

**Factors Influencing Student's Choice of Business Major
(Accounting versus Non-Accounting) from a Theory of Planned
Behaviour Perspective**

By

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Abstract

The state of accounting education has been a global challenge for decades and continues to struggle attracting quality students. Even though student enrolment numbers have remained steady over the years the accounting profession and industry continues to report a shortage of suitably qualified accountants. Various reports have articulated that the accounting sector has been challenged by a combination of large international student enrolments, outdated curriculum not meeting industry requirements and a lack of required skills. As the higher education landscape continues to grow and change, research has surfaced examining factors which attract students to the accounting profession. Research results to date have been very mixed on what factors influence students' choice of major and evidence has shown that factors are different in various settings.

Applying a leading social-cognitive model known as the Theory of Planned Behaviour (TPB),(Armitage and Conner, 2001) this thesis aims to examine factors influencing a student's choice of business major (accounting or non-accounting). Using the three constructs that make up the TPB model, plus an added construct of Self-efficacy (SE) and additional characteristics, including some not used before (Language Spoken at home, First in family to go to university and Culture) allowed the study to present original research. A questionnaire was used to collect data (a total of 837 collected) from three Australian universities. Questionnaires were implemented in compulsory business degree units for first and third year students to answer.

The thesis is significant in various ways and it is the first of its kind in the area of choice of major to use a modelling approach that examines constructs as aggregates and individual items; first to add the TPB and a SE construct in the one study; first to examine correlated factors instead of just causation factors; and the first to measure culture using the Hofstede model. It is also the first to explicitly test whether the impact of variables changed from First Year (FY) to Third Year (TY) via a combined model.

Findings suggest that some individual components of the SE construct emerged as good predictors but as an aggregate the SE construct was not found to be significant. The variables culture, full fee-paying students and language spoke at home revealed some significance. Only two of the three TPB constructs were found to have an influence on students' choice of major. Changes were found in the results from FY to TY. The combined aggregate model noted the following demographic variables changed; culture, full fee-paying students, language spoken at home and self-efficacy. Findings from the individual model presented changes in the following variables; from the Personal Behaviour (PB) construct, the possibility of private business and heavy workload; from the Referents (REF) construct parents and teachers witnessed a change from FY to TY, while Language spoken at home further saw a change from FY to TY. Furthermore by identifying factors which influence students to select an accounting major, this enables the accounting profession and universities to better market their courses and therefore attract quality students to the accounting discipline. However, given the unprecedented impact which the recent COVID-19 pandemic has had on the higher education sector, it is worth considering extensions to the TPB framework.

Declaration

I Kathy Michael declare that the PhD thesis entitled “Factors influencing student’s choice of business major (Accounting versus Non-Accounting) from a Theory of Planned Behaviour perspective” is no more than 80,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

I have conducted my research in alignment with the Australian Code for the Responsible Conduct of Research and Victoria University’s Higher Degree by Research Policy and Procedures.

Signature:



Date: March 2022

Dedications

I would like to thank my parents (Andrew and Maria Michael) for all the sacrifices they have made in order to provide me with the opportunities they never had. Everything I have achieved and everything I am, I owe to both of them. I am very lucky to have their support and encouragement through this and every journey I take in life.

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List of Abbreviations

AAA	American Accounting Association
ABDC	Australian Business Deans Council
AECC	Accounting Education Change Commission
AFAANZ	Accounting and Finance Association of Australia and New Zealand
AICPA	Association of International Certified Professional Accountants
ATAR	Australian Tertiary Admission Rank
CDS	Career Decision Scale
CPA	Certified Public Accountants
EFA	Exploratory Factor Analysis
FFS	Full Fee Paying Student
FFU	First in Family to go to University
FT	Full-Time Student
FY	First Year
FYS	First Year Student
GS	Graduated Students
GSES	General Self-Efficacy Scale
HEA	Higher Education Authority
INTP	International Partnership Program
IUQB	Irish Universities Quality Board
KMO	Kaiser-Meyer-Olkin
LSH	Language Spoken at Home
MA	Mature Age Student
NGSE	New General Self-Efficacy
NHMRC	National Health and Medical Research Council
OSQ	Overseas Qualification
PB	Personal Behaviour
PBC	Personal Behavioural Control
PCC	Partially Completed University Course
PT	Part-Time Student
QAA	Quality Assurance Agency for Education

REF	Referent
SAT	Scholastic Aptitude Test
SCCT	Social Cognitive Career Theory
SE	Self-Efficacy
SPSS	Statistical Package for Social Sciences
TAFE	TAFE Articulation Program
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
TY	Third Year
TYS	Third Year Student
UK	United Kingdom
US	United States
VCE	Victorian Certificate of Education
VIF	Variance Inflation Factor

Chapter 1: Introduction

1.1 Research Background

A large pool of literature has documented the global problems that the accounting profession has experienced with recruiting quality accounting graduates. Selected literature has focused on examining factors which have led to a decline in students majoring in accounting (e.g., Gul, Andrew and Leong, 1989; Cohen and Hanno, 1993; Albrecht and Sack, 2000; AICPA, 2000; Barsky and Catanach, 2001; Marriott and Marriott, 2003; Allen, 2004; Byrne and Willis, 2005; Albrecht and Sack, 2000; Evans, Burritt and Guthrie, 2010). In the meantime another body of literature has evaluated the decline in practicing accountants (e.g., Jackling and Keneley, 2009; Jackling and DeLange, 2009) which then led the profession to look at supply and demand issues for accountants.

The emerging difficulties facing the accounting profession eventually led to the formation of committees globally, investigating the demand and supply problem (e.g., Bedford Committee, 1986; the Accounting Education Change Committee, 1989; The Pathways Commission, 2012). The findings from the Bedford Committee (1986) identified that in order to meet the fast-changing nature of the profession there is a need to reform accounting courses. The Pathways Commission (2012), focused on accounting at the higher education level and examined national strategies for the next generation of accountants. The suggested outcomes of this report were many and varied from transforming the first accounting unit to developing a robust sustainable curriculum that is in tune with the skills and requirements of the industry.

In the United Kingdom (UK), the Quality Assurance Agency for education (QAA, 2000) set out benchmarks for each subject within the accounting course. These benchmarks helped develop academic standards which graduates were expected to meet. Ireland witnessed the establishment of the Government of Ireland, Universities Act, 1997. The Act aimed to deliver highly competent graduates, through addressing changes in the way accounting units were being taught. In conjunction with independent bodies investigating the crises,

government policies were also being developed to help combat the shortage of accountants with the appropriate skills. The Australian federal government, for example, offered permanent residency as an incentive to international students who were willing to enrol within an accounting degree. Even with such promising rewards, the shortage of qualified accountants has been on a continuous roller coaster.

In light of the ongoing issue, Capellatto (2010) prepared a report that was commissioned by professional accounting bodies (CPA Australia, ICAA and IPA), together with the leading academic organisation AFAANZ and a few of the themes which surfaced were the increase of international student enrolments and the level of English proficiency. More recently, an Australian study by O'Connell, Carnegie, Carter, Helliard, Watty, Hancock, and DeLange (2015), further highlighted this as an ongoing issue.

Despite the formation of committees, funded research and government interventions there are still reported suggestions regarding supply and demand issues. For example, CPA Ireland reported in 2018 that whilst there are many accounting positions advertised employers are struggling to fill the positions. Even more recently it was reported in *The Financial Review* (2021) that companies are searching for ways to attract quality graduates to the accounting field as Australia faces this staffing issue. In order to address the decline in enrolments it was essential to identify factors which influence choice of majors.

1.2 Research Problem

The research problem underpinning this study is, "What influences a student to choose between an accounting or non-accounting major". It should be noted at this point that all reference within the study made to non-accounting majors is in relation to business majors. From this problem a number of research questions arose and hypotheses were developed to align with research questions. The aim of the research is to investigate the factors influencing students' choice of major. Many researchers have examined the area to varying degrees as this topic is one of rising global interest (e.g., Porter and Umbach, 2006; Tan and Laswad, 2006;

Apostolou 2017; Dorminey, Hassell and Rebele, 2018; Awadallah and Elgharbawy, 2020). Being able to identify factors that trigger students to select an accounting major will be extremely useful in addressing the research problem.

1.3 Research Questions and Hypotheses

As a result of the problem outlined above, a list of research questions (RQ) were developed and a list of hypotheses (H) established. Research Q1 to Research Q3 and the accompanying hypotheses to these RQ relate to the three constructs within the Theory of Planned Behaviour (TPB). Research Q4 and the accompanying hypothesis relate to the additional construct of Self-Efficacy (SE) added to the research. Research Q5a to Q5f and RQ6 with accompanying hypotheses relate to student demographics. Research Q7a to Q7e with accompanying hypotheses relate to the other factors that the study will investigate. The study will not only examine causational factors but will look at correlated factors. Correlated factors are those captured by Research questions 7a to 7d and accompanying hypotheses 7a to 7d.

The thesis aims to address all the below listed Research questions and hypotheses, by analysing the data in aggregate and individual forms. The RQ and H will also address FY and TY student data separately, will look at the data as a comparison of years and then in a combined analysis. The analysis will allow the study to look at possible causes of choice of major and will also have a separate analysis that makes it possible for the study to examine factors that are correlated with the choice of major.

The research questions and hypotheses are as follows:

RQ1: Do behavioural beliefs influence a student's choice between an accounting major or non-accounting major?

H1. Behavioural beliefs have a positive influence on students choosing between an accounting major or non-accounting major.

This will be examined for each of the following cases:

1. Aggregate
2. Individual
 - a. Dealing with lots of numbers
 - b. Initial salary
 - c. Broad exposure to business
 - d. Opportunities for private practice
 - e. Challenging
 - f. Boring
 - g. Future salary
 - h. Heavy workload
 - i. Social status
 - j. Job opportunities

RQ2: Do referents' attitudes influence a student's choice between an accounting major or non-accounting major?

H2. Referents' attitudes have a positive influence on students choosing between an accounting major or non-accounting major.

This will be examined for each of the following cases:

1. Aggregate
2. Individual
 - a. Parents
 - b. Relatives
 - c. Close friends
 - d. Teachers
 - e. Career counsellors

RQ3: Do control beliefs influence a student's choice between an accounting or non-accounting major?

H3. Control beliefs have a positive influence on students choosing between an accounting major or non-accounting major.

