269	.440	.267	1.000	.199	.322	.212	.148
Q13	.542	-.011	.323	.436	.199	1.000	.539	.600	.461
Q14	.366	.025	.505	.419	.322	.539	1.000	.585	.459
Q15	.394	-.024	.282	.448	.212	.600	.585	1.000	.503
Q16	.290	-.112	.293	.375	.148	.461	.459	.503	1.000
Q17	.360	.197	.307	.253	.523	.400	.511	.437	.414
Q18	.354	.002	.456	.421	.323	.340	.411	.320	.376
Q19	.256	.181	.330	.267	.314	.299	.389	.254	.215
Q20	.412	.201	.519	.402	.431	.384	.480	.374	.251
Q21	.370	-.002	.329	.328	.269	.379	.367	.313	.317
Q22	.349	.199	.338	.303	.289	.311	.331	.261	.162
Q23	.291	.300	.371	.256	.426	.213	.396	.239	.161
Q24	.229	.078	.205	.222	.100	.270	.246	.231	.130
Q25	.059	.099	-.020	.003	.031	.028	-.020	.021	.034
Q26	.293	.216	.390	.243	.396	.241	.334	.234	.129
Q27	.338	.062	.358	.236	.228	.428	.417	.373	.305
Q28	.194	.037	.061	.149	.154	.268	.260	.335	.299
Q29	.209	.231	.291	.207	.377	.236	.318	.252	.209
Q30	.244	.015	.210	.266	.080	.302	.253	.277	.337
Q31	.249	.088	.088	.135	.098	.242	.187	.297	.336
Q32	.142	.114	.239	.242	.244	.184	.186	.138	.172
Q33	.193	.293	.201	.142	.303	.130	.168	.192	.168

	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
Q8	.360	.354	.256	.412	.370	.349	.291	.229	.059

Q9	.197	.002	.181	.201	-.002	.199	.300	.078	.099
Q10	.307	.456	.330	.519	.329	.338	.371	.205	-.020
Q11	.253	.421	.267	.402	.328	.303	.256	.222	.003
Q12	.523	.323	.314	.431	.269	.289	.426	.100	.031
Q13	.400	.340	.299	.384	.379	.311	.213	.270	.028
Q14	.511	.411	.389	.480	.367	.331	.396	.246	-.020
Q15	.437	.320	.254	.374	.313	.261	.239	.231	.021
Q16	.414	.376	.215	.251	.317	.162	.161	.130	.034
Q17	1.000	.336	.354	.505	.354	.360	.458	.087	.036
Q18	.336	1.000	.418	.431	.375	.350	.266	.257	.115
Q19	.354	.418	1.000	.598	.459	.427	.419	.236	.078
Q20	.505	.431	.598	1.000	.564	.613	.642	.330	.040
Q21	.354	.375	.459	.564	1.000	.485	.446	.384	.152
Q22	.360	.350	.427	.613	.485	1.000	.696	.503	.205
Q23	.458	.266	.419	.642	.446	.696	1.000	.368	.154
Q24	.087	.257	.236	.330	.384	.503	.368	1.000	.332
Q25	.036	.115	.078	.040	.152	.205	.154	.332	1.000
Q26	.404	.292	.334	.513	.357	.502	.533	.307	.250
Q27	.341	.338	.311	.428	.395	.487	.410	.325	.138
Q28	.331	.148	.292	.266	.323	.380	.296	.336	.321
Q29	.416	.171	.363	.482	.393	.443	.550	.336	.227
Q30	.148	.214	.182	.176	.194	.207	.112	.277	.219
Q31	.146	.176	.202	.141	.289	.149	.063	.259	.064
Q32	.121	.331	.250	.188	.228	.202	.180	.309	.193

	Q26	Q27	Q28	Q29	Q30	Q31	Q32	Q33
Q8	.293	.338	.194	.209	.244	.249	.142	.193
Q9	.216	.062	.037	.231	.015	.088	.114	.293
Q10	.390	.358	.061	.291	.210	.088	.239	.201
Q11	.243	.236	.149	.207	.266	.135	.242	.142
Q12	.396	.228	.154	.377	.080	.098	.244	.303
Q13	.241	.428	.268	.236	.302	.242	.184	.130

Q14	.334	.417	.260	.318	.253	.187	.186	.168
Q15	.234	.373	.335	.252	.277	.297	.138	.192
Q16	.129	.305	.299	.209	.337	.336	.172	.168
Q17	.404	.341	.331	.416	.148	.146	.121	.182
Q18	.292	.338	.148	.171	.214	.176	.331	.242
Q19	.334	.311	.292	.363	.182	.202	.250	.273
Q20	.513	.428	.266	.482	.176	.141	.188	.208
Q21	.357	.395	.323	.393	.194	.289	.228	.245
Q22	.502	.487	.380	.443	.207	.149	.202	.272
Q23	.533	.410	.296	.550	.112	.063	.180	.253
Q24	.307	.325	.336	.336	.277	.259	.309	.272
Q25	.250	.138	.321	.227	.219	.064	.193	.219
Q26	1.000	.570	.353	.577	.196	.158	.284	.282
Q27	.570	1.000	.503	.505	.280	.275	.360	.273
Q28	.353	.503	1.000	.394	.369	.339	.410	.370
Q29	.577	.505	.394	1.000	.296	.280	.311	.320
Q30	.196	.280	.369	.296	1.000	.548	.422	.371
Q31	.158	.275	.339	.280	.548	1.000	.338	.373
Q32	.284	.360	.410	.311	.422	.338	1.000	.579
Q33	.282	.273	.370	.320	.371	.373	.579	1.000

Appendix 4 Consent form for in-depth interviews

Dear participant,

Thank you for agreeing to participate in this study on Course Selection, that is, how NU students choose their cluster courses. This is part of the data collection for my Doctor of Education dissertation at the University of Bristol, U.K. During your participation, you can opt-out of the study at any stage. I'll be conducting an in-depth interview with you. It will last for approximately an hour. The information you give will be used for the analysis of the said topic. Your identity will not be revealed during or after the study. I will be a tape recording the conversation and you can ask me to stop the recording at any time you deem necessary. By signing below, you give your informed consent for this study. I'm most grateful and I thank you for your participation. If you have any issue concerning this study, you can contact me (alanlam@ln.edu.hk). For any complaint on this study, you can contact the CDS Dept of Northern University (cds@ln.edu.hk).

Yours sincerely,

Alan LAM

Name of participant _____

Signature of participant _____

Date_____

Appendix 5 Interview guide

This is purely an academic research study. All information collected is on a voluntary basis. The identity of the interviewee will be hidden from anyone other than the interviewer. Students should be reminded that they can withdraw at any stage of participation in this research study. Explain the idea of CS to students.

General introductory questions

1. What is your background?
2. Programme of study?
3. Year of study?
4. Local or non-local student?
5. How confident are you in the progress of your study?
6. Do you consider yourself an academically competent student?
7. Are you under pressure academically? Financially? Working part time?
8. Or are you pushing for a better GPA/honours?

CS-related questions

9 Are you aware of the cluster course structure at NU?

10 In the previous term, how did you choose your cluster courses? What factors do you consider when making a course selection decision? [prompt students for different factors]

11 Do you use the following means to help you make a course selection decision?

11.1 Academic advisor/study plan advisor

11.2 Word of mouth from fellow students (who have or have not taken the course before)

11.3 Course descriptions, course syllabus and course outlines provided in the formal channel

11.4 Views of professors other than your advisor or the subject teacher

12 Are there other factors that you consider when choosing cluster courses? Programme of study? Peer influence?

13 Would you be able to predict if new factors would affect your choice of cluster courses in the coming term? Academic years?

14 AOB

14.1 Anything you want to share with me. Anything about NU, your studies, your courses, etc.

Appendix 6 Breakdown of study programmes

Programme of Study	Freq.	%
BA	15	4.4
BA - Chinese	1	0.3
BA - Cultural Studies	3	0.9
BA - History	3	0.9
BA - Philosophy	5	1.5
BA - Translation	6	1.8
BA - Visual Studies	5	1.5
BBA	88	25.7
BBA - Accounting	67	19.6
BBA - Finance	27	7.9
BBA - General Business Management	4	1.2
BBA - Human Resource Management	29	8.5
BBA - Marketing	38	11.1
BBA - Risk and Insurance Management	17	5
BSS	5	1.5
BSS - China and Asia Pacific Studies	3	0.9
BSS - Economics	9	2.6
BSS - Political Science	4	1.2
BSS - Psychology	4	1.2
BSS - Social and Public Policy Studies	7	2
BSS - Sociology	2	0.6
Total	342	100

Appendix 7 Table of communalities in FA

Communalities		
	Initial	Extraction
Q8	1.000	.445
Q9	1.000	.517
Q10	1.000	.652
Q11	1.000	.589
Q12	1.000	.631
Q13	1.000	.623
Q14	1.000	.617
Q15	1.000	.656
Q16	1.000	.590
Q17	1.000	.708
Q18	1.000	.567
Q19	1.000	.418
Q20	1.000	.725
Q21	1.000	.504
Q22	1.000	.700
Q23	1.000	.720
Q24	1.000	.599
Q25	1.000	.410
Q26	1.000	.571
Q27	1.000	.534
Q28	1.000	.635
Q29	1.000	.602
Q30	1.000	.591
Q31	1.000	.556
Q32	1.000	.674
Q33	1.000	.671

Appendix 8 Total variance explained table in FA

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	8.503	32.703	32.703	8.503	32.703	32.703
2	2.285	8.789	41.492	2.285	8.789	41.492
3	2.130	8.192	49.684	2.130	8.192	49.684
4	1.355	5.211	54.895	1.355	5.211	54.895
5	1.222	4.702	59.596	1.222	4.702	59.596
6	0.945	3.635	63.231			
7	0.889	3.420	66.651			
8	0.866	3.331	69.982			
9	0.735	2.827	72.809			
10	0.703	2.705	75.515			
11	0.650	2.499	78.014			
12	0.598	2.299	80.313			
13	0.561	2.159	82.472			
14	0.513	1.975	84.447			
15	0.494	1.901	86.348			
16	0.453	1.740	88.088			
17	0.426	1.638	89.726			
18	0.396	1.522	91.248			
19	0.375	1.443	92.691			
20	0.343	1.318	94.009			
21	0.322	1.237	95.245			
22	0.304	1.168	96.413			
23	0.258	0.992	97.406			
24	0.243	0.935	98.341			
25	0.228	0.878	99.218			
26	0.203	0.782	100.000			

Appendix 9 Mean and standard deviation of the 26 variables in the 5-factor model

		M	*SD*
Factor 1 Degree of Concern about Assessment Methods			
Peer_knowledge	Q21	6.22	1.82
Written	Q22	6.82	2.18
Workload	Q23	6.98	2.11
Exam_writing	Q24	6.46	2.39
Exam_open	Q25	5.59	2.81
Grading	Q26	7.25	1.90
Weighting_define	Q27	7.33	1.86
Grade_curve	Q28	6.82	1.97
Grading_subjective	Q29	7.25	1.99
Factor 2 Instructor-related Issues			
Professor_outline	Q13	7.07	1.63
Professor_interesting	Q14	6.82	1.68
Professor_assist	Q15	6.68	1.85
Professor_style	Q16	6.32	1.90
Professor_peer	Q17	7.07	1.69
Factor 3 Interest and Career Effect			
Course Description	Q8	6.81	1.80
Interest	Q10	6.85	1.89
Career	Q11	6.31	1.96
Material_interest	Q18	5.90	1.97
Factor 4 Demanding Course			
Difficulty	Q9	6.49	2.03
Recommended by peer	Q12	6.74	1.90
Difficult reading material	Q19	6.44	1.85
Heavy reading	Q20	6.89	1.94
Factor 5 Weighting of Assessment			

Class_participation	Q30	6.35	2.14
Attendance	Q31	6.45	2.24
Exam_weights	Q32	6.39	1.99
Written_weights	Q33	6.24	2.03

The exact questions can be found in Appendix 2.