This will be examined for each of the following cases:

1. Aggregate
2. Individual
 - a. Workload in chosen major
 - b. Skills and background in maths
 - c. Success in previous courses
 - d. Job opportunities
 - e. Interest in the discipline
 - f. Less time for extra curriculum activities

RQ4: Does self-efficacy influence a student's choice between an accounting major or non-accounting major?

H4. Self-efficacy has an influence on students choosing between an accounting major or non-accounting major.

This will be examined for each of the following cases:

1. Aggregate
2. Individual
 - a. Achieving academic goals set by the individual
 - b. The accomplishment of difficult academic tasks
 - c. Obtaining outcomes that are important to the individual
 - d. Succeeding at any career the individual puts their mind to
 - e. Overcoming many academic challenges
 - f. Confidence in performing effectively on academic tasks
 - g. Can complete academic tasks well when compared to others
 - h. Even during difficult periods can still perform well academically

Research Questions and Hypotheses Related to Student Demographics;

RQ5a: Does gender influence a student's choice between an accounting major or non-accounting major?

H5a: Gender has an influence on students choosing between an accounting major or non-accounting major.

RQ5b: Does ethnicity/culture influence a student's choice between an accounting major or non-accounting major?

H5b: Ethnicity/culture has an influence on students choosing between an accounting major or non-accounting major.

RQ5c: Does age influence a student's choice between an accounting major or non-accounting major?

H5c: Age has an influence on students choosing between an accounting major or non-accounting major.

RQ5d: Does type of student (international vs domestic) influence a student's choice between an accounting major or non-accounting major?

H5d. The type of student (international vs domestic) has an influence on students choosing between an accounting major or non-accounting major.

RQ5e: Does being the first in family to go to university influence a student's choice between an accounting major or non-accounting major?

H5e. Being the first in family to go to university has an influence on students choosing between an accounting major or non-accounting major.

RQ5f: Does language spoken at home influence a student's choice between an accounting major or non-accounting major?

H5f. Language spoken at home has an influence on students choosing between an accounting major or non-accounting major.

RQ6: Does year level alter the effect other items (aggregate and/or individual) have on students choosing between an accounting major or non-accounting major?

H6: Year level alters the effect of other items (aggregate and/or individual) on students choosing between an accounting major or non-accounting major.

Research Questions and Hypotheses Related to Other factors;

RQ7a: Is a student's perception of professional prestige associated with a student's choice between an accounting major or non-accounting major?

H7a: A student's perception of professional prestige is associated with students choosing between an accounting major or non-accounting major.

RQ7b: Is studying accounting prior to going to university associated with a student's choice between an accounting major or non-accounting major?

H7b. Studying accounting prior to going to university is associated with students choosing between an accounting major or a non-accounting major.

RQ7c: Is pathway into university associated with a student's choice between an accounting major or non-accounting major?

H7c: The pathway into university is associated with students choosing between an accounting major or non-accounting major.

RQ7d: Is mode of study (full-time or part-time) associated with a student's choice between an accounting major or non-accounting major?

H7d. The mode of study (full-time or part-time) is associated with students choosing between an accounting and non-accounting major.

1.4 Definition of Key Terms

This section provides definitions of key concepts utilised throughout this thesis.

Table 1.1 Key Terms Used in this Thesis

TERM	DEFINITION
Self-Efficacy	Self-efficacy refers to people's judgements of their capabilities to organise and execute courses of action required to attend designated types of performances (Bandura 1986, p. 391).
Culture	Culture is the collective programming of the mind that distinguishes the members of one group or category of people from others. (Hofstede 2011, p3).
Domestic Student	A domestic student is someone who has an Australian citizenship or holds a permanent residence (Jackling and Keneley, 2009)
International Student	An international student is someone who has a temporary resident visa status and are full fee paying student (Jackling and Keneley, 2009)
Language spoken at home	As per the bureau of Australian statistics, language spoken at home refers to a language other than English that a student uses at home. (https://www.abs.gov.au/census/guide-census-data/census-dictionary/2021/variables-topic/cultural-diversity/language-used-home-lanp , visited Jan, 01, 2022)
First in Family to go to University	Those first in their immediate family to attend university (Crozier and Reay, 2008)
Major	Major refers to choice in accounting or non-accounting
Personal Belief	The personal attitude held towards a particular behaviour.
Referents	Referents in this study are people known to the students, namely; parents, relatives, close friends, teachers and career advisors.
Personal Behavioural Control	Perceived behavioural control refers to people's (students) perceptions of their ability to perform a given behaviour and how easy it is to perform (Ajzen, 2006).

1.4.1 Culture

There is a wide range of opinions about what constitutes 'culture' depending on the methodological approach taken by the researcher (Adler, 1983). Culture is often used in context with terms such as nationality, race and or ethnicity. Kroeber and Kluckhohn (1952) discovered 164 distinct definitions for the term 'culture' and the variations have continued to grow over time (Hofstede, 2001). According to Schaffer and Riordan (2003), approximately 79 percent of cross-cultural studies published between 1995 and 2001 used 'country' as a proxy for culture as has this study. For the purpose of this research the term culture will employ the definition provided by Hofstede (2011).

1.4.2 Self-Efficacy

The additional self-efficacy construct was adapted from Bandura's theory (1977, 1986) and questions created from those presented by Chen, Gully, and Eden (2001). The questions within the self-efficacy construct of this research attempt to gauge student self-worth and ability. For the purposes of this research the definition set out by Bandura (1986) will be applied.

1.4.3 Domestic versus International Student

These variables have been used in many studies but have taken on the same definition as applied by Jackling and Keneley (2009).

1.4.4 First in Family to go to University

The statement, 'First in family' to go to university holds no common international definition. As explained in Chapter 2, section 2.6.3 there are many explanations to what this statement may represent. Literature in Australia (King, Luzeckyj, McCann and Graham, 2015) makes reference to the term to mean those first in their immediate family to attend university and this will be the same definition applied within this research.

1.4.5 Major

Any reference to the term ‘Major’ in this thesis relates to accounting or non-accounting. Major is used in reference to business majors and not any other disciplines.

1.4.6 Referent

The term ‘referent’ signifies individuals or groups of people that are known to someone. These people normally hold an opinion on whether the person they know should or should not perform a particular behaviour (in this case pursuing an accounting or non-accounting major). In this study the referents are parents, relatives, close friends, teachers and career advisors (Ajzen, 1991).

1.4.7 Perceived Behavioural Control

In this thesis, ‘Perceived Behavioural Control’ refers to students’ perceptions of their ability to perform a selected behaviour (Ajzen, 2006).

1.4.8 Personal Beliefs

Personal beliefs in this thesis take on the definition used by Ajzen (2001) in his Theory of Planned Behaviour (TPB). It is the thought that one holds about a particular topic or matter.

1.5 Overview of the Research Methodology

Prior to selecting the most appropriate research method to employ in this study, a review was conducted on previous studies. Published literature examining the choice of major was found to implement surveys in collecting data. Some studies applied ad hoc surveys (e.g., Paolillo and Estes, 1982; Gul, Andrew, Leong and Ismail, 1989), and other studies applied surveys linked to theoretical frameworks such as the Theory of Reasoned Action (Law, 2010; Zakaria, Fauzi and Hasani, 2012; Awadallah and Elgharbawy, 2020) or the Theory of Planned Behaviour (e.g., Cohen and Hanno, 1993; Tan and Laswad, 2006 and 2009). The Theory of Planned Behaviour (TPB) was chosen for this study because it is suitable for a quantitative analysis in an education setting.

The study applies the Theory of Planned Behaviour (TPB), a well-established social cognitive model developed by Ajzen (1991). Ajzen's (1988, 1991, 2002, 2006) TPB aims to capture people's intentions, so consequently it is suitable for examining what factors influence a student's choice of major with a focus on accounting and non-accounting majors. In using Ajzen's (2006) questionnaire designs and in conjunction with the literature guiding this research (Cohen and Hanno, 1993; Tan and Laswad, 2006, 2009), a paper-based questionnaire was developed. The questionnaire was constructed to enable the assessment of the three constructs that make up the TPB (Ajzen, 1991). An additional construct for self-efficacy (SE) was developed for the questionnaire alongside some open/ended questions and other measures of background factors such as demographic characteristics. The additional self-efficacy construct was adapted from Bandura's theory (1977, 1986) and questions created from those presented by Chen, Gully, and Eden (2001). The purpose of the additional construct was to assess whether student confidence exerts any influence on choice of major.

It was decided that the concept of culture in this study would be measured using the Hofstede cultural dimensional framework (Hofstede, 2011). This was a first for a study to measure culture in this manner in a study looking at choice of major. In fact the questionnaire was divided into six sections and consisted of 33 questions. Twelve questions elicited responses on demographic information, seven questions on general information surrounding student studies, two questions on career choice, seven questions (with subsections) on the three TPB constructs, two question (with subsections) on self-efficacy and three open-ended follow up questions. Participants for the study responded to statements within each section using one of the 5-point Likert scale options listed below:

(1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly agree **or** (1) Very unlikely, (2) Unlikely, (3) Neutral (4) Likely, (5) Very likely **or** (1) Not at all important, (2) Unimportant, (3) Neutral, (4) Important, (5) Very important **or** (1) Extremely bad, (2) Bad, (3) Neutral, (4) Good, (5) Extremely good.

In addition to the variables tested within the TPB, the questionnaire contained variables external to the TPB model, namely: language spoken at home, ethnicity, first in family to go to university and domestic versus international student. Some of these variables (gender, language spoken at home, ethnicity, first in family to go to university) bring originality to the study because they have not previously been examined or they are being examined differently to other studies.

The questionnaire was distributed to first and third year students in three Australian universities and studying compulsory business degree units. A total of 837 useable questionnaires were collected and analysed using the statistical package SPSS version 25. The ethical criteria of voluntary student participation were considered in the research design and an ethics application was submitted to VU's ethics panel (application number HRE13316), subsequently approved and deemed to meet the requirements of the National Health and Medical Research council (NHMRC) National Statement on Ethical Conduct in Human Research (2007) by the Victoria University Human Research Ethics Committee.

The study is unique in the way it examines the variables. Literature to date has examined the TPB constructs in aggregate form but this is the first time the items that make up the TPB constructs will be analysed on an individual basis. Constructs within the questionnaire are made up of numerous components, so therefore when the study makes reference to "Aggregate of Items" it is referring to a single measure of a construct. On the other hand, when the study refers to "Individual items" this means the items or components that make up a construct. Individual variable models are not commonly used in the business domain but are frequently found in the behavioural literature context (Johnson, Rosen and Chang, 2011). This study is the first to use an individual model in conjunction with an aggregate model. Johnson, Rosen and Chang (2011) highlighted there are many benefits to such models as it provides insight to areas the aggregate model does not show us.

A total of six models have been constructed to analyse the data in this study. Models have been created for FY (research models 1 and 2) and TY (research

models 3 and 4) student cohorts where information has been analysed separately on an individual and aggregate level for each cohort. As well, it was decided that the information should also be explored from a combined perspective. Therefore, FY and TY cohorts are combined forming models 5 and 6 as another means of interpreting results. The combined method will make analysis on whether the level of impact of the affected variables in FY differ to the impact they may have on TY.

The six models used offer two different ways of estimating a coefficient for each variable in FY and TY. Data run for FY and TY cohorts on their own encourages discussion on the significance of each individual variable that changes. However, there is no test of whether the coefficients' size has changed in a significant way, hence this is why model 5 and 6 were constructed. The delta variables in models 5 and 6 test whether the effect of any particular variable reveals a significant change between FY and TY. This information can only be provided from combined models. Some forms of descriptive statistics for categorical data include frequencies (number of observations which are often displayed in contingency tables) and proportions (the percentage that each category accounts for out of the whole sample). Furthermore this study will apply a combination of frequencies and proportions to its categorical variables: namely age, gender, year level of study, domestic or international students, enrolment status, and whether they were first in family to attend university. For Likert scale responses descriptive statistics such as simple means and standard deviations will be applied as well as minimum and maximums.

Questions 9, 14, 16 and 17 (which are explained in sections 4.10.1, 5.4.2, 5.4.4.7 and 5.4.3), did not form part of the main model or part of the logistic analysis. These were peripheral variables so they are not essential to the main model analysis. Nonetheless they are still worth investigating in terms of whether an association with the choice of major was evident and hence examined in isolation. They were analysed by generating cross-tabulations on the data and then conducting chi-square tests (non-parametric tests). Cronbach's alpha was calculated for the aggregated variables (the four constructs, namely, Personal

Beliefs, Referents, Personal Behavioural Control, and Self-efficacy). In addition, multicollinearity was tested by generating the Variance Inflation Factors (VIF) via SPSS. Contingency tables for Hosmer and Lemeshow Test were employed for FY and TY data using detailed and aggregated totals. Logistic regression modelling, Backward stepwise logistic regression was applied to research model 5. For the Subsidiary Model, data analysis techniques included Parametric and Non-Parametric tests.

1.6 Significance and Contribution of the Study

This research builds on and expands the work of Cohen and Hanno (1993) and Tan and Laswad (2006; 2009) as well as many others which used the TPB to examine accounting and non-accounting students choice of major. The study differentiates itself from other literature in the following ways. Firstly, it captures data from FY and TY university students to examine whether there are any changes in characteristics towards choice of major as students' progress through their degrees. Secondly, a fourth construct of SE was added to the research and thirdly, a comprehensive set of characteristics have been added to help assess what influence there is on choice of major (e.g., first in family to go to university, language spoken at home, mode of study, culture). With regard to culture this study contributes to the literature in so far as it is, to the best of the author's knowledge, the first time an Australian study has used Hofstede (1980) to represent culture when investigating variables that influence students choice of accounting or non-accounting major.

Based on the literature to date this study is also the first one within the business domain to use a modelling approach that examined constructs in an aggregated and an individual manner. This was also found to be the first of its kind to look at possible correlated instead of causation factors (as per the literature available) of what influences students to choose an accounting major. The study further examined pathways and links into accounting via correlations. Another first was reported for the study as it explicitly tests whether the impact of variables changed from one year (in this case from FY to TY) to another via a combined model. Points of difference for this study can also be found in the statistical methods

chosen to analyse data. Most literature took a quantitative approach to this research area with statistical methods such as univariate and multivariate techniques, factor analysis and regression modelling.

1.7 Outline of Thesis

The first chapter of the study introduces the topic, the research problem, and research questions and hypotheses, an overview of the research methodology and then explains the significance of the research with a summary of the findings. Chapter 2 examines the literature on the subject of student choice of major and Chapter 3 discusses the methodology employed to address the research questions and hypotheses. Chapter 4 outlines the strategy and processes supporting the research method and then discusses the six models devised for this research. Chapter 5 explains and presents the statistical tests and analyses conducted in the Statistical Package for Social Sciences (SPSS). Chapter 6 summarises the research results, outlines the research limitations, presents the research implications and puts forward suggestions for further research.

Chapter 2: Literature Review

2.1 Introduction

The objective of the research is to examine the choice of majors that students make at university and in so doing review what factors if any influence students to pursue an accounting or non-accounting major. Non-accounting majors in this instance would refer to other business majors such as marketing, finance, management and information systems. This area – looked at previously through different lenses - will expand on the established literature in the context of career/major choices in addition to examining the concept of self-efficacy and culture using Hofstede's model, areas not overly explored in this manner when examining the choice of majors. At times it may be asked what do students select first, their major or career? Conventional thinking would suggest that the choice of major is the first step in the career selection process and consequently this then drives that pathway (Willcoxson and Wynder, 2010). Assuming that students stay with their initial chosen major it would be expected that they achieve their intended career. The significance of intention is to uncover what drives a student to select a particular major.

Choice of major is an indicator of thinking about career choice so variables relevant to choice of major are also assumed to hold relevance to their choice of major. Literature has predominantly treated choice of major as also representing choice of career particularly in the accounting discipline (Cohen and Hanno, 1983; Tan and Laswad, 2006, 2009; Dalci and Ozyapcic, 2018). A student who selects an accounting major would more than likely pursue this career path given the rigorous nature of such a degree. In this study the choice of a major will be a proxy for career choice.

2.2 Background to Quality, Characteristics, Demand and Supply of Accountants

Selected literature has focused on examining factors thought to have contributed to a decline in students majoring in Accounting (Gul, Andrew and Leong, 1989;

Cohen and Hanno, 1993; Albrecht and Sack, 2000; Barsky and Catanach, 2001; Marriott and Marriott, 2003; Allen, 2004; Byrne and Willis, 2005; Birrell, 2006). This has subsequently led to a decline of practicing accountants which in turn affects the demand and supply of accountants (Jackling and Keneley, 2009; Jackling and deLange, 2009). The 1980s and the 1990s witnessed companies globally struggling to recruit and maintain accounting professionals who held appropriate professional skills, and this problem re-emerged at the start of the 21st century. This problem prompted the formation of various committees globally to overlook and drive investigation into why there was a demand and supply problem. For example, between 1967 and 1987 the USA witnessed 17 models put forward changes to accounting education.

The most spoken about model was the American Accounting Association (AAA) report of the Committee on the Future Structure, Content and Scope of Accounting Education, also known in the literature as the Bedford Committee Report published in 1986. Many interesting concepts arose from this report and in conclusion it was pointed out that a reform of the current accounting degrees would be required in order to meet the rapidly changing profession. In 1989 the AAA formed the Accounting Education Change Committee with the core focus on reforming accounting education. This committee was initially set up for a five-year period (1989 – 1994) but later expanded to seven years. Following this was the Albrecht and Sack (2000) report and then the Pathways Commission was established in 2012.

In response to a recommendation from the U.S. Treasury Advisory Committee the Pathways Commission was set up to examine accounting education in the US. The Pathways Commission 2012 was a collaboration of the American Accounting Association (AAA) and the American Institute of Certified Public Accountants (AICPA) who investigated issues which were surfacing within the higher education landscape. Some matters of interest covered were auditing, and structure of accounting courses, pathways and the impact of technology on accounting education (Albrecht and Sack, 2000). After seeking input from a

variety of stakeholders and examining the problems in the higher education system, the Pathways Commission put forward seven recommendations of change as seen in Table 2.1 below.

Table 2.1 Pathways Commission 2012 Recommendations

(Adopted from IAESB Meeting Oct 24-26, 2012, p 29-45 London UK)

1. Build a learned profession for the future by purposeful integration of accounting research, education, and practice for students, accounting practitioners, and educators
2. Develop mechanisms to meet future demand for faculty by unlocking doctoral education via flexible pedagogies in existing programs and by exploring alternative pathways to terminal degrees that align with institutional missions and accounting education and research goals.
3. Reform accounting education so that teaching is respected and rewarded as a critical component in achieving each institution's mission.
4. Develop curriculum models, engaging learning resources, and mechanisms for easily sharing them as well as enhancing faculty development opportunities in support of sustaining a robust curriculum.
5. Improve the ability to attract high-potential, diverse entrants into the profession
6. Create mechanisms for collecting, analysing, and disseminating information about the current and future markets for accounting professionals and accounting faculty.
7. Convert thought to action by establishing an implementation process to address these and future recommendations by creating structures and mechanisms to transition accounting change efforts from episodic events to a more continuous, sustainable process.

In 1985, Australia witnessed a combined effort of CPA Australia, Chartered Accountants Australia and New Zealand and the Accounting and Finance Association of Australia and New Zealand (AFAANZ) to explore the changing nature of accounting education. This amalgamated effort led to the 1988 publication of The Task Force for Accounting Education in Australia Report. Shortly after the Task Force report was published the Australian Federal Government commissioned a review of accounting degrees in higher education. The review panel included Philip Brown, Margaret Jackson and was chaired by Russell Matthews. The outcome of this commissioned group was the 1990 publication of a Report of the Review of the Accounting Discipline in Higher Education.

In light of the ongoing dilemma surrounding accounting enrolments and shortage of accountants, Capellatto (2010) prepared a report commissioned jointly by the three professional accounting bodies (CPA Australia, ICAA and IPA), together with the leading academic organisation AFAANZ. The themes which surfaced

from this report were: 1. Australian universities heavily rely on education as an export commodity; 2. The perception of falling numbers of domestic students and the impact of international student enrolments; and 3. The flux of international student enrolments and the impact it has on the ability of universities to deliver quality education given that poor communication skills were especially noted.