Appendix 10 Factor loadings of the 5-factor model

(> 0.5 are highlighted)

Rotated Component Matrix[a]					
	Component				
	1	2	3	4	5
Q8	0.198	0.418	0.474	0.016	0.074
Q9	0.055	-0.178	-0.088	0.671	0.153
Q10	0.091	0.173	0.740	0.251	0.055
Q11	0.089	0.337	0.673	-0.058	0.107
Q12	0.016	0.119	0.357	0.690	0.100
Q13	0.176	0.695	0.316	-0.035	0.089
Q14	0.143	0.629	0.392	0.215	0.024
Q15	0.113	0.768	0.198	0.040	0.119
Q16	-0.002	0.704	0.197	-0.023	0.235
Q17	0.139	0.586	0.122	0.573	-0.036
Q18	0.145	0.188	0.681	0.077	0.201
Q19	0.326	0.170	0.395	0.337	0.105
Q20	0.469	0.275	0.494	0.422	-0.086
Q21	0.517	0.291	0.369	0.089	0.076
Q22	0.727	0.131	0.304	0.246	-0.009
Q23	0.605	0.130	0.251	0.514	-0.098
Q24	0.679	0.020	0.229	-0.139	0.254
Q25	0.541	-0.130	-0.106	-0.102	0.284
Q26	0.554	0.149	0.178	0.445	0.097
Q27	0.526	0.406	0.123	0.188	0.208
Q28	0.514	0.380	-0.186	0.096	0.426
Q29	0.527	0.233	0.011	0.474	0.210
Q30	0.152	0.291	0.104	-0.075	0.683
Q31	0.082	0.343	-0.028	0.022	0.661
Q32	0.169	-0.045	0.264	0.141	0.743
Q33	0.147	-0.039	0.153	0.333	0.715

Extraction Method: Principal Component Analysis Rotation Method: Varimax with Kaiser Normalisation
a: Rotation converged in 11 iterations.

Appendix 11 Partial results of the two-way ANOVA between 'Place of origin', other profile information and the five factors

Univariate Analysis of Variance

Between-Subjects Factors

		N
Gender	Female	208
	Male	116
Place	HK	276
	Mainland China	48

Tests of Between-Subjects Effects

Dependent Variable: F2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	315.608[a]	3	105.203	5.525	.001
Intercept	10.965	1	10.965	.576	.449
VAR00002	75.534	1	75.534	3.967	.047
VAR00010	61.662	1	61.662	3.238	.073
VAR00002 * VAR00010	103.122	1	103.122	5.416	.021
Error	6093.253	320	19.041		
Total	6412.109	324			
Corrected Total	6408.861	323			

a. R Squared = .049 (Adjusted R Squared = .040)

Estimated Marginal Means

1. Gender

Dependent Variable: F2

Gender	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Female	1.067	.400	.281	1.854
Male	-.478	.665	-1.787	.830

2. Place of origin

Dependent Variable: F2

Place of origin	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	-.404	.271	-.937	.129
Mainland China	.993	.727	-.438	2.424

3. Gender * Place of origin

Estimates

Dependent Variable: F2

Gender	Place of origin	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Female	HK	-.534	.333	-1.189	.121
	Mainland China	2.669	.727	1.238	4.100
Male	HK	-.274	.428	-1.116	.568
	Mainland China	-.683	1.260	-3.161	1.795

Pairwise Comparisons

Dependent Variable: F2

Place of origin	(I) Gender	(J) Gender	Std. Error	Sig.[b]	95% Confidence Interval f Difference[b]

			Mean Difference (I-J)			Lower Bound	Upper Bou
HK	Female	Male	-.260	.542	.631	-1.327	.8
	Male	Female	.260	.542	.631	-.806	1.3
Mainland China	Female	Male	3.352*	1.455	.022	.490	6.2
	Male	Female	-3.352*	1.455	.022	-6.214	-.4

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F2

Place of origin		Sum of Squares	df	Mean Square	F	Sig.
HK	Contrast	4.394	1	4.394	.231	.631
	Error	6093.253	320	19.041		
Mainland China	Contrast	101.122	1	101.122	5.311	.022
	Error	6093.253	320	19.041		

Each F tests the simple effects of Gender within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

4. Gender * Place of origin

Estimates

Dependent Variable: F2

Gender	Place of origin	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
Female	HK	-.534	.333	-1.189	.121
	Mainland China	2.669	.727	1.238	4.100
Male	HK	-.274	.428	-1.116	.568

	Mainland China	-.683	1.260	-3.161	1.795

Pairwise Comparisons

Dependent Variable: F2

Gender	(I) Place of origin	(J) Place of origin	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b] Lower Bound	Upper
Female	HK	Mainland China	-3.203*	.800	<.001	-4.776	
	Mainland China	HK	3.203*	.800	<.001	1.629	
Male	HK	Mainland China	.410	1.330	.758	-2.208	
	Mainland China	HK	-.410	1.330	.758	-3.027	

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F2

Gender		Sum of Squares	df	Mean Square	F	Sig.
Female	Contrast	305.380	1	305.380	16.038	<.001
	Error	6093.253	320	19.041		
Male	Contrast	1.804	1	1.804	.095	.758
	Error	6093.253	320	19.041		

Each F tests the simple effects of Place of origin within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

Univariate Analysis of Variance

Notes

Output Created		07-MAR-2023 15:14:29
Comments		
Input	Data	L:\D-Drive\bristol\0_First_Year_Experience\Revision\SPSS\New5Factors_2way_age.sav
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	N of Rows in Working Data File	322
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Syntax		UNIANOVA F1 BY VAR00010 VAR00009 /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /POSTHOC=VAR00010 VAR00009(TUKEY SCHEFFE) /EMMEANS=TABLES(VAR00010) /EMMEANS=TABLES(VAR00009) /EMMEANS=TABLES(VAR00010*VAR00009) COMPARE(VAR00010) ADJ(LSD) /EMMEANS=TABLES(VAR00010*VAR00009) COMPARE(VAR00009) ADJ(LSD) /PRINT DESCRIPTIVE /CRITERIA=ALPHA(.05) /DESIGN=VAR00010 VAR00009 VAR00010*VAR00009.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.02

Warnings

Post hoc tests are not performed for Place of origin because there are fewer than three groups.

Between-Subjects Factors

	N

Place of origin	HK	274
	Mainland China	48
Age	>=22	37
	18-19	119
	20-21	166

Descriptive Statistics

Dependent Variable: F1

Place of origin	Age	Mean	Std. Deviation	N
HK	>=22	-.7129	3.92405	31
	18-19	-.3095	4.55706	102
	20-21	-.0841	5.14009	141
	Total	-.2391	4.79206	274
Mainland China	>=22	4.2394	3.76721	6
	18-19	-.0990	4.42862	17
	20-21	2.1473	3.16826	25
	Total	1.6132	3.92488	48
Total	>=22	.0902	4.26938	37
	18-19	-.2794	4.52104	119
	20-21	.2520	4.95159	166
	Total	.0370	4.71403	322

Tests of Between-Subjects Effects

Dependent Variable: F1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	249.354[a]	5	49.871	2.289	.046
Intercept	85.320	1	85.320	3.917	.049
VAR00010	173.763	1	173.763	7.976	.005
VAR00009	79.672	2	39.836	1.829	.162
VAR00010 * VAR00009	90.635	2	45.317	2.080	.127
Error	6883.940	316	21.785		
Total	7133.735	322			
Corrected Total	7133.294	321			

a. R Squared = .035 (Adjusted R Squared = .020)

Estimated Marginal Means

1. Place of origin

Dependent Variable: F1

Place of origin	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	-.369	.345	-1.047	.310
Mainland China	2.096	.802	.519	3.673

2. Age

Dependent Variable: F1

Age	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
>=22	1.763	1.041	-.285	3.811
18-19	-.204	.611	-1.407	.999
20-21	1.032	.506	.035	2.028

3. Place of origin * Age

Estimates

Dependent Variable: F1

Place of origin	Age	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	>=22	-.713	.838	-2.362	.936
	18-19	-.310	.462	-1.219	.600
	20-21	-.084	.393	-.857	.689
Mainland China	>=22	4.239	1.905	.490	7.988
	18-19	-.099	1.132	-2.326	2.128

	20-21	2.147	.933	.311	3.984

Pairwise Comparisons

Dependent Variable: F1

Age	(I) Place of origin	(J) Place of origin	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interv Difference[b]	
						Lower Bound	Upper B
>=22	HK	Mainland China	-4.952*	2.082	.018	-9.048	
	Mainland China	HK	4.952*	2.082	.018	.857	
18-19	HK	Mainland China	-.211	1.223	.863	-2.616	
	Mainland China	HK	.211	1.223	.863	-2.195	
20-21	HK	Mainland China	-2.231*	1.013	.028	-4.224	
	Mainland China	HK	2.231*	1.013	.028	.239	

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F1

Age		Sum of Squares	df	Mean Square	F	Sig.
>=22	Contrast	123.290	1	123.290	5.660	.018
	Error	6883.940	316	21.785		
18-19	Contrast	.646	1	.646	.030	.863
	Error	6883.940	316	21.785		
20-21	Contrast	105.725	1	105.725	4.853	.028
	Error	6883.940	316	21.785		

Each F tests the simple effects of Place of origin within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

4. Place of origin * Age

Estimates

Dependent Variable: F1

Place of origin	Age	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	>=22	-.713	.838	-2.362	.936
	18-19	-.310	.462	-1.219	.600
	20-21	-.084	.393	-.857	.689
Mainland China	>=22	4.239	1.905	.490	7.988
	18-19	-.099	1.132	-2.326	2.128
	20-21	2.147	.933	.311	3.984

Pairwise Comparisons

Dependent Variable: F1

Place of origin	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	95% Confidence Interval for Difference[a] Upper Bound
HK	>=22	18-19	-.403	.957	.674	-2.287	1.480
		20-21	-.629	.926	.498	-2.450	1.193
	18-19	>=22	.403	.957	.674	-1.480	2.287
		20-21	-.225	.607	.710	-1.419	.968
	20-21	>=22	.629	.926	.498	-1.193	2.450
		18-19	.225	.607	.710	-.968	1.419
Mainland China	>=22	18-19	4.338	2.216	.051	-.022	8.699
		20-21	2.092	2.122	.325	-2.083	6.267
	18-19	>=22	-4.338	2.216	.051	-8.699	.022
		20-21	-2.246	1.467	.127	-5.133	.641
	20-21	>=22	-2.092	2.122	.325	-6.267	2.083
		18-19	2.246	1.467	.127	-.641	5.133

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F1

Place of origin		Sum of Squares	df	Mean Square	F	Sig.
HK	Contrast	10.854	2	5.427	.249	.780
	Error	6883.940	316	21.785		
Mainland China	Contrast	98.351	2	49.175	2.257	.106
	Error	6883.940	316	21.785		

Each F tests the simple effects of Age within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

Post Hoc Tests

Age

Multiple Comparisons

Dependent Variable: F1

	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Tukey HSD	>=22	18-19	.3696	.87854	.907	-1.6992	2.4385
		20-21	-.1618	.84853	.980	-2.1599	1.8363
	18-19	>=22	-.3696	.87854	.907	-2.4385	1.6992
		20-21	-.5314	.56062	.610	-1.8516	.7887
	20-21	>=22	.1618	.84853	.980	-1.8363	2.1599
		18-19	.5314	.56062	.610	-.7887	1.8516
Scheffe	>=22	18-19	.3696	.87854	.915	-1.7910	2.5303
		20-21	-.1618	.84853	.982	-2.2487	1.9251
	18-19	>=22	-.3696	.87854	.915	-2.5303	1.7910
		20-21	-.5314	.56062	.638	-1.9102	.8474
	20-21	>=22	.1618	.84853	.982	-1.9251	2.2487
		18-19	.5314	.56062	.638	-.8474	1.9102

Based on observed means.
The error term is Mean Square(Error) = 21.785.