In the United Kingdom (UK) the Quality Assurance Agency for education (QAA) set out clear subject benchmarks (benchmarks define the academic standards that can be expected of a graduate in the subject, in terms of what they might know, do and understand at the end of their studies) and outlined the nature of the subject for “accounting” degrees to include cognitive abilities and generic skills such as communication skills, the capacity for critical evaluation and the capabilities for independent and self-managed learning (QAA, 2000). Across the waters in Ireland the pressure for change came from the Higher Education Authority (HEA) and the Irish Universities Quality Board (IUQB) (Government of Ireland, Universities Act, 1997). Recommendations from these changes served as good news for students and universities globally in that they aimed to address the way in which accounting is taught in academic institutions, thus resulting in highly skilled and competent graduates. More recently, CPA (2018) Ireland reported a downturn in trainees entering the profession even though there is a large opening for graduates. The demand for accountants continues but employers reported they are finding it increasingly difficult to fill positions (<https://www.cpaireland.ie/Latest-News/News/News-2018/Ireland-is-facing-a-growing-shortage-of-accountant>).

Australia in particular experienced a shortage of practicing accountants although there was surplus of graduates. The failure of education institutions to prepare graduates for employment and the more controversial reasons behind Australian immigration laws relating to international students was said to contribute to this dilemma (Jackling and Kenneley, 2009). For example, Arkoudis, Hawthorne, Hawthorne, Loughlin, Leach and Bexley (2009) identified that only 35% of international students were being employed by accounting firms. A number of barriers existed regarding the low employment rate of international students in

Australia. However, the most important reason was identified to be the lack of English proficiency held by international students (Birrell, 2006; Watty, 2007). These outcomes then led to other studies which attempted to identify why international students select to study accounting in Australia. Into the 2000s an accounting skills gap emerged that placed further pressure on the shortage of practicing accountants. The nature of accounting work had changed considerably, largely because the organisational, economic and technological context in which accounting work was conducted had been transformed (Gammie, Gammie and Cargill, 2002). The deficiency in communication amongst accounting graduates (Birrell, 2006; Kavanagh and Drennan, 2008; Malthus and Fowler, 2009; Djatej, Chen, Eriksen and Zhou, 2015; O'Connell, Carnegie, Carter, Helliard, Watty, Hancock, and DeLange, 2015) alongside issues with curriculum (Jackson, Watty, Yu and Lowe, 2006; Birrell, 2006; Freeman, Hancock, Simpson and Sykes, 2008; Hancock, Howieson, Kavanagh, Kent, Tempone, Segal and Freeman, 2009) was viewed as a contributing factor to the quality, demand and supply of accountants.

In 2014 it was reported in the *Australian Financial Review* that domestic Australian students studying accounting had fallen by 20% since 2001. It was also highlighted that foreign international graduates increased by 500% between 2001 and 2012 (<https://www.afr.com/companies/professional-services/australian-students-turn-away-from-accounting-20140212-ixtfr> visited 03/01/2022). An Australian study by O'Connell et al (2015), published by CPA Australia reported that new entrants to the accountant profession require not only professional skills but professional values and ethics. It was also highlighted that technology was transforming the accounting profession and students need to be well equipped. Similar outcomes were reported by Jackson, Michelson, and Munir (2020) who put forward that universities were not fully preparing future accountants with the latest technology.

The tone for dealing with the outlook of the accounting profession and aspects shaping accounting graduates began to emerge. The following section reviews relevant literature regarding factors that will assist in understanding what may have influenced students selecting accounting majors and contributed to shaping

their beliefs and attitudes towards the accounting profession and the accounting curriculum.

2.3 Global Skill Shortages of Accountants

The term “skill shortages” means different things to different people. For this study the definition will be expressed in terms of supply and demand so where workers for a particular profession exceed the supply available of those who are willing to accept working conditions and pay (Barnow, Trutko and Lerman, 1998; Shah and Burke, 2005). A number of studies globally identified a drop in accounting degree numbers as the course became unpopular amongst students (e.g., Albrecht and Sack, 2000). Even more recently it was reported in *The Financial Review* (2021) that companies are searching for ways to attract quality graduates to the accounting field as Australia faces this staffing issue. In order to address the decline in enrolments it was essential to identify factors which influence choice of majors. Several items of interest have been examined over time such as: (1) lack of information or misleading information provided to students surrounding an accountants role (Garner and Dombrowski, 1997; Albrecht and Sack, 2000); (2) the perception that accounting work is boring (Mathews, Jackson and Brown, 1990); and (3) the poor public image of accountants and the profession (Horowitz and Riley, 1990; Marshall, 2003).

The Hays Global Skills Index is an annual assessment of 34 global skilled labour markets. Hays, in conjunction with Oxford Economics, produce a yearly report assessing challenges which may face employers in seeking skilled professionals. The 2015 Hays Global Skills Index report identified that Australia was facing problems with the demand for highly skilled roles. In the 2019 Hays report, it was further identified that Australia’s talent mismatch between skills that jobseekers have and those employers want has increased for the sixth consecutive year. In the most recent 2019 trends report issued by the Association of International Certified Professional Accountants (AICPA, 2019), statistics show that accounting enrolments and accounting graduates have declined since 2019. There is also evidence that organisations are increasingly hiring non-accounting graduates (<https://procurementandsupply.com/2019/10/skills-index-shows-australia-still-fails-to-meet-demand-for-highly-skilled-professionals/>). This

amongst other reasons is why it is important we understand what drives students to select their chosen majors. By understanding the influential factors this will better serve the education system in setting their curriculum which may also be an influential factor.

Furthermore, the Australian Business Deans Council (ABDC) suggested universities have the capacity to educate the number of accountants required in Australia, yet this is problematic as the number of graduates declined against an increased workforce demand, as Australian students were choosing not to study accountancy. Therefore, in 2011 there was a push by the ABDC for the urgent need to retain the accounting profession on the Skilled Occupation List to assist the accounting profession in meeting the Federal Government's projected demand (*Joboutlook.gov.au, Outlook – Accountants*) for qualified accountants (<http://www.abdc.edu.au/news.php/107/skilled-migration-needed-to-meet-demand-for-accountants> visited 03/01/2022).

In April 2019, the Australian Government website for Education, Skills and Employment presented information supporting the assertion that the Australian labour market was no longer short of accountants. Specifically, that Australia had filled the shortage gap they once had and there is was sufficient accountants to meet the country's demand in the immediate future. It seems that the demand for accountants is on a continuous rollercoaster. In June of 2021 *The Financial Review* reported there was a shortage once again for accountants, attributed to the side effects of COVID-19 with border closures preventing international candidates from entering the country. Pressure from industry has led the Morrison government to adding accountants and auditors to the critical vacancy list and will be given priority processing for migration.

2.4 Choice of Major and Career Choice

Career choice and choice of major is an area that has attracted attention of scholars across various professional disciplines including but not limited to the accounting discipline (Porter and Woolley, 2014; Jackling and Keneley, 2009); the discipline of medicine (Williams, Saizow, Ross and Deci, 1997) and the field of engineering and law (Gul, Andrew Leong and Ismail, 1989). As indicated

earlier in this chapter, choice of major will be a proxy for career choice, therefore in this section, discussion around choice of major and career choice will be considered as being congruent. Prior literature indicates various factors that influence a student's choice of major that can lead to his or her career choice. For instance, Wong and Liu (2010), suggest that parental influence can be a factor of interest whilst Pines and Baruch (2008), consider choices that relate to culture and gender. Geiger and Ogilby (2000) report on educational influences and previous learning history, while Paolillo and Estes (1982) explored job satisfaction. In their work, Jensen and Owen (2001) explored the concept of grades, and Speer (2017) explored the gender gap in college major. Mauldin, Crain and Mounce (2000) examined instructor influences and perceptions of the profession.

Education studies on choice of major or career choice have reported using cohorts of first year undergraduates (e.g., Paolillo and Estes, 1982; Gul, Andrews, Leong and Ismail, 1989; Cherry and Reckers, 1993; Geiger and Ogilby, 2000), second year undergraduates (e.g., Lowe and Simons, 1997), third year undergraduates (e.g., Felton, Buhr and Northey, 1994; Ahmed, Alam and Alam, 1997) and/or graduate students (e.g., Boudarbat and Montmarquette, 2009). For instance, Mauldin, Crain and Mounce (2000), report that students typically decide or confirm their majors during their first two years at university and sometimes choose when enrolled into their first accounting unit, while Ahmed, Alam and Alam (1997) used third year students as a proxy for graduates. Then there are studies such as Karnes, King and Hahn (1997) who believe that by focusing on students who have already chosen accounting as a career, there is a possibility that some aspects of the career decision-making process might be missed.

As an extension to the pool of research on how, when and why students select their career, there is another group of research which narrows down and focuses on students' choice of major. Studies on choice of major specific to the area of accounting that will take centre stage in this thesis are Cohen and Hanno (1993) and Tan and Laswad (2006, 2009). The accounting education literature shows that students hold diverse attitudes towards accounting, so this is another reason for exploring this topic. It should also be noted that whilst some studies have

applied well-known theoretical models such as Theory of Reason Action (e.g., Zakaria, Fauzi and Hasani, 2012; Djatej, Chen, Eriksen and Zhou, 2015; Awadallah and Elgharbawy, 2020) and Theory of Planned Behaviour (e.g., Cohen and Hanno, 1993; Tan and Laswad, 2006 and 2009; El-Mousawi and Charbaji, 2016) and other research has used ad hoc surveys to collect their data (e.g., Paolillo and Estates, 1982; Lowe and Simons, 1997; Chen, Jones and McIntyre, 2005; Sugahara, Boland and Cilloni, 2008; Tang and Seng, 2016).

In 1993 Cohen and Hanno set out to identify and analyse the beliefs that affect student choice of major, and their focus was on accounting and non-accounting majors. Using a survey the researchers applied the properties of the theory of planned behaviour and measured three important constructs of the model, attitude toward the behaviour, subjective norms and perceived behavioural control (these constructs are discussed in greater detail in the following chapter). Cohen and Hanno implemented their questionnaire to 301 business students at five schools across the USA ranging in different sizes and a combination of public and private institutions. The questionnaire was implemented at the introductory sophomore level accounting courses and in upper level courses (the term courses refers to individual units or subjects students need to complete within their degree). Of the total 287 usable responses the study managed to achieve an equal balance of males and females. The results of the individual constructs relating to the model applied by the researchers (theory of planned behaviour, TPB) will be discussed in the categories below. The overall results found that all three constructs of the TPB made a significant and independent contribution to predicting the choice of major.