Homogeneous Subsets

F1

	Age	N	Subset 1
Tukey HSD[a,b,c]	18-19	119	-.2794
	>=22	37	.0902
	20-21	166	.2520
	Sig.		.772
Scheffe[a,b,c]	18-19	119	-.2794
	>=22	37	.0902
	20-21	166	.2520
	Sig.		.791

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 21.785.
a. Uses Harmonic Mean Sample Size = 72.369.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Univariate Analysis of Variance

Notes

Output Created	07-MAR-2023 15:14:45
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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Syntax		UNIANOVA F2 BY VAR00010 VAR00009 /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /POSTHOC=VAR00010 VAR00009(TUKEY SCHEFFE) /EMMEANS=TABLES(VAR00010) /EMMEANS=TABLES(VAR00009) /EMMEANS=TABLES(VAR00010*VAR00009) COMPARE(VAR00010) ADJ(LSD) /EMMEANS=TABLES(VAR00010*VAR00009) COMPARE(VAR00009) ADJ(LSD) /PRINT DESCRIPTIVE /CRITERIA=ALPHA(.05) /DESIGN=VAR00010 VAR00009 VAR00010*VAR00009.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Warnings

Post hoc tests are not performed for Place of origin because there are fewer than three groups.

Between-Subjects Factors

	N

Place of origin	HK	274
	Mainland China	48
Age	>=22	37
	18-19	119
	20-21	166

Descriptive Statistics

Dependent Variable: F2

Place of origin	Age	Mean	Std. Deviation	N
HK	>=22	-.7041	3.94636	31
	18-19	-.3701	4.04217	102
	20-21	-.4317	4.76988	141
	Total	-.4396	4.40836	274
Mainland China	>=22	5.2501	5.01070	6
	18-19	.5866	4.03472	17
	20-21	1.8562	4.10216	25
	Total	1.8308	4.34263	48
Total	>=22	.2615	4.62772	37
	18-19	-.2334	4.03801	119
	20-21	-.0872	4.73560	166
	Total	-.1011	4.46596	322

Tests of Between-Subjects Effects

Dependent Variable: F2

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	309.695[a]	5	61.939	3.213	.008
Intercept	121.660	1	121.660	6.310	.013
VAR00010	268.933	1	268.933	13.949	<.001
VAR00009	70.156	2	35.078	1.819	.164
VAR00010 * VAR00009	93.371	2	46.686	2.421	.090
Error	6092.581	316	19.280		
Total	6405.570	322			
Corrected Total	6402.276	321			

a. R Squared = .048 (Adjusted R Squared = .033)

Estimated Marginal Means

1. Place of origin

Dependent Variable: F2

Place of origin	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	-.502	.325	-1.140	.136
Mainland China	2.564	.754	1.081	4.048

2. Age

Dependent Variable: F2

Age	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
>=22	2.273	.979	.346	4.200
18-19	.108	.575	-1.023	1.240
20-21	.712	.476	-.225	1.650

3. Place of origin * Age

Estimates

Dependent Variable: F2

Place of origin	Age	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	>=22	-.704	.789	-2.256	.848
	18-19	-.370	.435	-1.225	.485
	20-21	-.432	.370	-1.159	.296
Mainland China	>=22	5.250	1.793	1.723	8.777
	18-19	.587	1.065	-1.509	2.682

	20-21	1.856	.878	.128	3.584

Pairwise Comparisons

Dependent Variable: F2

Age	(I) Place of origin	(J) Place of origin	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interv Difference[b]	
						Lower Bound	Upper B
>=22	HK	Mainland China	-5.954*	1.958	.003	-9.807	
	Mainland China	HK	5.954*	1.958	.003	2.101	
18-19	HK	Mainland China	-.957	1.150	.406	-3.220	
	Mainland China	HK	.957	1.150	.406	-1.307	
20-21	HK	Mainland China	-2.288*	.953	.017	-4.163	
	Mainland China	HK	2.288*	.953	.017	.413	

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F2

Age		Sum of Squares	df	Mean Square	F	Sig.
>=22	Contrast	178.219	1	178.219	9.244	.003
	Error	6092.581	316	19.280		
18-19	Contrast	13.336	1	13.336	.692	.406
	Error	6092.581	316	19.280		
20-21	Contrast	111.160	1	111.160	5.765	.017
	Error	6092.581	316	19.280		

Each F tests the simple effects of Place of origin within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

4. Place of origin * Age

Estimates

Dependent Variable: F2

Place of origin	Age	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
HK	>=22	-.704	.789	-2.256	.848
	18-19	-.370	.435	-1.225	.485
	20-21	-.432	.370	-1.159	.296
Mainland China	>=22	5.250	1.793	1.723	8.777
	18-19	.587	1.065	-1.509	2.682
	20-21	1.856	.878	.128	3.584

Pairwise Comparisons

Dependent Variable: F2

Place of origin	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b] Lower Bound	Upper Bound
HK	>=22	18-19	-.334	.901	.711	-2.106	1.438
		20-21	-.272	.871	.755	-1.986	1.441
	18-19	>=22	.334	.901	.711	-1.438	2.106
		20-21	.062	.571	.914	-1.061	1.185
	20-21	>=22	.272	.871	.755	-1.441	1.986
		18-19	-.062	.571	.914	-1.185	1.061
Mainland China	>=22	18-19	4.663*	2.085	.026	.561	8.766
		20-21	3.394	1.996	.090	-.534	7.321
	18-19	>=22	-4.663*	2.085	.026	-8.766	-.561
		20-21	-1.270	1.380	.358	-3.985	1.446
	20-21	>=22	-3.394	1.996	.090	-7.321	.534
		18-19	1.270	1.380	.358	-1.446	3.985

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F2

Place of origin		Sum of Squares	df	Mean Square	F	Sig.
HK	Contrast	2.670	2	1.335	.069	.933
	Error	6092.581	316	19.280		
Mainland China	Contrast	96.482	2	48.241	2.502	.084
	Error	6092.581	316	19.280		

Each F tests the simple effects of Age within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

Post Hoc Tests

Age

Multiple Comparisons

Dependent Variable: F2

	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Tukey HSD	>=22	18-19	.4949	.82650	.821	-1.4514	2.4411
		20-21	.3486	.79827	.900	-1.5312	2.2284
	18-19	>=22	-.4949	.82650	.821	-2.4411	1.4514
		20-21	-.1463	.52741	.958	-1.3882	1.0957
	20-21	>=22	-.3486	.79827	.900	-2.2284	1.5312
		18-19	.1463	.52741	.958	-1.0957	1.3882
Scheffe	>=22	18-19	.4949	.82650	.836	-1.5378	2.5276
		20-21	.3486	.79827	.909	-1.6147	2.3119
	18-19	>=22	-.4949	.82650	.836	-2.5276	1.5378
		20-21	-.1463	.52741	.962	-1.4434	1.1509
	20-21	>=22	-.3486	.79827	.909	-2.3119	1.6147
		18-19	.1463	.52741	.962	-1.1509	1.4434

Based on observed means.
The error term is Mean Square(Error) = 19.280.

Homogeneous Subsets

F2

	Age	N	Subset 1
Tukey HSD[a,b,c]	18-19	119	-.2334
	20-21	166	-.0872
	>=22	37	.2615
	Sig.		.777
Scheffe[a,b,c]	18-19	119	-.2334
	20-21	166	-.0872
	>=22	37	.2615
	Sig.		.795

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 19.280.
a. Uses Harmonic Mean Sample Size = 72.369.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Univariate Analysis of Variance

Notes

Output Created	07-MAR-2023 15:15:13
Comments	

Input	Data	L:\D-Drive\bristol\0_First_Year_Experience\Revision\SPSS\New5Factors_2way_age.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	322
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Syntax		UNIANOVA F3 BY VAR00010 VAR00009 /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /POSTHOC=VAR00010 VAR00009(TUKEY SCHEFFE) /EMMEANS=TABLES(VAR00010) /EMMEANS=TABLES(VAR00009) /EMMEANS=TABLES(VAR00010*VAR00009) COMPARE(VAR00010) ADJ(LSD) /EMMEANS=TABLES(VAR00010*VAR00009) COMPARE(VAR00009) ADJ(LSD) /PRINT DESCRIPTIVE /CRITERIA=ALPHA(.05) /DESIGN=VAR00010 VAR00009 VAR00010*VAR00009.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Warnings

Post hoc tests are not performed for Place of origin because there are fewer than three groups.

Between-Subjects Factors

	N

Place of origin	HK	274
	Mainland China	48
Age	>=22	37
	18-19	119
	20-21	166

Descriptive Statistics

Dependent Variable: F3

Place of origin	Age	Mean	Std. Deviation	N
HK	>=22	-.4496	3.84186	31
	18-19	-.2943	3.89183	102
	20-21	-.4639	4.57727	141
	Total	-.3991	4.23986	274
Mainland China	>=22	2.4099	4.05298	6
	18-19	.4588	3.51556	17
	20-21	2.1350	3.34794	25
	Total	1.5757	3.51923	48
Total	>=22	.0141	3.96525	37
	18-19	-.1867	3.83537	119
	20-21	-.0725	4.50295	166
	Total	-.1047	4.19500	322

Tests of Between-Subjects Effects

Dependent Variable: F3

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	194.288[a]	5	38.858	2.251	.049
Intercept	45.795	1	45.795	2.653	.104
VAR00010	122.622	1	122.622	7.104	.008
VAR00009	23.207	2	11.603	.672	.511
VAR00010 * VAR00009	33.952	2	16.976	.983	.375
Error	5454.665	316	17.262		
Total	5652.485	322			
Corrected Total	5648.953	321			

a. R Squared = .034 (Adjusted R Squared = .019)

Estimated Marginal Means

1. Place of origin

Dependent Variable: F3

Place of origin	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	-.403	.307	-1.007	.202
Mainland China	1.668	.714	.264	3.072

2. Age

Dependent Variable: F3

Age	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
>=22	.980	.927	-.843	2.803
18-19	.082	.544	-.988	1.153
20-21	.836	.451	-.051	1.723

3. Place of origin * Age

Estimates

Dependent Variable: F3

Place of origin	Age	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	>=22	-.450	.746	-1.918	1.019
	18-19	-.294	.411	-1.104	.515
	20-21	-.464	.350	-1.152	.225
Mainland China	>=22	2.410	1.696	-.927	5.747
	18-19	.459	1.008	-1.524	2.441

	20-21	2.135	.831	.500	3.770

Pairwise Comparisons

Dependent Variable: F3

Age	(I) Place of origin	(J) Place of origin	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interv Difference[b]	
						Lower Bound	Upper B
>=22	HK	Mainland China	-2.859	1.853	.124	-6.505	
	Mainland China	HK	2.859	1.853	.124	-.786	
18-19	HK	Mainland China	-.753	1.088	.489	-2.895	
	Mainland China	HK	.753	1.088	.489	-1.388	
20-21	HK	Mainland China	-2.599*	.902	.004	-4.373	
	Mainland China	HK	2.599*	.902	.004	.825	