Allen (2004) set out to examine whether selected factors (the 150-hour requirement and the image of accountants) deterred quality students from selecting an accounting major. The study used the Theory of Planned behaviour as the theoretical framework to investigate. It is worth noting that the factors tested by Allen (2004) are the same concerns which have previously been raised within research (e.g., Albrecht and Sack, 2000; Paolillo and Estes, 1982). The sample comprised 431 students enrolled in introductory accounting which incorporated accounting and non-accounting majors. The study followed that of

Cohen and Hanno (1993) and used logit regression to determine results. Consistent with other studies results highlighted that the image of accounting continues to suffer in the presence of the 150-hour requirement. In an Indonesian setting Suryania, Helliarb, Carter and Medlin (2018), examined much broader factors (such as ethnicity, living environment, type of university, self-efficacy, and social influences) to understand why very few accounting students want to practice in public accounting firms.

The same theoretical method used by Cohen and Hanno (1993) and Allen (2004), was also employed in 2006 by Tan and Laswad to further examine the choice major in a New Zealand setting. A survey following the TPB was implemented to business students enrolled in an introductory accounting course to gather information on what factors impact students' intentions to major in accounting and non-accounting disciplines. The study conducted by Tan and Laswad in 2006 was further extended in 2009. The same students surveyed in 2006 whilst in their first year of their degree were again surveyed at the end of their degree. Once again, examining the attitudes towards majors, the results indicated that a large number of students select majors consistent with their intentions at first year. Another interesting finding which surfaced from this longitudinal study was that a higher proportion of accounting students decide on their choice of major prior to coming to university.

Given research surroundings, the choices of major and career have centred on various influences and the remaining part of this chapter will consider those factors. College students effectively choose their careers when they select their major, especially in an applied discipline such as accounting. It may be that students usually select majors most appropriate for their goals, but it is also possible that students are misled by stereotypes (Chen, Jones, Scarlata, and Stone, 2012). The section below will narrow down the selected factors which contribute to students' selection of major.

2.5 Literature on Variables Most Commonly Examined in Determining Choice of Major

Literature on variables that may or may not influence students' choice of major are many and varied from study to study depending on research aims. Over time it has become common to see selected variables appear and reappear in literature as one study after another attempt to apply similar variables to different settings whether it be a country or cohort of students. It should be pointed out that the factors discussed below relating to choice of one's major may differ from country to country, cultural groups and even academic settings.

2.5.1 Timing of Choice of Major

Several studies have attempted to examine when students decide upon their major or otherwise to be referred to as the timing of their choice. Nelson, Vendirzyk, Quirin and Allen (2002) conducted a longitudinal study from 1995 to 2000 on students in American universities, especially the Federation of Schools of Accountancy (FSA). One of the student characteristics assessed by this study was the timing of selection. Within the questionnaire students were asked: "When did you first seriously consider accounting as an academic major" and were given six options to select from, namely: (1) During high school, (2) Freshman in College, (3) Sophomore in College, (4) Junior in College, (5) Senior in College and (6) Later. Likewise students were also asked, "At what point did you make the decision to major in accounting" and students were given the same 6 options to select from. Results highlighted that a significant (significance at the 0.05 level) number of students (Seniors 39.5% and Masters students 34%) first considered majoring in accounting at high school. Meanwhile the percentage of students who actually made the decision to major in accounting occurred during their sophomore year. In contrast to the results reported by Nelson, Vendirzyk, Quirin and Allen (2002), Graves, Nelson and Deines (1993) found that one-third of students majoring in accounting decided on their major while still in high school. On a slightly different note, Paolillo and Estes (1982) examined career-choice factors of accountants with those of three other professions (attorneys, engineers, and physicians). A total of 2500 questionnaires were mailed to a random sample of members from the following professional bodies, American Institute of Certified Public Accountants, American Bar Association American

Society of Mechanical Engineers, and American Medical Association. With the 694 usable surveys collected the study used a multiple discriminant analysis of data collected. It revealed there were distinct differences in career choice and motivating factors among the four professions.

One of the questions within the survey implemented by Paolillo and Estes (1982), asked the subjects: "At what time in your life did you decide on your profession?" in which the subjects were required to select one of five options. These were as follows: (1) pre-high school, (2) high school, (3) Freshman or sophomore year of college, (4) junior or senior year of college, and (5) post baccalaureate. Results further identified that accountants tend to decide on their profession during the first two years of college with 40% outlining their decision was made in their freshman or sophomore year of college and 23% making this decision at high school. Although Paolillo and Estates (1982) surveyed people already working in the professional field of their choice the results of the study supported what Nelson, Venzryk, Quirin and Allen (2002) reported.

Other studies which found students select their intended major prior to commencing university study included Karnes, King and Hahn (1997) and Jackman and Hollingworth (2005) who surveyed high school students. Hermanson, Hermanson and Ivancevich (1995) administered a survey by post to members of a national business honor society at three large US universities. With a total of 174 usable responses, the study set out to address 17 characteristics of the accounting profession. Accounting and non-accounting majors were asked to indicate their perception against these 17 characteristics in relation to them selecting to major or not to major in accounting. When respondents were asked about the timing of their decision to major in accounting, one quarter of the accounting majors specified that the choice was made at high school. Meanwhile 62% of the accounting majors indicated their choice of major was made during freshman or sophomore years, and 13% decided on their major in accounting during the junior or senior year.

US studies by Mauldin, Crain and Mounce (2000) and Geiger and Ogilby (2000) discovered that the decision to major in accounting was made in the first

accounting unit studied by the student. Using questionnaire data collected from 331 introductory financial accounting students from two universities, Geiger and Ogilby (2000) assessed students' general perceptions of the first accounting unit/course. The aim of the study was to look for any evidence regarding students' perceptions of the first unit/course in accounting and what effect their perceptions had on them deciding whether or not to major in accounting. From the 331 student responses it was discovered that while intended accounting majors perceived the unit/course more favourably than non-accounting majors at the beginning and end of the semester, both groups presented relatively positive attitudes to the unit/course. However, these attitudes were similarly less favourable by the end of the course for both groups (accounting and non-accounting). The analyses for selection of accounting as a major indicated that the decision depended on, performance in the first unit/course and individual instructors, but not on changes in perception regarding the first course.

In aiming to examine ways to attract students to the accounting profession, Mauldin, Crain and Mounce (2000) provided insights into the timing of when students make this important decision and along the way identified other factors relevant to increasing recruitment of accounting students. As with most studies a survey was used to collect data from 81 participants. One of the survey questions asked the accounting majors to indicate when they made their decision to major in accounting; students had four options to select from: (1) high school, (2) college, before first accounting unit/course, (3) college, during first accounting unit/ course, and (4) college, after first accounting unit/course. From a sample of 81 accounting majors, 41 students selected the third option and they made their decision during the first accounting unit at college. The other 31 students had selected option one and had made their decision in high school.

Wally-Dima (2013) further aimed to examine the influential factors that drive students to select accounting as a major and to determine at what point in time the decision was made. The study implemented a survey (included closed and open-ended questions) to 113 final year accounting major students from the University of Botswana. The sample came from two groups of students, some from the Bachelor of Accountancy and others enrolled in the Bachelor of Arts

double major in accounting and economics degree. Other general findings in the study suggested that the major factors influencing students to major accounting included, availability to advance their opportunities, personal interest in the subject, and availability of employment after graduation, passion for the profession and high earnings compared with other professions.

Respondents were asked to identify when the decision to major in accounting was made and they were given three options to select from: (a) at high school, (b) after high school and (c) after first year at university. Answers to this question found that the majority of the students (52.9%) made the choice to major in accounting after high school, yet before entering university 29% of respondents reported to have made their decision at high school. The findings regarding the timing of student's decisions to major in accounting or some other discipline are not conclusive. Whilst some studies highlighted students are thinking and selecting their majors prior to university in particular in year 12, other research presented results that decisions are not made until students get to university and often more than not other factors also play a role in their decision. This timing is important because it has serious implications for those engaged in recruiting students into accounting courses. This study takes a nonstandard approach by comparing the intention of first year students to the actual choice of third year students by using different year levels.

2.5.2 Job Characteristics

In examining findings in this area it became apparent that the terms earnings and salary were often used interchangeably. Furthermore, while the concept of earnings has been looked at to varying degrees, most studies have focused on a blanket view of earnings (e.g., Felton, Buhr and Northey, 1994) where both initial and long-term earnings have been questioned. There are even theories available, for example the Theory of Planned Behaviour (e.g., Tan and Laswad, 2006) that assess in the context of personal beliefs both initial salary (PBb) and future earnings (PBg). Nevertheless it has been identified that financial rewards are important. Some research has found to combine the concept of earnings with job security, for example Achim, Badrolhisam and Zulkipli (2019). In a

Malaysian setting, the above authors looked at factors influencing career choices among government servants in Malaysia. The results reported from the statistical analysis found that variables salary and benefits, workplace environment and job security did correlate with career decision-making.

Accounting is not the only area in which earnings and job security have been identified as important aspects in making a choice of major. Similar outcomes can also be found in other disciplines, for instance finance, marketing and management (Siegall, Chapman and Boykin, 2007), and computer information systems (Downey, McGaughey and Roach, 2011). Many other studies have shown that higher financial rewards were considered important factors in students' decision to major in accounting (Case, 1988; Paolillo and Estes, 1982; Gul, Andrew and Leong, 1989; Inman, Wenzler and Wickert, 1989; Felton, Buhr and Northey, 1994; Adams, Pryor and Adams, 1994; Hermanson, Hermanson and Ivancevich, 1995; Ahmed, Alam and Alam, 1997; Auyeung and Sands, 1997; Lowe and Simons 1997; Tan and Laswad, 2006).

Lowe and Simons (1997), examined factors that influence second year business students' choice of major. Students were asked to rate the importance of 13 factors which may influence choice of majors. Results supported the significance (significance at the point of $p < 0.05$) and influence that earnings, career opportunities and prestige had on accounting majors as compared to other disciplines. Adams, Pryor and Adams (1994) conducted a longitudinal study examining a pool of 238 university students (accounting and non-accounting) against 11 factors which may influence accounting as a major. One of the conclusions made by the study was that earnings was a variable of great interest when selecting majors. Furthermore, Ahmed, Alam and Alam (1997) who surveyed 295 students from five New Zealand universities, discovered that students who intended to pursue a Chartered Accounting (CA) career placed greater weighting on financial and job-related factors. Byrne, Willis, and Burke (2012) also identified that financial rewards were more important to students who wanted to pursue an accounting career as opposed to those pursuing other careers.

Nouri et al. (2005) found that undergraduate college students viewed salary, security, time commitment and autonomy offered by the accounting industry important in career choice. In a study by Downey, McGaughey and Roach (2011), students completing an accounting major rated the influence of job security and job availability at a higher level than marketing and management majors. Paolillo and Estes (1982) had examined 12 factors which may influence students' choice of major across four professions including accounting. The study concluded that earnings potential amongst other things (years of education required, aptitude for the subject, and teacher influence) had a greater impact on career choice for accountants than for the other professional groups. In their work, Tan and Laswad (2006) found that students who selected accounting as a major were influenced by job opportunities in comparison with those who selected a non-accounting major. The latter believed there were greater job opportunities in other majors. This was consistent with Cohen and Hanno (1993) and Allen (2004) found.

Job opportunities, job availability, and job security associated with the majors were further examined by many studies (Felton, Buhr and Northey, 1994; Mauldin, Crain and Mounce (2000); Bock and Kim, 2002; Malgwi, Howe and Burnaby, 2005; Crampton, Walstrom and Schambach, 2006; Beggs, Bantham and Taylor, 2008; Li and Thompson, 2011). Job satisfaction, opportunity to be creative, autonomy, intellect, and a challenging and dynamic working environment, are other factors that may influence students' choice of major.

Research indicates that job satisfaction, for instance, is important in accounting students' discipline choice (Paolillo and Estes, 1982; Gul, Andrew and Leong, 1989; AuYeung and Sands, 1997) but not as important as many other factors (Paolillo and Estes, 1982; Felton, Buhr and Northey, 1994).

The above summary is indicative that regardless of major studied, students will consider the earnings capacity of their major/career when making their decision. The level of influence has also been highlighted to change depending on discipline examined and country of study. This study in particular focuses on initial earnings and future earnings as they form part of TPB.

2.5.3 Previous Learning Experience and Performance in the Introductory Accounting Units

Another theme which continues to surface when examining choice of major is whether a student has been exposed to accounting prior to going to university. Other themes which surface in the examination of major choices is that of past performance and experience of the discipline at either secondary level or at first year university. The performance of a student in their first exposure to accounting has been considered an influential factor on students' choice of major. Selected research has demonstrated that the perceived success in an introductory accounting unit signals to a student that they have an aptitude for accounting (Paolillo and Estes, 1982; Cohen and Hanno, 1993; Geiger and Ogilby, 2000) and hence may persuade their choice to pursue accounting. Poor performance, conversely, may be perceived by students as a signal that they may not have the required aptitude for accounting and therefore should pursue a non-accounting major. Other studies (Adams, Pryor and Adams, 1994; Stice and Swain, 1997; Allen, 2004) suggest that course performance is not significantly related to high performing students' decisions to major in accounting.

Some studies which have examined the possible association between career choice in accounting and previous learning experience include, Felton, Buhr and Northey (1994) who used a sample of Canadian students and discovered that exposure to accounting in secondary schools was significantly related to one's career choice in chartered accountancy. Additionally, Chen, Jones, and McIntyre (2005) extended the study by Felton, Buhr and Northey (1994) and found that students' decision to major in accounting was strongly associated with their overall experiences and satisfaction in preliminary accounting courses. In comparison to Ahmed, Alam and Alam (1997) who examined tertiary students in New Zealand, found that exposure to accounting in secondary school had no significant influence on career path.

Heiat, Brown and Johnson (2007) surveyed 345 business college students from a US university in order to determine what factors guide a student's choice of major. The study further attempted to gather students' perceptions of accounting classes and the accounting profession. The study found that 41% of students

selected their major before entering college and 30% during their sophomore year. Such findings illustrate the importance of providing information to students during high school or early in college/university about the opportunities and benefits associated with a particular major such as accounting.

2.5.4 Referents

Research has shown that social influences from trusted people or groups nearest to students may willingly or unwillingly have influence on their career exploration. For instance, when students are making career choices, and consequently course majors they may be influenced by their parents, relatives, friends and/or teachers whether they be career teachers, course teachers or other. Empirical studies show this factor presents non-consistent outcomes with research results varying depending on the country in which the research has taken place and the discipline the study is focused upon. Mauldin, Crain and Mounce (2000) attempted to assess the level of influence of various referents (accounting principles instructor, school of accountancy advisor, advisor, university career center, high school guidance counselor and other) on a student's decision to major in accounting. The study used a five-point Likert scale, 1 representing least influence and 5 representing most influenced. From the 81 accounting major students who responded, it emerged that an accounting instructor received the highest mean ranking of 3.89. This was followed by the option of other at a mean ranking of 2.39 and the lowest mean ranking of 1.52 was against the high school teacher. The study pointed out that the most cited "other" were parents and friends.

In the same survey students were provided with a six-point Likert scale (0 = no influence and 5 = extreme influence) and were asked: *"Please indicate the degree of influence your instructor of accounting principles had on your decision to major in accounting, or if applicable, to continue majoring in accounting..."*.

The mean of the responses was 4.2 indicating a strong influence by the accounting instructor. The outcome of these two questions delivered the same result that being the accounting instructor is an influential factor in students' choice of major. It is also worth noting that accounting principle instructors had

more influence on a student's decision to select a major in accounting than what other instructors had with non-accounting students.

Paolillo and Estes (1982) assessed the influence of 12 factors that had previously been found in other research to wield a significant influence on career decisions. Parent influence, teacher influence and peer influence formed part of the 12 factors examined and the researchers had required students' rate each of the 12 factors in line with how they were influenced 1= Very important and 5 = not important. The findings presented that students were more influenced by the opinion of teachers than those of their parents in making a career choice. The scale weighted mean given to teachers was 3.56, parents was 4.14 and peers 4.6. Consistent with findings reported by Paolillo and Estes (1982), Mauldin, Crain and Mounce (2000) and Hermanson, Hermanson, and Ivancevick (1995), further identified that accounting majors reported that college instruction had the greatest influence in their choice at 30%, whilst parents had a 16% influence. It appeared that the non-accounting students also ranked college instruction at 22% and parental influence at 17%. Geiger and Ogilby (2000) also reported instructor association with choice of major, reinforcing the importance universities should place on selecting teachers in the first business/accounting unit.

Empirical evidence shows mixed results when examining the influence in which instructors, parents and friends may have on students' choice of major. Whilst some studies suggest that instructors do not play a significant role in students' choice of majors (e.g., Cangelosi, Condie and Luthy, 1985; Gul, Andrew and Leong, 1989) other studies suggest that individual instructors have a profound influence on students' decisions to major in accounting (e.g., Paolillo and Estes, 1982; Hermanson, Hermanson and Ivancevich, 1995; Geiger and Ogilby, 2000; Mauldin, Crain and Mounce, 2000). On the other hand, Cohen and Hanno (1993) identified those students majoring in accounting believed that each important person or group (parents, classmates, professors, friends or family and business people) should choose accounting as a major, while non-accounting majors believed that each person and group should choose some business area other than accounting as a major. Thus, the students' choices to major or not major in

accounting corresponded with what relevant important people and groups thought the students should or should not do.

Tan and Laswad (2006) used the TPB to assess the influence of four groups of people (parents, other relatives, friends and career advisors and counsellors) on accounting and non-accounting students. Results showed that parents were the only group who had a significant difference between accounting and non-accounting students' motivation to comply. The researchers had thought that the significance could have been shaped by cultural factors given that approximately half of the respondents were international students from China. These results were different to those of Cohen and Hanno (1993) who had not found any significance between the two groups. Elsewhere, Byrne, Willis, and Burke (2012) examined what influence seven groups (parents, subject teachers, career guidance teachers, relatives and family friends, visiting speakers, promotional material, peers and friends) have on students career choice. Using a 5-point

Likert scale (1=not influential and 5=very influential) results indicated that parents were the only group that held a significantly higher than the mean of 3 at the 1% level for all students. Subject teachers also showed a significant difference amongst the accounting group's career choice.

In a South African setting, Myburgh (2005) examined what factors influence first year accounting students to become chartered accountants. The study used students of different racial groups at the University of Pretoria (combination of Asian, black and white). A total of 478 surveys were collected and results identified that advice given by parents, relatives and school teachers had influenced Asian, black and white students' decision to pursue an accounting career. Additionally, findings regarding the influence of other people such as parents and friends (other than instructors), was inconclusive. Cangelosi, Condie and Luthy (1985) noted that friends do not influence most students toward or away from accounting careers. Gul, Andrew and Leong (1989) note that parental influence is not a significant factor in students' discipline choice decisions. Similarly, Paolillo and Estes (1982), Hermanson, Hermanson and Ivancevich, 1995, and Lowe and Simons (1997) found that friends, parents and high school

teachers are less influential factors in students' choice of major in comparison to the other factors the study was examining such as initial earnings, interest in subject matter and other. In contrast, Inman, Wenzler and Wickert (1989) and Mauldin, Crain and Mounce (2000) discovered that parents followed by instructors wield a strong influence on students' choice of majors.

Using the same variables applied by Paolillo and Estes (1982), Dalci and Özyapici (2018) surveyed 266 students from a European university to identify what indicators influence choice of major. Results from t-tests found that students intending to follow an accounting career hold more importance to the opinion of parents and friends than those not intending to follow an accounting career. A significant statistical difference emerged between the two means (accounting and non-accounting) at $p < 0.000$. The multivariate discriminant analysis presented a statistically significant association with students' decision to pursue a career in accounting. Using the TPB, Smith (2005) examined the impact of accounting instructors and the influence the first business unit curriculum had on students making a choice of major and found the instructor had no impact but the exposure to the first business unit did. The influence of referents on choice of major has formed a significant contribution to the literature and hence will be investigated in this study.

2.5.5 Perceptions of the Accounting Profession and Portrayed Image of Accountants

It is known that stereotypical images of professions can influence a student toward or away from a profession. Another factor examined in the literature is the portrayed image of accountants and whether these stereotypical images have any bearing on students selecting their majors. Hermanson, Hermanson and Ivancevich (1995) examined 17 characteristics and the accounting and non-accounting majors were asked to rate their perception on a five-point scale (1 representing very low or very poor and 5 representing very high or very good). Fisher and Murphy (1995) in a UK study explored student perceptions of accounting from both the unit and the profession. They concluded that whilst the study identified attitudes towards accountants to be negative the profession on the other hand appears to be held in high regard socially and the way in which the profession is perceived by those

majoring in it. Jackling (2002) identified that students do not perceive accounting in a positive light but rather see them as number crunchers. Additional studies which reported accounting and accountants in a negative light include Luscombe (1988), Horowitz and Riley (1990) and Cohen and Hanno (1993). Another consideration is students' perception of work of accountants to be excessively time-consuming and unpleasant (Mauldin, Crain and Mounce, 2000; Marshall, 2003) and that accounting was too quantitative and boring (Cohen and Hanno, 1993).