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F3

Age		Sum of Squares	df	Mean Square	F	Sig.
>=22	Contrast	41.104	1	41.104	2.381	.124
	Error	5454.665	316	17.262		
18-19	Contrast	8.265	1	8.265	.479	.489
	Error	5454.665	316	17.262		
20-21	Contrast	143.423	1	143.423	8.309	.004
	Error	5454.665	316	17.262		

Each F tests the simple effects of Place of origin within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

4. Place of origin * Age

Estimates

Dependent Variable: F3

Place of origin	Age	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	>=22	-.450	.746	-1.918	1.019
	18-19	-.294	.411	-1.104	.515
	20-21	-.464	.350	-1.152	.225
Mainland China	>=22	2.410	1.696	-.927	5.747
	18-19	.459	1.008	-1.524	2.441
	20-21	2.135	.831	.500	3.770

Pairwise Comparisons

Dependent Variable: F3

Place of origin	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	95% Confidence Interval for Difference[a] Upper Bound
HK	>=22	18-19	-.155	.852	.856	-1.832	1.521
		20-21	.014	.824	.986	-1.607	1.636
	18-19	>=22	.155	.852	.856	-1.521	1.832
		20-21	.170	.540	.754	-.893	1.232
	20-21	>=22	-.014	.824	.986	-1.636	1.607
		18-19	-.170	.540	.754	-1.232	.893
Mainland China	>=22	18-19	1.951	1.973	.323	-1.931	5.833
		20-21	.275	1.889	.884	-3.441	3.991
	18-19	>=22	-1.951	1.973	.323	-5.833	1.931
		20-21	-1.676	1.306	.200	-4.246	.893
	20-21	>=22	-.275	1.889	.884	-3.991	3.441
		18-19	1.676	1.306	.200	-.893	4.246

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F3

Place of origin		Sum of Squares	df	Mean Square	F	Sig.
HK	Contrast	1.790	2	.895	.052	.949
	Error	5454.665	316	17.262		
Mainland China	Contrast	33.204	2	16.602	.962	.383
	Error	5454.665	316	17.262		

Each F tests the simple effects of Age within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

Post Hoc Tests

Age

Multiple Comparisons

Dependent Variable: F3

	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
Tukey HSD	>=22	18-19	.2009	.78204	.964	-1.6407	2.0424
		20-21	.0866	.75532	.993	-1.6921	1.8652
	18-19	>=22	-.2009	.78204	.964	-2.0424	1.6407
		20-21	-.1143	.49904	.972	-1.2894	1.0609
	20-21	>=22	-.0866	.75532	.993	-1.8652	1.6921
		18-19	.1143	.49904	.972	-1.0609	1.2894
Scheffe	>=22	18-19	.2009	.78204	.968	-1.7225	2.1242
		20-21	.0866	.75532	.993	-1.7711	1.9442
	18-19	>=22	-.2009	.78204	.968	-2.1242	1.7225
		20-21	-.1143	.49904	.974	-1.3416	1.1130
	20-21	>=22	-.0866	.75532	.993	-1.9442	1.7711
		18-19	.1143	.49904	.974	-1.1130	1.3416

Based on observed means.
The error term is Mean Square(Error) = 17.262.

Homogeneous Subsets

F3

	Age	N	Subset 1
Tukey HSD[a,b,c]	18-19	119	-.1867
	20-21	166	-.0725
	>=22	37	.0141
	Sig.		.954
Scheffe[a,b,c]	18-19	119	-.1867
	20-21	166	-.0725
	>=22	37	.0141
	Sig.		.959

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 17.262.
a. Uses Harmonic Mean Sample Size = 72.369.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Univariate Analysis of Variance

Notes

Output Created	07-MAR-2023 15:28:38
Comments	

Input	Data	L:\D-Drive\bristol\0_First_Year_Experience\Revision\SPSS\New5Factors_2way_programme.sav
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	N of Rows in Working Data File	324
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Syntax		UNIANOVA F3 BY VAR00010 VAR00011 /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /POSTHOC=VAR00010 VAR00011(TUKEY SCHEFFE) /EMMEANS=TABLES(VAR00010) /EMMEANS=TABLES(VAR00011) /EMMEANS=TABLES(VAR00010*VAR00011) COMPARE(VAR00010) ADJ(LSD) /EMMEANS=TABLES(VAR00010*VAR00011) COMPARE(VAR00011) ADJ(LSD) /CRITERIA=ALPHA(0.05) /DESIGN=VAR00010 VAR00011 VAR00010*VAR00011.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Warnings

Post hoc tests are not performed for Place of origin because there are fewer than three groups.

Between-Subjects Factors

	N

Place of origin	HK	276
	Mainland China	48
Programme of study	BA	34
	BBA	258
	BSS	32

Tests of Between-Subjects Effects

Dependent Variable: F3

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	209.047[a]	5	41.809	2.444	.034
Intercept	30.144	1	30.144	1.762	.185
VAR00010	66.826	1	66.826	3.906	.049
VAR00011	48.343	2	24.171	1.413	.245
VAR00010 * VAR00011	23.173	2	11.586	.677	.509
Error	5440.468	318	17.108		
Total	5653.289	324			
Corrected Total	5649.515	323			

a. R Squared = .037 (Adjusted R Squared = .022)

Estimated Marginal Means

1. Place of origin

Dependent Variable: F3

Place of origin	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	-.311	.389	-1.076	.454
Mainland China	1.582	.875	-.140	3.303

2. Programme of study

Dependent Variable: F3

Programme of study	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
BA	-.326	1.101	-2.492	1.840
BBA	.450	.372	-.281	1.182
BSS	1.782	.844	.121	3.443

3. Place of origin * Programme of study

Estimates

Dependent Variable: F3

Place of origin	Programme of study	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
HK	BA	-.544	.755	-2.030	.941
	BBA	-.429	.278	-.975	.117
	BSS	.041	.844	-1.620	1.703
Mainland China	BA	-.108	2.068	-4.177	3.961
	BBA	1.330	.689	-.026	2.686
	BSS	3.523	1.462	.645	6.400

Pairwise Comparisons

Dependent Variable: F3

Programme of study	(I) Place of origin	(J) Place of origin	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confi Di Lower Bou
BA	HK	Mainland China	-.437	2.202	.843	-4.7
	Mainland China	HK	.437	2.202	.843	-3.8
BBA	HK	Mainland China	-1.759*	.743	.019	-3.2
	Mainland China	HK	1.759*	.743	.019	.2
BSS	HK	Mainland China	-3.481*	1.689	.040	-6.8
	Mainland China	HK	3.481*	1.689	.040	.1

Based on estimated marginal means

*. The mean difference is significant at the 0.05 level.
b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F3

Programme of study		Sum of Squares	df	Mean Square	F	Sig.
BA	Contrast	.673	1	.673	.039	.843
	Error	5440.468	318	17.108		
BBA	Contrast	95.872	1	95.872	5.604	.019
	Error	5440.468	318	17.108		
BSS	Contrast	72.712	1	72.712	4.250	.040
	Error	5440.468	318	17.108		

Each F tests the simple effects of Place of origin within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

4. Place of origin * Programme of study

Estimates

Dependent Variable: F3

Place of origin	Programme of study	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
HK	BA	-.544	.755	-2.030	.941
	BBA	-.429	.278	-.975	.117
	BSS	.041	.844	-1.620	1.703
Mainland China	BA	-.108	2.068	-4.177	3.961
	BBA	1.330	.689	-.026	2.686
	BSS	3.523	1.462	.645	6.400

Pairwise Comparisons

Dependent Variable: F3

Place of origin	(I) Programme of study	(J) Programme of study	Std. Error	Sig.[a]	95%

			Mean Difference (I-J)			Lowe
HK	BA	BBA	-.115	.805	.886	
		BSS	-.586	1.133	.605	
	BBA	BA	.115	.805	.886	
		BSS	-.471	.889	.597	
	BSS	BA	.586	1.133	.605	
		BBA	.471	.889	.597	
Mainland China	BA	BBA	-1.438	2.180	.510	
		BSS	-3.630	2.533	.153	
	BBA	BA	1.438	2.180	.510	
		BSS	-2.192	1.617	.176	
	BSS	BA	3.630	2.533	.153	
		BBA	2.192	1.617	.176	

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F3

Place of origin		Sum of Squares	df	Mean Square	F	Sig.
HK	Contrast	5.489	2	2.745	.160	.852
	Error	5440.468	318	17.108		
Mainland China	Contrast	43.830	2	21.915	1.281	.279
	Error	5440.468	318	17.108		

Each F tests the simple effects of Programme of study within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

Post Hoc Tests

Programme of study

Multiple Comparisons

Dependent Variable: F3

	(I) Programme of study	(J) Programme of study	Mean Difference (I-J)	Std. Error	Sig.	95% Co Lower Bound
Tukey HSD	BA	BBA	-.3093	.75465	.912	-2.08
		BSS	-1.4047	1.01874	.353	-3.80
	BBA	BA	.3093	.75465	.912	-1.4
		BSS	-1.0954	.77521	.335	-2.92
	BSS	BA	1.4047	1.01874	.353	-.9
		BBA	1.0954	.77521	.335	-.7
Scheffe	BA	BBA	-.3093	.75465	.919	-2.1
		BSS	-1.4047	1.01874	.388	-3.9
	BBA	BA	.3093	.75465	.919	-1.5
		BSS	-1.0954	.77521	.370	-3.0
	BSS	BA	1.4047	1.01874	.388	-1.1
		BBA	1.0954	.77521	.370	-.8

Based on observed means.
The error term is Mean Square(Error) = 17.108.

Homogeneous Subsets

F3

	Programme of study	N	Subset 1
Tukey HSD[a,b,c]	BA	34	-.4930
	BBA	258	-.1837
	BSS	32	.9117
	Sig.		.232
Scheffe[a,b,c]	BA	34	-.4930
	BBA	258	-.1837
	BSS	32	.9117
	Sig.		.263

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 17.108.
a. Uses Harmonic Mean Sample Size = 46.484.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = 0.05.

Univariate Analysis of Variance

Notes

Output Created		07-MAR-2023 15:28:59
Comments		
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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Syntax		UNIANOVA F4 BY VAR00010 VAR00011 /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /POSTHOC=VAR00010 VAR00011(TUKEY SCHEFFE) /EMMEANS=TABLES(VAR00010) /EMMEANS=TABLES(VAR00011) /EMMEANS=TABLES(VAR00010*VAR00011) COMPARE(VAR00010) ADJ(LSD) /EMMEANS=TABLES(VAR00010*VAR00011) COMPARE(VAR00011) ADJ(LSD) /CRITERIA=ALPHA(0.05) /DESIGN=VAR00010 VAR00011 VAR00010*VAR00011.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02

Warnings

Post hoc tests are not performed for Place of origin because there are fewer than three groups.

Between-Subjects Factors

	N

Place of origin	HK	276
	Mainland China	48
Programme of study	BA	34
	BBA	258
	BSS	32

Tests of Between-Subjects Effects

Dependent Variable: F4

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	101.701[a]	5	20.340	1.669	.142
Intercept	18.151	1	18.151	1.489	.223
VAR00010	51.436	1	51.436	4.220	.041
VAR00011	16.156	2	8.078	.663	.516
VAR00010 * VAR00011	20.067	2	10.033	.823	.440
Error	3875.499	318	12.187		
Total	3977.558	324			
Corrected Total	3977.200	323			

a. R Squared = .026 (Adjusted R Squared = .010)

Univariate Analysis of Variance

Notes

Output Created		14-MAR-2023 12:11:17
Comments		
Input	Data	L:\D-Drive\bristol\0_First_Year_Experience\Revision\SPSS\New5Factors_2way_year.sav
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	Weight	<none>
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	N of Rows in Working Data File	322
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		UNIANOVA F1 BY VAR00010 VAR00012 /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /POSTHOC=VAR00010 VAR00012(TUKEY SCHEFFE) /EMMEANS=TABLES(VAR00010) /EMMEANS=TABLES(VAR00012) /EMMEANS=TABLES(VAR00010*VAR00012) /PRINT DESCRIPTIVE /CRITERIA=ALPHA(.05) /DESIGN=VAR00010 VAR00012 VAR00010*VAR00012.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01

Warnings

Post hoc tests are not performed for Place of origin because there are fewer than three groups.

Between-Subjects Factors

		N
Place of origin	HK	275
	Mainland China	47
Year of Study	Year 1	101
	Year 2	79
	Year 3	142

Descriptive Statistics

Dependent Variable: F1

Place of origin	Year of Study	Mean	Std. Deviation	N
HK	Year 1	-.7664	4.54901	88
	Year 2	1.0921	4.43852	64
	Year 3	-.5070	5.02893	123
	Total	-.2179	4.78496	275
Mainland China	Year 1	-.1507	3.87244	13
	Year 2	.9833	4.40840	15
	Year 3	3.4505	2.93514	19
	Total	1.6670	3.94940	47
Total	Year 1	-.6872	4.45486	101
	Year 2	1.0714	4.40476	79
	Year 3	.0225	4.98098	142
	Total	.0572	4.71412	322

Tests of Between-Subjects Effects

Dependent Variable: F1

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	399.599[a]	5	79.920	3.750	.003
Intercept	72.724	1	72.724	3.413	.066
VAR00010	86.158	1	86.158	4.043	.045
VAR00012	104.205	2	52.102	2.445	.088
VAR00010 * VAR00012	136.739	2	68.369	3.208	.042

Error	6733.958	316	21.310		
Total	7134.612	322			
Corrected Total	7133.557	321			

a. R Squared = .056 (Adjusted R Squared = .041)

Estimated Marginal Means

1. Place of origin

Dependent Variable: F1

Place of origin	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
HK	-.060	.288	-.628	.507
Mainland China	1.428	.682	.087	2.769

2. Year of Study

Dependent Variable: F1

Year of Study	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
Year 1	-.459	.686	-1.808	.891
Year 2	1.038	.662	-.265	2.340
Year 3	1.472	.569	.352	2.591

3. Place of origin * Year of Study

Dependent Variable: F1

Place of origin	Year of Study	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
HK	Year 1	-.766	.492	-1.735	.202
	Year 2	1.092	.577	-.043	2.227
	Year 3	-.507	.416	-1.326	.312
Mainland China	Year 1	-.151	1.280	-2.670	2.368
	Year 2	.983	1.192	-1.362	3.328

Year 3	3.450	1.059	1.367	5.534

Post Hoc Tests

Year of Study

Multiple Comparisons

Dependent Variable: F1

	(I) Year of Study	(J) Year of Study	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Inte Lower Bound	Upp Boun
Tukey HSD	Year 1	Year 2	-1.7586*	.69335	.031	-3.3913	-.
		Year 3	-.7097	.60088	.465	-2.1246	.
	Year 2	Year 1	1.7586*	.69335	.031	.1259	3.
		Year 3	1.0489	.64793	.239	-.4768	2.
	Year 3	Year 1	.7097	.60088	.465	-.7053	2.
		Year 2	-1.0489	.64793	.239	-2.5747	.
Scheffe	Year 1	Year 2	-1.7586*	.69335	.041	-3.4638	-.
		Year 3	-.7097	.60088	.499	-2.1875	.
	Year 2	Year 1	1.7586*	.69335	.041	.0534	3.
		Year 3	1.0489	.64793	.271	-.5446	2.
	Year 3	Year 1	.7097	[redacted]	[redacted]	-.7681	2.
		Year 2	-1.0489	.64793	.271	-2.6425	.

Based on observed means.

The error term is Mean Square(Error) = 21.310.

*. The mean difference is significant at the .05 level.

Homogeneous Subsets

F1

N	Subset

	Year of Study		1	2
Tukey HSD[a,b,c]	Year 1	101	-.6872	
	Year 3	142	.0225	.0225
	Year 2	79		1.0714
	Sig.		.518	.240
Scheffe[a,b,c]	Year 1	101	-.6872	
	Year 3	142	.0225	.0225
	Year 2	79		1.0714
	Sig.		.550	.272

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 21.310.
a. Uses Harmonic Mean Sample Size = 101.346.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.
c. Alpha = .05.

Univariate Analysis of Variance

Notes

Output Created		14-MAR-2023 14:13:30
Comments		
Input	Data	L:\D-Drive\bristol\0_First_Year_Experience\Revision\SPSS\New5Factors_2way_gpa.sav
	Active Dataset	DataSet4
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	316
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		UNIANOVA F3 BY VAR00010 VAR00013 /METHOD=SSTYPE(3) /INTERCEPT=INCLUDE /POSTHOC=VAR00010 VAR00013(TUKEY SCHEFFE) /EMMEANS=TABLES(VAR00010) /EMMEANS=TABLES(VAR00013) /EMMEANS=TABLES(VAR00010*VAR00013) COMPARE(VAR00010) ADJ(LSD) /EMMEANS=TABLES(VAR00010*VAR00013) COMPARE(VAR00013) ADJ(LSD) /CRITERIA=ALPHA(0.05) /DESIGN=VAR00010 VAR00013 VAR00010*VAR00013.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01

Warnings

Post hoc tests are not performed for Place of origin because there are fewer than three groups.

Between-Subjects Factors

		N
Place of origin	HK	270
	Mainland China	46
Cumulative GPA	High	141
	Low	11
	Medium	164

Tests of Between-Subjects Effects

Dependent Variable: F3

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	219.625[a]	5	43.925	2.568	.027
Intercept	46.593	1	46.593	2.724	.100
VAR00010	101.267	1	101.267	5.920	.016
VAR00013	10.313	2	5.157	.301	.740
VAR00010 * VAR00013	44.263	2	22.132	1.294	.276
Error	5302.978	310	17.106		
Total	5524.677	316			
Corrected Total	5522.603	315			

a. R Squared = .040 (Adjusted R Squared = .024)

Estimated Marginal Means

1. Place of origin

Dependent Variable: F3

Place of origin	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	-.597	.469	-1.520	.326
Mainland China	3.114	1.451	.258	5.970

2. Cumulative GPA

Dependent Variable: F3

Cumulative GPA	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
High	.638	.416	-.180	1.456
Low	2.288	2.169	-1.979	6.556
Medium	.849	.598	-.327	2.026

3. Place of origin * Cumulative GPA

Estimates

Dependent Variable: F3

Place of origin	Cumulative GPA	Mean	Std. Error	95% Confidence Interval Lower Bound	Upper Bound
HK	High	-.005	.396	-.784	.775
	Low	-1.192	1.308	-3.765	1.382
	Medium	-.594	.337	-1.257	.068
Mainland China	High	1.281	.731	-.158	2.719
	Low	5.768	4.136	-2.370	13.906
	Medium	2.293	1.147	.036	4.550

Pairwise Comparisons

Dependent Variable: F3

Cumulative GPA	(I) Place of origin	(J) Place of origin	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confiden Differ Lower Bound
High	HK	Mainland China	-1.285	.832	.123	-2.922
	Mainland China	HK	1.285	.832	.123	-.351
Low	HK	Mainland China	-6.960	4.338	.110	-15.495
	Mainland China	HK	6.960	4.338	.110	-1.575

Medium	HK	Mainland China	-2.888*	1.195	.016	-5.240
	Mainland China	HK	2.888*	1.195	.016	.536

Based on estimated marginal means

*. The mean difference is significant at the 0.05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F3

Cumulative GPA		Sum of Squares	df	Mean Square	F	Sig.
High	Contrast	40.867	1	40.867	2.389	.123
	Error	5302.978	310	17.106		
Low	Contrast	44.039	1	44.039	2.574	.110
	Error	5302.978	310	17.106		
Medium	Contrast	99.817	1	99.817	5.835	.016
	Error	5302.978	310	17.106		

Each F tests the simple effects of Place of origin within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

4. Place of origin * Cumulative GPA

Estimates

Dependent Variable: F3

Place of origin	Cumulative GPA	Mean	Std. Error	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
HK	High	-.005	.396	-.784	.775
	Low	-1.192	1.308	-3.765	1.382
	Medium	-.594	.337	-1.257	.068
Mainland China	High	1.281	.731	-.158	2.719
	Low	5.768	4.136	-2.370	13.906

	Medium	2.293	1.147	.036	4.550

Pairwise Comparisons

Dependent Variable: F3

Place of origin	(I) Cumulative GPA	(J) Cumulative GPA	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confic Dif Lower Bour
HK	High	Low	1.187	1.367	.386	-1.5
		Medium	.590	.520	.257	-.4
	Low	High	-1.187	1.367	.386	-3.8
		Medium	-.597	1.351	.659	-3.2
	Medium	High	-.590	.520	.257	-1.6
		Low	.597	1.351	.659	-2.0
Mainland China	High	Low	-4.488	4.200	.286	-12.7
		Medium	-1.013	1.360	.457	-3.6
	Low	High	4.488	4.200	.286	-3.7
		Medium	3.475	4.292	.419	-4.9
	Medium	High	1.013	1.360	.457	-1.6
		Low	-3.475	4.292	.419	-11.9

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Univariate Tests

Dependent Variable: F3

Place of origin		Sum of Squares	df	Mean Square	F	Sig.
HK	Contrast	28.898	2	14.449	.845	.431
	Error	5302.978	310	17.106		
Mainland China	Contrast	26.694	2	13.347	.780	.459
	Error	5302.978	310	17.106		

Each F tests the simple effects of Cumulative GPA within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

Post Hoc Tests

Cumulative GPA

Multiple Comparisons

Dependent Variable: F3

	(I) Cumulative GPA	(J) Cumulative GPA	Mean Difference (I-J)	Std. Error	Sig.	95% Confidenc Lower Bound
Tukey HSD	High	Low	.8462	1.29478	.790	-2.2030
		Medium	.6527	.47500	.356	-.4660
	Low	High	-.8462	1.29478	.790	-3.8954
		Medium	-.1935	1.28819	.988	-3.2272
	Medium	High	-.6527	.47500	.356	-1.7713
		Low	.1935	1.28819	.988	-2.8402
Scheffe	High	Low	.8462	1.29478	.808	-2.3385
		Medium	.6527	.47500	.390	-.5156
	Low	High	-.8462	1.29478	.808	-4.0309
		Medium	-.1935	1.28819	.989	-3.3620
	Medium	High	-.6527	.47500	.390	-1.8210
		Low	.1935	1.28819	.989	-2.9749

Based on observed means.
The error term is Mean Square(Error) = 17.106.

Homogeneous Subsets

F3

	Cumulative GPA	N	Subset 1
Tukey HSD[a,b,c]	Low	11	-.5590
	Medium	164	-.3655
	High	141	.2872
	Sig.		.718
Scheffe[a,b,c]	Low	11	-.5590

	Medium	164	-.3655
	High	141	.2872
	Sig.		.740

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 17.106.

a. Uses Harmonic Mean Sample Size = 28.819.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = 0.05.