As the above section has documented, literature into the decision-making of majors by students has produced a substantial list of factors that might shape the choices of major. Not all factors that have been researched have surfaced in this section. Some factors not covered in this section include: interest in the course material, access to particular jobs, college experience and how that has exerted students' choice of major (Mauldin, Crain and Mounica, 2000), others have looked at sense of belonging to campus and choice of major (Soria and Stebleton, 2018) and career opportunities (Wolniak and Pascarella, 2005). It should be noted that trends of characteristics change over time (Quirin, Vendrzyk and Kovar, 2008) and specific characteristics have been known to be different between countries and various other settings. What characteristics are said to have assisted one group of students in their choice of major may not necessarily be the same for another group.

2.6 Literature on Student Demographics and Choice of Major

Demographic data refers to data collected on subjects in a study and generally includes common information such as gender, age, nationality and any other information relating to the area of research. It is common for researchers to collect such data as it could help profile the subject. As part of reviewing literature for this section the hypotheses for categories began to emerge.

2.6.1 Age

No known research (to my knowledge) has been found to indicate that age of a student affects their choice of major, but that has not stopped researchers from examining it. Nelson and Vendrzyk (1996) reported that a difference was found

whereby more seniors were enrolling at the undergraduate level and an increase of younger students at the Master's level. Other than studies reporting a change in ages selecting majors in accounting no study has pinpointed this characteristic to be related to one's choice of major. The recent study by Awadallah and Elgharbawy (2020) collected information on age as part of demographic data but they controlled for 5 factors that may affect students' choice including age, gender, qualification, nationality and language of the study. This study used Exploratory Factor Analysis (EFA) to assess the validity of the used constructs in the survey. To identify the most important influential variables shaping the choice of major between accounting and non-accounting students, the discriminant function was examined. Standardised discriminant coefficients with large absolute values correspond to variables with greater discriminating ability. The variables with greater discriminant co-efficient are listed in order as, personal interests and skills, accounting education and introductory course, Job prospects, family and peers, age, media and publicity. According to the univariate F ratio reported in the study all the six factors are significantly different at the 0.001 level between the two groups of students (accounting and non-accounting major), with different levels of discrimination power. Using the correlations of each variable with each discriminant function the study further determined that later discriminant loadings less than ± 0.30 are considered weak and cannot be considered important variables concerning the choice of major. The variables of age, media and publicity were then removed from the list of influential variables.

Sugahara, Hiramatsu and Boland (2009) in a Japanese setting, set out to determine what influences accounting students' intention to become a Certified Public Accountant (CPA). One hypothesis was "Students' age has no significant relationship with their intention of becoming a CPA" (p. 7). Results confirmed that the hypothesis was true and age had no significant relationship with intention of becoming a CPA. Information relating to people's age seems to be collected automatically as part of a survey, whether in an academic setting or otherwise. Often the collection of this information is purely just reported as demographic information to give a reader an idea of the profiles that took part. Given the research available on age and its influence on choice of major is almost non-existent has led this variable to be included as a hypothesis in the study.

2.6.2 Gender

In contrast to literature on age, gender seems to play a role in choice of major and career selections of students. These differences have undoubtedly significant economic and social impacts (Zafar, 2009). Hence, to understand why women and men select particular majors will not only allow governments to implement policies to ensure a balance of gender in disciplines; it will also assist the education sector in promoting various disciplines to particular genders. Gender has been applied to many studies in education to help explain aspects such as: (i) academic performance (e.g. Bagamery, Lasik and Nixon, 2005; Black and Duhon, 2003; Gracia and Jenkins, 2002); (ii) difference in natural abilities and preferences (Zafar, 2009); (iii) gender gap in earnings (Paglin and Rufolo 1990; Brown and Corcoran, 1997), and (iv) pre-college preparations (Speer, 2017).

According to Dima and Mbekomize (2013) gender theory argues that males and females enter the education systems with different sets of behaviours, attitudes and values which are a result of childhood socialisation. As a child is born into a certain society it is raised in a culture that has already divided social responsibilities into masculine and feminine roles. Keeping this in mind we look at what importance gender has played on students' choice of major.

2.6.2.1 Importance of Gender in the Choice of Major/Career

Previous research in relation to whether gender influences a student's perception to pursue an accounting degree has emerged as mixed. Research conducted in the US by Nelson and Vendrzyk (1996) demonstrated that females had more favourable attitudes towards accounting than male students. Nelson and Vendrzyk (1986) conducted a longitudinal study assessing characteristics of accounting students by the Federation of Schools of Accountancy (FSA). Between 1995 and 2000 questionnaires were administered to seniors and Masters Students. This study found that although males outnumbered females in the graduate accounting programs in 1995, by 2000 there was a reverse effect with females (52%) outnumbering the males moving onto a Master's program.

This was reinforced by Lowe and Simons (1997), who through a questionnaire examined second year college students against 13 factors that may influence their choice of major. Additionally they explored the use of two demographic variables, namely gender and age in the choice of major and found that female accounting majors ranked greater importance (than males), against the inherent nature of the subject matter and the ability to succeed academically. Turner and Bowen (1999) further examined the gender gap in choice of major, specifically looking at females in the science and engineering discipline and the research suggested that the unbalance of gender in the sciences could be cultural. Furthermore gender and socialisation skills may lead males and females to have different career-choice preferences. It should be noted that this research focused on the extent to which Scholastic Aptitude Test (SAT) scores explain gender differences in choice of major.

The Taylor (2000) report was a commissioned inquiry into schools and it identified that accounting majors were more likely to be females. This conclusion was also supported by Byrne and Willis (2005) in a study conducted in Ireland which found that female secondary school students viewed accounting more positively than males. The study implemented a questionnaire to 746 second level schools in Ireland surrounding careers and perception of accounting matters. Given perceptions are not gender neutral the researchers set out to test them. A two-way ANOVA test showed no significant interaction between studying accounting and gender. Further testing enabled the researchers to identify that unlike males, females view the accounting profession as significantly more compliance-driven. This was pointed out by authors to be a concern given they also identified there was greater number of females attracted to the accounting profession.

In 2001 a study conducted by Leppel, Williams and Waldauer further found that female students are more likely to be influenced in choice of major by a professional father and that women from “high” socioeconomic backgrounds are less likely to major in business. In a more recent study by Kugler, Tinsley and Ukhaneva (2017), it was suggested that females on the whole select majors that lead to lower paid occupations such as humanities, education, and some of the social sciences, such as psychology. Meanwhile men choose majors that lead to

higher-paying jobs such as science, engineering, and business. On the other hand, Jackling and Calero (2006) did not find any significant difference in females and males in their interest in becoming an accountant.

In 2010, Law surveyed 214 final year accounting students in three Hong Kong universities and it emerged that gender had a significant influence with females more likely to choose a CPA career or general accounting career compared to a non-accounting career. The negative odds ratio indicated that a student being male diminished the likelihood that student would choose a general accounting or CPA career as opposed to a non-accounting career. Likewise, male accounting students were 95 percent (0.055-1) less likely to be in the general accounting group, and 95 percent (0.053-1) less likely to be in the CPA career group. In 2013 Al-Rfou addressed three hypotheses for the idea of whether gender had any bearing on student major from the perspective of business students (accounting, finance and banking, business economy and business management) at Tafila Technical University (TTU), Jordan for the 2011/2012 academic year. A total of 180 questionnaires were used and after applying linear simple regression a significant relationship was found between gender and the choice of a business major (Beta= 0.114., $p = 0.000$). Another study (Alanezi, Alfraih, Haddad and Altaher, 2016) conducted in Kuwait on a sample of 239 two year college courses at PAAET found no significant impact of gender on choice of major ($t = -.536$, $p > 0.05$).

Worthington and Higgs (2003), surveyed first-year business students at an Australian university in order to determine the role of student characteristics, personality, and perceptions of the banking and finance profession in determining the choice of major. The survey was implemented to all students in a first-year core business unit and was administered after a compulsory piece of assessment was completed. As part of examining student characteristics the study looked at gender, secondary school studies in accounting, business and economics, grade point average and attendance mode. Not only did the study examine whether gender influenced choice of major, it also examined which gender is likely to select a finance major. Some results highlighted that gender has a role to play in the choice of a finance major. While at least some 'gender bias' is removed when

perceptions and attitudes to the profession are taken into account, the fact remained that female students were much less likely to select a finance major than their male counterparts. The suggestion that the finance curriculum, along with the pedagogy and types of evaluation instruments, includes topics and methodology of less interest to women, and that the evaluation favours male learning styles is a matter of some concern.

Students' choice of major was the dependent variable in this study and the explanatory variables were student personality, perceptions and other physical and educational characteristics. The nature of the dependent variable indicated discrete dependent variable techniques appropriate for the study so a binary probit model was applied. In a longitudinal study, Khoo and Ainley (2005) examined a sample of young Australians enrolled in year 9 in 1995, and it was found that gender played a part in students participating in university but no conclusion was made on what majors were chosen. The study reported that participation in university and year 12 studies were linked to several background characteristics, one in particular being gender. A positive association was found for females.

Overall, the results from tests for differences in means and proportions for the explanatory variables indicated statistically significant differences between finance majors and other majors. It was concluded that all other things being equal the finance majors have a higher personality score, hold a greater level of interest in the finance profession, are less likely to be female, likely to be studying part-time and likely to have studied economics at secondary school. Given the interest of gender within the literature across various country settings and the significance it appears to make to not only choice of major but other factors is what lead this variable to be tested in the current study. This will allow the study to contribute a finding to the literature from an Australia setting.

2.6.3 First in Family to go to University

It is noticeable many studies looking at influential factors that affect business student's selection of major have explored much the same variables, but the concept of first in family still has scope for further research. The term "first in family" is commonly used in the Australian and UK (Crozier and Reay, 2008) literature to explain students who are the first in their family to attend university. In contrast, in US literature it is often referred to as "first generation" (Lohfink and Paulsen, 2005; Engle, 2007). As there is no common international definition on what these statements encompass, it has given way to various interpretations and this makes it difficult to compare research outcomes.