Appendix 12 Ethics Form

GSoE RESEARCH ETHICS FORM

It is important for members of the Graduate School of Education, as a community of researchers, to consider the ethical issues that arise, or may arise, in any research they propose to conduct. Increasingly, we are also accountable to external bodies to demonstrate that research proposals have had a degree of scrutiny. *This form must therefore be completed for each piece of research carried out by members of the School, both staff and students*

The GSoE's process is designed to be supportive and educative. If you are preparing to submit a research proposal, you need to do the following:

1. **Arrange a meeting with a fellow researcher**
   The purpose of the meeting is to discuss ethical aspects of your proposed research, so you need to meet with someone with relevant research experience. A list of prompts for your discussion is given below. Not all these headings will be relevant for any particular proposal.
2. **Complete the form on the back of this sheet**
   The form is designed to act as a record of your discussion and any decisions you make.
3. **Upload a copy of this form and any other documents (e.g. information sheets, consent forms) to the online ethics tool at :** https://dbms.ilrt.bris.ac.uk/red/ethics-online-tool/applications**.**

   Please note: Following the upload you will need to answer ALL the questions on the ethics online survey and submit for approval by your supervisor (see the flowchart and user guides on the GSoE Ethics Homepage).

If you have any questions or queries, please contact the ethics co-ordinators at: gsoe-ethics@bristol.ac.uk

Please ensure that you allow time before any submission deadlines to complete this process.

Prompts for discussion
You are invited to consider the issues highlighted below and note any decisions made. You may wish to refer to relevant published ethical guidelines to prepare for your meeting. See http://www.bristol.ac.uk/education/research/networks/ethicnet for links to several such sets of guidelines.

1. Researcher access/ exit
2. Information given to participants
3. Participants right of withdrawal
4. Informed consent
5. Complaints procedure
6. Safety and well-being of participants/ researchers
7. Anonymity/ confidentiality
8. Data collection
9. Data analysis
10. Data storage
11. Data Protection Act
12. Feedback
13. Responsibilities to colleagues/ academic community
14. Reporting of research

Be aware that ethical responsibility continues throughout the research process. If further issues arise as your research progresses, it may be appropriate to cycle again through the above process.

Name(s): LAM, Wing Lun Alan
Proposed research project: A Case Study on Course Selection (CS) in a liberal university in Hong Kong with a focus on mainland Chinese students and local Chinese students.
Proposed funder(s): Nil
Discussant for the ethics meeting: Mr Louis LI, Cohort 15, EdD, Bristol University
Name of supervisor: Dr Lisa Lucas
Has your supervisor seen this submitted draft of your ethics application? Y

Please include an outline of the project or append a short (1 page) summary:

This research will be a case study on Lingnan University(LU) in Hong Kong. I've been working in LU for over 20 years. I've witnessed how it transformed into a liberal arts university. The 3+3+4 education reform led to a 4-year programme for the undergraduate degree programmes. Being a liberal arts university, LU has a very rich and diverse cluster courses for students. All undergraduate students are required to take 7 courses in 5 clusters ((1) Creativity and Innovation, (2) Humanities and the Arts, (3) Management and Society, (4) Science, Technology and Society and (5) Values, Cultures and Societies) with at least one from each cluster. Currently, there are a total of 85 courses in these 5 clusters to be chosen from. In each term of the four years of study, students are faced with a decision to choose from these 85 courses to fulfil graduation requirement. How will the students choose these relatively "free" cluster courses? There is no restriction on any of the particular cluster courses. Some factors such as student interest, teacher, difficulty of the course and grading have been identified by previous studies. This project will use mix-methods with an explanatory approach. This will supplement the research gap of the lack of qualitative technique in previous studies. Furthermore, it will attempt to conduct a comparative study between mainland Chinese students and local Chinese students on CS.

Ethical issues discussed and decisions taken (see list of prompts overleaf):

1. Researcher access/exit : I will be conducting the research primarily in LU campus unless other circumstances arise. For example, it is possible the participant may go abroad for student exchange for one term and the second interview in the research design may need to be conducted online via Skype. I do not intend to present my result/findings to the participants as the results will be a collective set of findings. However I will inform them of the purpose of the research and their roles involved in this study. I have the permission and support from my dept head for conducting the study with my students. The dept as well as the BBA

Programme Director have been supporting my research. Also, permission will be sought from colleagues and students during the data collection process.

2. Information given to participants : The target population of the study are LU undergraduate students who are 18 years old or above (i.e. the legal definition of an adult in HK). They will be told that being aged 18 or above is one of the participating criteria. This will remove the necessity of parental consent for underage students. I do not expect there will be very many of these minor students but they should be aware of this at the beginning of the study.

   In the survey, a paragraph at the beginning is used to explain to the participants about the purpose of the study, that this is about CS in LU for cluster course. They will also be told of the right of withdrawal from the study at any stage. I will stress the issue of anonymity for the students so that they can have confidence in the study. In addition, they are given the email address of the CDS dept so that if any complaint is deemed necessary, they can contact with my dept head in this manner. The survey is conducted online as well as via classes of colleagues. This is because LU does not have formal guidelines for researching on/with students. One of my questions in the survey is about student's professor. This will mean colleagues may feel uneasy or being offended if I'm conducting research with "their" students. As a result, I have made a decision to send email to current students as well as students that I've taught before. I will ask them to complete my questionnaire online voluntarily. In addition, I will approach colleagues and seek their permission to conduct the survey in their classes. This way, it would indicate that colleagues are giving their consents on a study done with their students. Besides, the response rate might be low when it is done online and I would rather have larger numbers of participants if I can do it via colleagues. I will also need to acknowledge the limitation on the variety of students being selected, in terms of programmes of study and years of study.

   Before commencing the in-depth interview, the participants are also told of the purpose of the study, the right of withdrawal, anonymity, and complaint procedure (as mentioned above). I will also emphasise that I will be recording the interview but they can ask me to stop the recording at any point during the interview if they deem necessary and I have obligation to comply with no hesitation. I will design a consent form stating the aforementioned clearly and ask them to formally sign it to illustrate they understand these clearly. This way, my responsibility will be made known to the participants and protect the interest of the participants as well as of myself as a researcher in this study.
3. Participants right of withdrawal : discussed in (2).
4. Informed consent : discussed in (2).
5. Complaints procedure: discussed in (2).
6. Safety and well-being of participants/researchers : I acknowledge that the participants and I may be discussing about other colleagues or their teaching but I think that I can protect the discussion from leaking and should not pose any safety issue for the participant as well as myself. I think I need to be alert and cautious but to a large extent the risk is minimal for this study.
7. Anonymity/confidentiality : I will protect the identity of the participants so that none of them can be identified because of this study. I will be using Pseudo names when referring to participants in my report. As mentioned in (2), privacy of the participants is duly noted and I have a role to protect the participants from

revealing their identities. In addition, I will try my best to hide the identity of the institution under study. But I have to accept that there are only eight UGC-funded institutions in HK and only one of them claims to be a liberal arts university. I will not mention the name of LU in my report directly but I cannot prevent readers from guessing the institution under study. After all, as one of the publicly funded universities, it is transparent enough that the general public can relate my report to LU.

8. Data collection : the survey will be conducted both online as well as hardcopy. All of the participants are recruited voluntarily. The teachers' permission is required in order to conduct the survey during their classes. Ethical issues concerning data collection are also discussed in (2).
9. Data analaysis : quantitative analysis will be done using SPSS and qualitative analysis will be done manually. The quantitative data will have minimal ethical issues as they are collected anonymously and will be analysed collectively. As Pseudo names will be used for qualitative data, ethical issues are also minimal. However I will need to be careful when reporting the findings so that sensitive information is not disclosed unknowingly.
10. Data storage : all work will be stored on a desktop and backed up onto a USB flash ram as well as a network drive. All of the storage will be password protected. As the data is to be used for a dissertation, I plan to store the data until six months after the award of the degree.
11. Data Protection Act : as this is a study governed by Bristol University and conducted in Hong Kong, I will need to take precaution to align with the Data Protection Act 1998 of UK as well as the Personal Data (Privacy) Ordinance (Cap. 486) of HK. I will observe the six Data Protection Principles relating to Data Collection, Accuracy & Retention, Data Use, Data Security, Openness and Data Access & Correction. (http://www.pcpd.org.hk/english/data_privacy_law/ordinance_at_a_Glance/ordinance.html#2).
12. Feedback : the methodology is designed to have a second in-depth interview with the participants. Transcripts of the first in-depth interview will be shown to the participants before the second interview. This is a feedback to the participants as well as a validity control to refresh the memory of the participants.
13. Responsibilities to colleagues/academic community : I've read the BERA Ethical Guidelines and this research will comply with this guidelines. I will ensure there will not be malpractice in the study and be responsible to the academic community. And as this is going to be my dissertation in partial fulfilment of EdD, I will be the only author and will not have any authorship problem.
14. Reporting of research: at this moment, the reporting of the study is targeted at my dissertation and there is currently no intention to publish the result elsewhere.

If you feel you need to discuss any issue further, or to highlight difficulties, please contact the GSoE's ethics co-ordinators who will suggest possible ways forward.

Signed: [redacted] (Researcher) Signed: [redacted] (Discussant)
Date: 29 June 2015

Appendix 13 Consolidated codes

	Participants										
	Mainland						Local				
Comment	1	2	3	4	5	subtotal	6	7	8	9	subtotal
academic pressure	1	2		1	3	7		2	1	4	7
1st class	1					1					0
academic results	2	4	4	6	3	19	7	6	6	6	25
busy with courses		1				1					0
good grades	1					1					0
mess up GPA	1					1					0
not so much about teacher, but GPA		1				1					0
process in learning			2		1	3					0
risk for GPA	3					3					0
Academic results	9	8	6	7	7	37	7	8	7	10	32
extracurricular activities	4	2	2		3	11	1		2	2	5
hostel life						0	1				1
problem with Cantonese	1	2									
sense of fulfilment		1				1					0
Extracurricular activities	5	5	2	0	3	12	2	0	2	2	6
study environment			1			1					0
more choices in HK						0				1	1
more opportunities				1		1					0
new environment	1					1					0
new to HK		1				1					0
change	1	1				2					0
challenge				1	1	2	1				1
adapt to English			1			1					0
accept challenges	1					1					0
adapt to HK	1				1	2					0
better education in HK		1				1					0
competition in mainland	1					1					0

different study environment in mainland						0				1	1
independence			1			1					0
learning	1					1					0
learning environment			1			1					0
better university	1					1					0
improve English		1				1					0
prefer to study in HK						0				1	1
big change	1					1					0
Study in HK	8	4	4	2	2	20	1	0	0	3	4
less competition				1		1	1				1
liberal arts courses						0		1			1
liberal studies						0				1	1
like business				1		1					0
like HK	1	1	1	1		4					0
like NU				1		1					0
top school					1	1					0
university ranking	1					1					0
NU ranking	1					1					0
chances at NU	1					1					0
adapt to NU		1	1		2	4	1		1	1	3
use resources	1					1	1				1
resources at NU						0			1		1
scholarship						0	1	1			2
Study at NU	4	2	2	4	3	15	2	1	1	2	6
workload > interest		1				1					0
not mind workload						0		1			1
work hard	2	1	1	1		5					0
workload	1	2		1		4		2		2	4
balance between academic and extracurricular activities			1			1					0
balance courses	1		2	1	1	5		2	1	1	4
Balance workload	1	0	3	1	1	6	0	2	1	1	4

useful to career	2					2					0
career			1	1	1	3					0
career development					1	1	1				1
career path				1		1					0
internship	1	1	1	3	3	9	4	1	2	1	8
Career	3	1	2	5	5	16	5	1	2	1	9
teacher	1				1	2					0
teacher ok			1			1					0
teaching method	1					1					0
teaching style				1		1		1	2	1	4
famous/good teacher		1				1					0
instructor						0			1		1
dislike irresponsible teacher					1	1					0
dislike political teacher				1		1					0
nice, respond to student	1					1					0
no preference on instructor						0		2			2
responsible teacher				1		1					0
preference of instructor				1		1					0
responsive teacher						0	1				1
Instructor-related issues	3	1	1	4	2	11	1	3	3	1	8
useful documents	2	1	2	1		6		1	1	1	3
peer advice	1	3	2	1	1	8		2	2	2	6
peer advisor					1	1					0
similar goals	1					1					0
proper planning				1		1					0
rational choices	1					1					0
regular and good schedule	2	1	1			4	1		1	1	3
course planning					1	1					0
info on courses		1				1					0
course outline, outline and syllabus	1			1	1	3	1				1
advisor not useful	1	1	1	1	1	5	1	2	1	1	5
Course info	9	7	6	5	5	32	3	5	5	5	18
no time preference		1	1		1	3	1	1			2

day/time						0			1		1
day off						0	1				1
day off for part-time						0			1		1
dislike late classes	1					1			1	1	2
prefer AM classes	1					1					0
prefer day off	1					1		1	2	1	4
don't want day off		1		1		2					0
preference for time				1		1					0
no day off preference			1			1					0
Day/time	3	2	2	2	1	10	2	2	5	2	11
difficulty				1		1		1	2	1	4
dislike CCC						0				1	1
dislike class participation						0	1				1
dislike presentation						0	1				1
dislike repetitive work	1					1					0
dislike SL				1		1	1		1	1	3
not prefer SL						0		1			1
SL is good	1					1					0
SL takes a lot of effort	1					1					0
prefer SL			1			1					0
dislike writing paper		1				1					0
prefer not to write paper			1			1					0
no preference in assessment methods				1	2	3					0
assessment methods		1				1		2	4	2	8
assessment methods (slightly)						0	1				1
assessment weighting	1					1					0
easy course		1				1					0
Methods and weighting of assessment	4	3	2	3	2	14	4	4	7	5	20
planning for exchange			2	2		4	1	2			3
no exchange					1	1			1		1
exchange	4	1	1	2	1	9	3	2		1	6
Exchange	4	1	3	4	2	14	4	4	1	1	10

Interest	2	2	2	2	10	18	6	4	1	3	14
Part time						0	2	1	1		4
no class size preference	1	1		1		3					0
knowledge						0		1			1
free to choose courses						0		2			2
free rider						0	1		1		2
mainland			1		1	2					0
major		1				1					0
minor	3		1			4		1	1	1	3
financial pressure			1	1	2	4	2				2
difficult for minor		1				1					0
Southern China	1	1				2					0
SSC						0		1			1
summer school	1					1					0
upset	1					1					0
no financial pressure	1	1				2				1	1
no minor						0	1				1
no part time	1	1	1	1		4				1	1
not enough science	1					1					0
Other	10	6	4	3	3	26	4	5	2	3	14

Appendix 14 Sample course outline

CLDXXX Statistics in Modern Society

Course outline

This course will examine the use of statistics in various fields, such economics, business, psychology, sociology and political science. Students will learn to analyse and use statistical information. They will need to critically evaluate the statistical studies presented in daily life and make their own opinion.

Teaching Method

This course will be conducted by 'sectional approach'. In a smaller class, teachers are able to foster closer ties with students through lectures, case studies, debates, project assignments, small group discussions and/or presentations. Classroom discussions will be the focus of the course. A number of controversial issues will be discussed to illustrate the use of statistical information.

The main medium of instruction will be English, which will also be the only approved language for written assignments, tests and examinations. However, it will be at the discretion of the teacher to choose English or Cantonese during class to clarify certain terms and concepts.

Course text

Bennett, J. O., Briggs, W. L. and Triola, M. F. (2014). *Statistical reasoning for everyday life*, *4th ed.* Addison-Wesley.

Other references

Donal, L. H. and Horrell, J. F. (1998) *Data, statistics, and decision models with excel*. John Wiley & Sons, Inc.

Huff, D. (1973). *How to lie with statistics*. Harmondsworth: Penguin.

Provisional Timetable (To be confirmed)

Week	Content	Chapter
1	Statistics – An introduction	1
2	Measurement	2
3	Visual Display	3
4	Describing Data	4
5	Software for statistics	
6	Normal World	5
7-8	Probability	6
9-10	Samples to Population	8
11-12	Hypothesis Testing	9
13-14	Correlation and Causality	7

Assessment

Continuous assessment

Group Project	30%
Participation	25%
Attendance	5%
Examination	40%

Important Notes:

(1) Students are expected to spend a total of 9 hours (i.e. 3 hours of class contact and 6 hours of personal study) per week to achieve the course learning outcomes.

(2) Students shall be aware of University regulations regarding dishonest practices in course work, tests and examinations, and the possible consequences as stipulated in the Regulations Governing University Examinations. In particular, plagiarism, being a kind of dishonest practice, is 'the presentation of another person's work without proper acknowledgement of the source, including exact phrases, or summarised ideas, or even footnotes/citations, whether protected by copyright or not, as the student's own work'. Students are required to strictly follow university regulations governing academic integrity and honesty.

(3) Students are required to submit writing assignment(s) using Turnitin.

(4) To enhance students' understanding of plagiarism, a mini-course entitled 'Online Tutorial on Plagiarism Awareness' is available on XXXXX

Appendix 15 A sample transcript of the participants

E- Amy A- Alan

A: You're a BBA student?
E: yes.
A: you are a BBA year 3 student?
E: Year 2 accounting student.
A: You're into the accounting stream through direct admission?
E: Not from Year 1, but just now in term 2 of Year 2.
A: ok, I gathered that you're a non-local student from mainland. So you have been studying in mainland for kindergarten, primary, secondary, then public exam. What prompted you apply to Lingnan or even to HK in general?
E: Previously, I could have applied to good universities in mainland. Then my parents and I decided to challenge myself in a new environment and to see how far I can go. And also HK, this city is very attractive and I love it. Open-minded and it's kind of free environment, so I came here to try to learn in a different way.
A: ok, was there a big change from secondary school in mainland to a university in HK?
E: indeed, it is a big change to me. In previous years, I've been learning very hard, sitting behind the desk trying to recite all the stuff. However when I came to HK, I can live in a different way. I can participate in different activities. And now my academic and extra-curricula activities are balanced and not just academic like before. This kind of study style has been changed a lot.
A: that's good. Is that a general feeling for student in mainland?
E: students are told that academic result are very important when they were very young. It may be the only way to change your life so they take this very seriously.
A: yes, I understand. I kind of have the answer myself but I just want you to verify it, to hear it from you.
E: But I don't know in university in mainland, maybe they are also have some extra-curricular activities and not so focus on academic as we had in high school. Because the public exam is very serious in mainland. It is even more severe than in HK, the DSE.
A: yes, I'm pretty sure. So besides studying, what kind of activities, or society that you're joining? Are you a committee member?
E: At first, it is very difficult for me because I didn't speak Cantonese. But I learnt very fast because I joined this HK Federation of Business Students. It's not a society in school but it consists of 4-5 thousands members of all 9 local universities. It's lucky for me to be one of the committee members and it was quite a big challenge for me. And I overcame my difficulty.
A: where do you come from in mainland?
E: Kunming of Yunnan.

Commented [ALWL1]: Better university
Commented [ALWL2]: New environment
Commented [ALWL3]: Like HK
Commented [ALWL4]: Big change
Commented [ALWL5]: Extra-curricular activities
Commented [ALWL6]: change
Commented [ALWL7]: academic result
Commented [ALWL8]: competition in mainland
Commented [ALWL9]: problem with Cantonese
Commented [ALWL10]: adapt to HK
Commented [ALWL11]: Extra-curricular activities

A: I guess Cantonese is very different and difficult for you?
E: well, it's not that bad for the southern part of China, not like if you're from the northern part.
A: And then besides the extra-curricular activities and the change in study style, what's your experience in Lingnan in general?
E: Actually, when I first came to Lingnan, I was a bit upset because of the Lingnan's ranking is not so good. Especially when compare to my friends who used to study with me, they went to like Peking University and Shanghai Jiao Tong University or some of them even went aboard like Liverpool University. I was quite up sad in the first year. But gradually, I found that Lingnan provides many chances for us. I was able to take these chances which is not offered in other university. For example, I was able to represent Lingnan in the HSBC HK UK Business Case Competition. I think I might not be able to have this chance in other university. So I want to utilises my resources in this 4 years to become a better person.
A: It feels that you can gain more opportunity in Lingnan. Ok, besides the ranking, is there any other things that you don't like in Lingnan?
E: I think the Science or Math courses are not enough because I studied Math, Biology and Chemistry before and now I need to forget these courses and start to focus on business fields. Some of the works in finance courses are applied Math but it could be better if we have more.
A: I know that they're starting a science division and employ new staff to teach courses but it's new and I don't know the detail yet. About yourself, are you going to be an accountant when you graduate?
E: maybe not. I'm becoming more interested in finance and I might even do a minor in finance. But I'm also planning to exchange which makes it difficult.
A: yes, that's what we'll talk about too. I'll come back to exchange and minor. Hope you don't mind me asking, does your family have financial pressure for you to study in HK?
E: actually, no. I've a scholarship in Lingnan if I keep a GPA of above 3 and I don't have to pay tuition fee here.
A: that's good. So your family don't have pressure on that, how about yourself? Besides the GPA 3.0, I know that for most of you, minimum of 3.0 is really the minimum and most of you are targeting at 3.5?
E: yes, I do face some academic stress. Because I choose this Social and Economic indicator cluster course in the first year. I didn't know a lot about economic and maybe I was a bit over confident on myself. I chose this difficult course and messed up and my GPA for that was 3.2. Compare to what I should achieve, it was much lower. I want to get a first class honour when I graduate.
A: so your target is the first class honour?
E: yes, I also heard that some company will not consider you if you get less than 3.5.

Commented [ALWL12]: Southern China

Commented [ALWL13]: upset

Commented [ALWL14]: LU's ranking

Commented [ALWL15]: Chances in LU

Commented [ALWL16]: Utilities resources

Commented [ALWL17]: Not enough science

Commented [ALWL18]: exchange

Commented [ALWL19]: no financial pressure

Commented [ALWL20]: academic pressure

Commented [ALWL21]: mess up GPA

Commented [ALWL22]: 1st class

A: well, it depends, it depends. It depends on the competition, there are lots of things to depend on. I'm sure you've plenty of room to improve. This is your second year, you've two more years to catch up. You've four terms to improve. So you're pushing yourself academically. Are you working part-time?

E: No. Firstly, my family can support my study so that I don't have to work so early. I'm still very young. Also, studying can empower me with better knowledge in my future. So I want to invest in my study.

A: I thought you were going to tell me that you're being restricted by the immigration.

E: yes, but then there is internship.

A: yes, indeed. It is different. Internship. You're targeting for internship? This summer?

E: I did an internship last year in China, in Bank of China in my home town. This year, I'm still applying and I had several interviews and waiting for the result.

A: In HK?

E: yes.

A: through BPO?

E: One from BPO and one from SSC.

A: So you're just waiting for the result. That's good. It sounds similar but internship is better than mere part time. You're supposed to learn from it, which is good. Ok, would I be correct to say that you'll be pushing yourself for GPA?

E: yes.

A: Ok, that was the general thing and let me steer towards my topics, about course selection. If I ask you to think of choosing cluster course, like couple of months ago, what would be the first thing that comes into your mind as a criteria or as an influence factor?

E: I think the course need to be interest, then I also need to like the teacher.

A: ok, interest is the first but you immediately go into the teacher. Let explore this a bit. Interest is a bit straight forward. Now when you're talking about the teacher, do you mean the teaching style, or grading, or is it about the teacher being a nice person and easy to talk to, they spend more time with the students outside the classroom?

E: first, I think is the teaching method. If the teacher is boring, I'll suffer for the whole semester and I don't like that. Secondly, maybe whether the teacher is nice or not, or treat the students very well and listen to the students and respond. And thirdly or lastly, grading because all effort will pay off if I'm willing to pay off, the result must be good.

A: yes, this last point echoes with some of the other students that I came across. A lot of students mentioned that it is a process and the grade should come along, kind of automatically. They think the grade is important but not the only thing. Now let me go back to the interest. Is it that you're interested in the course or you think that the course is going to help in your career?

E: At this stage, I think I'll choice the course that is helpful to my career. But from the

Commented [ALWL23]: No part-time

Commented [ALWL24]: internship

Commented [ALWL25]: interest

Commented [ALWL26]: teacher

Commented [ALWL27]: teaching method

Commented [ALWL28]: nice, respond to student

Commented [ALWL29]: good grade

Commented [ALWL30]: helpful to career

bottom of my heart, I also wish to choose a course that is really interest me. For example, I would like to choose some course in literature or in translation. But because of the career consideration, I'm choosing some financial, accounting courses.

A: So at least for now, you're thinking of your career but may want to do literature?

E: yes, if I got the chance.

A: I'm sure you'll have at least one chance in the B category.

E: yes, but this kind of course is risky to the GPA so I might just read literature by myself.

A: ok, so you think it's risky because of the GPA, ok, ok. That's very realistic. So teaching, interest. (…explain about course description…..) so when you're choosing courses, will you be looking at these things?

E: yes, I think the outline can be seen after you register in the course, so I usually look at the description and the syllabus.

A: but actually I can tell you that they do have the outline online as well. It's on the intranet rather than on the Registry's website. And usually from previous semester. And they don't change a lot. Is that helpful?

E: yes, I'll be able know more about a course. And how it will be conducted.

A: so you'll be able to make a decision based on this?

E: yes. But I think you read all these documents but finally you make your decision by your sense. By yourself.

A: How about your friends, or fellow students, or senior students? Do you ask them for advice?

E: yes. When we have dinner? I'll ask them of their advice, what's their recommendation. This peer recommendation also form a big part of my decision.

A: This is interesting. Would you enroll because a friend is enrolling the course with you.

E: maybe.

A: It sounds as though this is not very high in the leader?

E: I think it takes a big part. Most of the mainland students have similar goals, similar tastes. Most of the time they make rational choices. So their choices are important references to me.

A: ok, that's fair. What else have I got here. What about service learning? (…explain service learning….) Would you choose or not to choose a course because of service learning?

E: Actually I think that service learning is a good thing. But the problem is that it takes a lot of effort. It is very difficult when you have enrolled in 5 courses at the same time. As it is a graduation requirement, I prefer to do it separately.

A: well, I know that you can use a course to fulfill this civil engagement. But you want to do this separately so that it won't affect your GPA.

E: because I'm so afraid that I'll mess up with my GPA.

Commented [ALWL31]: interest

Commented [ALWL32]: helpful career

Commented [ALWL33]: risk to GPA

Commented [ALWL34]: course outline, outline & syllabus

Commented [ALWL35]: useful documents

Commented [ALWL36]: peer advice

Commented [ALWL37]: similar goals

Commented [ALWL38]: rational choices

Commented [ALWL39]: SL is good

Commented [ALWL40]: SL takes lots of effort

Commented [ALWL41]: Risk to GPA

A: ok ok. You've similar idea as other students.
E: yes, if I don't have too much workload, I don't mind doing it.
A: ok, you're taking to another topics, that's good. I'm going to talk about workload. (….explain about workload ….) Would you choose a course because of the workload load?
E: yes, let me give you an example. I've this World History course which requires me to do a lot of reading. But when this can lead to me able to learn something, then I think it is acceptable. Say if the workload is doing repetitive things, then I think it is non-sense.
A: You see sometimes students will try to balance the workload between courses. Heavy one with light one, would you do that too?
E: yes, World History is also heavy workload and the Legal course is too, so I chose Statistics to balance with them.
A: true. Wise choice. So I'll move onto methods of assessments. (..explain about methods of assessments…) Would you consider this as well?
E: Yes, I'll consider the proportion of the individual or group works. This ratio is very important me.
A: Let me go a bit further, would you prefer individual or group work?
E: it depends, but group work is more risky than individual. To me. Because you have a risk of free rider in a group project. Also, if you group mate is not academic oriented, you could be very upset and disappointing. Most doing more individual work is more convenient and less risky.
A: ok, how about difficulty? Will you consider the difficulty of the course?
E: yes. Firstly, it will make a difference if you really pay the effort. Secondly, if one thing is difficult and challenging, it is more meaningful to learn it. If I can harness more knowledge and improve my skill, I think it is worthwhile to pay the effort and learn.
A: that's a very positive way of thinking. This is also indicated in your previous statement. Now, will you take into account of the time-tabling? Let's start with the time first, if I say 9:30, you know what I mean right? Would 9:30 be a problem for you?
E: I'm very different from most of the local students. I actually prefer a class at 9:30.
A: yes, actually, I kind of expected from you too. I'm not surprised as well.
E: Because I'm a person who is more concentrated during the day time. I keep a regular and good scheduling. I want to take more difficult courses in the morning or afternoon. I don't want it to be too late.
A: too late? as in 6pm or 6:30, right?
E: yes.
A: actually that's my next question. So you've answered for me.
E: Yes, the reason is that I feel that I'm exhausted and my energy is not enough to concentrate on what the teacher says. This semester, I actually have a OM course at 5-6:30. And I think that I'm not learning well because of this,

Commented [ALWL42]: workload

Commented [ALWL43]: learning

Commented [ALWL44]: dislike repetitive work

Commented [ALWL45]: balance between courses

Commented [ALWL46]: weightings in assessment

Commented [ALWL47]: risk to GPA

Commented [ALWL48]: work hard

Commented [ALWL49]: accept challenges

Commented [ALWL50]: prefer AM classes

Commented [ALWL51]: regular & good schedule

Commented [ALWL52]: dislike late classes

A: yes, you're starting to switch off by then.
E: yes, switch off.
A: would it be so put off that you'll not choose this course if it is 6:30?
E: yes, before this semester, I'll still choose. But with the experience this semester, I may not choose that.
A: so it will come into your equation when you're making a decision. So after the time, what about the day of week? Like Monday or Tuesday. A lot of student would prefer a day off, do you have that kind of preference?
E: actually, before this semester is ok, Mon to Fri is ok. I'll always do something academic during the day of week. But this semester I've joined an executive committee and it can be very tiring and difficult to keep on track for all 5 days. Now I'd prefer to have a day off.
A: I guess this is because of your extra-curricular activity.
E: yes, for my CV.
A: yes, good for CV. Now, I'm getting onto student exchange. What's your plan?
E: I'm planning to go in the second term of next year.
A: where are you going?
E: University of Groningen in Netherlands. It's got a very good QS ranking. I don't like the place very much but because of the ranking, I'm going there.
A: Us, UK, Europe or even in Netherlands will be a good experience.
E: I hope so.
A: As far as I know, English is not their first language.
E: but it is very popular.
A: Indeed.
E: also the city I'm going is a very young city. The population have lots of undergraduate students and they speak English.
A: yes, with the internationalization, I've no doubt that they'll be teaching in English.
E: Yes, but sometimes I'm a little bit upset that nobody will talk to you about Dutch. I suppose if I go to France, I'll learn French. Maybe I'll acquire a third language.
A: ok, so the native language is not a very popular one in Europe.
E: yes, it upset me a lot.
A: ok. So why did you put it as your first choice?
E: yes, regretting it now. Sad story.
A: never mind, I'm sure that it will be a good experience there. So going to exchange, will that affect how you'll be choosing courses then?
E: I'll need to pass the course and transfer the credits to Lingnan and the grade will not be counted.
A: yes, that's correct. You usually do 5 courses in one term. Hopefully you can do five there and transfer all the credits back to Lingnan if they have equivalent one. Or you can use the

Commented [ALWL53]: Extra-curricular activities

Commented [ALWL54]: prefer day-off

Commented [ALWL55]: exchange

Commented [ALWL56]: University ranking

free electives or you'll need to come back and take summer school.
E: For me, I want to transfer back to Lingnan as finance courses for a minor.
A: (...explain about credit transfer and minor.....) being an accounting student going to exchange is already hard. Then a minor as well will be very difficult.
E: yes, I talked to many accounting students and they said that usually you can only do one, either the exchange or the minor. But I want to challenge myself and hope that I'll not mess it up. I want to try.
A: It's not like it cannot be done, but you'll need to plan this well. Well that's student exchange but we're onto minor as well. What about academic advisor, will you talk to the advisor when you choosing course?
E: My academic advisor did not give me very advice when I was choosing courses. I know that they're very busy. I better make the decision by myself.
A: ok, so the academic advisor didn't help too much as you're and you can make most of the decision by yourself.
E: although I have asked other teachers, they told me to consult the academic advisor.
A: so you've talked to other, like the instructors of the course.
E: yes, if they are related to accounting or finance fields, I'd also like to listen to their suggestions.
A: actually this is one of my question, so you do ask teachers for advice other than your adviser?
E: It also depends if the professor is willing to discuss with you because it is not his responsibility.
A: yes, I understand. Now, is there any other things you will be thinking? How about class size?
E: it's not important. I can fit in with a large or small class.
A: this is about the grade distribution. Some students perceived that if the class size is small, a teacher can give out more A grades. Did you think about it or if you didn't know?
E: I didn't know. Is that true?
A: yes and no. It is true that more A grades can be given in a small class because of the university guideline. But no, it depends on the individual instructor. Also, class size is not something that anyone can controlled or you can do something about it. So you're not taking this into consideration. What about summer school?
E: yes.
A: you want to make up?
E: Yes, because I'm in the accounting, I want to space out the courses. If I not doing the extra-curricular activity, I don't mind taking 6 or even apply for 7 courses in one semester. But with extra-curricular activity, I'll take summer school because of this.
A: so are you doing summer school now?

Commented [ALWL57]: minor

Commented [ALWL58]: exchange, minor

Commented [ALWL59]: academic result

Commented [ALWL60]: advisor not useful

Commented [ALWL61]: no class size preference

Commented [ALWL62]: summer school

Commented [ALWL63]: exchange, minor

E: yes, I'm starting in 1 June. I'm staying in HK for the case competition as well as internship.
A: So many things happening for you then.
E: I may miss the first few classes because of the competition.
A: any other things you will consider?
E: I'll also look at the syllabus and the course description to see if the teacher is writing them in a detail manner.
A: that's interesting. I'm just going to wrap up. (.. talking about change and study strategy…)
E: actually, I'm not very academically focused. There are a lot more other mainland students who work really hard. Preparation work, case competition.
A: yes, this is my experience with mainland student.
E: do you think this is horrible?
A: well, not exactly but they make our jobs easier.
E: is this happening in Lingnan only or in other HK universities?
A: Well, I'm sure this is happening in other local universities too. But it's just to what extent? Yes, like the percentage or portion of students are like that. Mind you, I know some local students in Lingnan are like that too.
E: yes, I know too.
A: I've also heard that they are sleeping late too. 2 or 3am is common.
E: yes, sometimes me too. But only in the summer. I try to be regular in term time.

Chit chat and end here

Commented [ALWL64]: Extra-curricular activities

Commented [ALWL65]: Useful documents

Commented [ALWL66]: Working hard

Commented [ALWL67]: Regular schedule

Appendix 16 Crobach's Alpha and correlation matrix for the Five-factor model

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.943	.946	5

Inter-Item Correlation Matrix

	F1	F2	F3	F4	F5
F1	1.000	.821	.847	.861	.771
F2	.821	1.000	.906	.743	.718
F3	.847	.906	1.000	.815	.669
F4	.861	.743	.815	1.000	.630
F5	.771	.718	.669	.630	1.000