Generally both statements attempt to represent a person who is the first in their immediate family to attend university which suggests their parents or any of their siblings have not attended university. Having said that some studies (e.g., Davis, 2010; Engle and Tinto, 2008) have taken the approach that first in family could represent the first person to attend secondary school or some other form of education, likewise other studies have taken first in family to mean anyone from the same family who goes to university would earn the same title. The reasons behind why a person may be the first to attend university is another area for research investigation, but some studies have linked the first to go to university with low income families, migrants and mature age students.

Research and the education sector have identified those students who are the first in their family to attend university will require additional support to enable transition into universities (<http://www.firstinfamily.com.au/>). With the assistance of a grant from the Higher Education Research Grants Project. King, Luzecky, McCann, and Graham (2015) set out to explore the experience of being first in family to attend university (<https://www.ncsehe.edu.au/publications/exploring-the-experience-of-being-first-in-family-at-university> visited 03/01/2022). There has been little research and conclusions made on the relationship between first in family students with choice of major and research, but not specifically to the accounting and non-accounting majors.

Trejo (2016) expanded upon Saks and Shore's (2005) work and looked at the extent to which being a first generation college student influences the choice of major. According to Trejo (2016) first generation students are most likely to be exposed to less or different information about college than students whose parents have attended college. Trejo (2016) used data from the National Longitudinal Study of Youth 1997 Cohort, a total of 1,981 student data was used across 11 college majors one of which was Business which comprised 402 students. Findings according to the multinomial logit model found that first generation students were drawn to non-business disciplines when compared to non-first generation students. We need to be mindful that these results are based on US college data and hence several aspects could change depending on migration laws, college characteristics, etc. It further emerged that first generation students to attend college do statistically take different majors to non-first generation students.

According to Tejo (2016, p. 37) "...First generation college students are disproportionately from low income families and members of disadvantaged minority groups ...". The study estimated a multinomial logit choice model, for the choice of majors of first-generation college students and non-first-generation students. The model controls for other factors such as sex, race, ability, and family income to isolate the effect of first-generation status on choice of major for what would otherwise be two identical students. In contrast to Trejo (2016), O'Shea (2015) took the term first in family to represent "...being the first out of immediate family which comprised siblings, parents, main caregivers and children to attend university..." (p. 145). O'Shea (2015) examined first in family students in an Australian setting but made no assessment on their link to choice of major; rather the study focused on how social and cultural capitals were used first by family students in their transition to university. Spiegler and Bednarek (2013) looked at the state of research in the area of first generation students and they pointed out the problem surrounding the lack of consensus with the definition and the use of the two statements and the lack of no common method to measure data collected from these groups of students. Based on the review above the present study will include first in family as a variable of interest.

2.6.4 Language Spoken at Home

When literature refers to language spoken at home, it normally implies the language spoken to parents. The concept of language spoken at home has been used in research to detect many factors, such as student background, domestic versus international students and it has at times been linked to cultural and ethnicity matters. Research needs to be clear with how and why the concept has been included and the relevance to each individual study. In their work, Galliot, Graham and Sweller (2015) surveyed 706 Australian secondary school students in years 9-12 to determine whether student background and education experiences influence the development and readiness to make career choices. In order to get a cross-section of students the online survey was made available to both government and nongovernment schools in urban and rural areas of NSW. With a usable size of 626 the study was informed by Sen's (Sen, 1995, 2004) theory of human capability. The survey included questions covering student demographics (age, gender, language spoken at home), parental occupation, attitudes to school and to learning, career aspirations, and students' knowledge of the further education or skills required to achieve their desired goal. The majority of respondents were between 15-17 years old of which 64.4% were female and 81% born in Australia.

When asked about language spoken at home, 59.1% of respondents spoke English and 26.8% spoke dual languages (English alongside other language(s)). Of the non-English languages reported the most popular which surfaced were Asian (24.55%), Middle Eastern (9.5%), European (3.4% and Pacific (3.3%). The study noted an association between students' language background and post-school aspirations. The study collected various types of information surrounding student characteristics and chose to apply chi-square and independent samples t-test analyses to examine the relationships between career certainty and student characteristics. Results from chi square tests reported a significant relationship. Further analysis using the odds ratio found that the risk of being career uncertain was 3.22 times higher for students speaking only English at home compared with those students who spoke English plus another. No difference was found between the proportion of career certain and career uncertain students who spoke only one language at home and it was not English ($p > 0.05$).

Similarly, Khoo and Ainley (2005) found that students from a language background other than English were more likely to continue to university but no conclusion was made regarding preference of majors or career paths taken. In a longitudinal study, Khoo and Ainley (2005) examined a sample of young Australians enrolled in year 9 in 1995. The study investigated the relationship between students' attitudes to school and their intentions to participate in education and training. These authors further examined what influenced these attitudes and intentions for students to participate in Year 12 and in further education (whether it be TAFE or University). In total there were seven research questions and five were concerned with the impact of secondary school students and further education. Using the Theory of Planned Behaviour (TPB) the study concluded that students' intentions formed relatively early in secondary school are strong predictors of their desire for further education. Overall 33% of the sample enrolled in year 9 went on and enrolled in university. The study reported: firstly, that the correlation found between intention and entry to higher education was moderately strong ($r = 0.59$); and secondly, it identified that geographic location, language background and gender shaped student participation in university and in year 12 studies. A positive association was found for students from language backgrounds other than English.

2.6.5 Full Fee-Paying Student (International Students vs Domestic Students)

Australia in particular witnessed a surge in the ratio of international students to domestic students in 2006 when the government introduced measures to encourage skilled migration (Australian Education International, 2006). The surge in number of commencing overseas students in Australian universities continued to grow. More recently it has been reported by Birrell and Betts (2018) to have increased between 2012 from 21.8% to 2016 to 26.7%. The surge in student numbers since 2012 can be pinpointed to the Australian government policy changes which have increased student access to labour and permanent residence in Australia. Birrell (2020) further points out that up until Covid-19, overseas student enrolments in 2019 continued to grow faster than domestic enrolments. Being able to separate international and domestic students from a

dataset could contribute significantly to results given international students vary in their characteristics compared to local Australian students. Whether a student is international or domestic has been found to guide the choice of major. Some studies showed this geographical factor was important, as stated by Tan and Laswad (2006) and Sugahara, Boland and Cilloni (2008).

Sugahara, Boland and Cilloni (2008) investigated the impact of international and domestic student cohorts in a Australian setting. Their research examined students' creativity and images of the accounting profession amongst domestic and international students, and then explored how these factors influenced choice of major. The study concluded that domestic Australian university students were more likely to select non-accounting majors whereas Chinese students were more likely to select an accounting major when studying in Australia.

Singaravelu, White and Bringaze (2005) examined the career development behaviour of three student cohorts, i.e. Asian international, non-Asian international, and domestic. The objective was to ascertain and measure career certainty, factors influencing career decisions, influence of each family member and the persistence level of students. Using a sample of 214 undergraduate students, they were given a 53-item survey with Likert-type scale questions ranging from 1 = strongly agree, 5 = strongly disagree. A total of 144 of these were international and 70 were domestic students. The international students were further categorised as Asian (94 students) and non-Asian international (50 students). The Asian cohort of students comprised 28% Japanese, 28% Malaysian, 20% Taiwanese, 13% South Korean, 5% Hong Kong, and 6% Singaporean. Of the non-Asian international students, 44% were Middle Eastern, 22% African, and 34% South American.

Internal consistency and reliability of the data was tested by applying Cronbach's alpha and the coefficients were reported to be as follows: career certainty 0.70, influencing factors on career decisions 0.71, family influence 0.74, and persistence level 0.61. An ANOVA test served to examine the differences in career certainty between the three student cohorts (Asian international, non-Asian international, and domestic). Results revealed no significant differences

between them, $F(2, 211) = 0.94$, $p = 0.39$. An alpha level of 0.05 was used in all tests. Overall, the study concluded there was no difference in the level of career certainty between the three cohorts. Furthermore only the Asian international students presented a positive correlation between level of career certainty and intent to persist.

Tan and Laswad (2006), looked at whether international and domestic students have different views about the constructs covered in the TPB (REF, PB and PBC). Given the high percentage of international students in the sample used by the study in looking at accounting majors no significant differences were found for REF between domestic and international students. Yet, when examining non-accounting majors their views differed significantly ($P, 0.001$). The study did not indicate the two cohorts (international versus domestic) differed in the selection or preference of a major (accounting or non-accounting). Jackling and Keneley's (2009) study examined the impact that permanent residence (PR) may have on international students doing accounting in Australia. Using statistical evidence, the study concluded that the prospect of qualifying for PR in Australia was a strong driver of intention to major in accounting. Auyeung and Sands (1997) indicating that Asian students, as part of their culture, tend to place more value on the opinion of important referents, particularly parents, in their major intentions. Studies which have tested international and domestic student views on majors share mix results and some studies overlap into the field of culture. This is still a variable of interest given most universities have a high percentage of international students.

2.7 Literature on Other Variables of Interest and Choice of Major

2.7.1 Occupational Prestige

Occupational prestige refers to the consensual nature of rating a job based on the belief of its worthiness. The term 'prestige' itself refers to the admiration and respect that a particular occupation holds in society and often this admiration can be found to be linked to earnings. Occupational prestige has been known to rate social class status. Understanding the structure of how people are classified into socioeconomic status has been an area of research interest for some time, yet how one's perceptions of a profession impacts their choices has not been readily

explored. Numerous factors (including social networks, family wealth, and even gender and race) have been found to impact status.

Like Duncan (1961) and Pitt and Zhue (2018) and others, it is believed the best way to determine people's perceptions of the worth of college majors is to directly ask people in society to evaluate them. For instance, Pitt and Zhue (2018) surveyed 718 students about their evaluation of 10 broad disciplinary clusters, namely agriculture, arts, business, communications, education, engineering, health-related fields, humanities, natural sciences, and the social sciences. Students were then asked to rate each cluster as either having: (1) very low status or prestige, (2) an average level of status or prestige, or (3) very high status or prestige. Using the National Survey of College Graduates the study measured the predictive power of the prestige ratings on three post-baccalaureate outcomes namely, income, advanced degree attainment and occupational status.

Researchers have for some time sought to better understand the social status of occupations and have over time determined various measures in mixed settings. The earliest survey on occupational prestige is reported to be that of North and Hatt's National Opinion Research Center (NORC) dating back to 1947. NORC covered 90 varied job titles and the instrument created a subjective assessment of the social standing of occupations by having workers evaluate the job categories/titles on a scale ranging from excellent to poor. In 1971 researchers were introduced to a new tool surface for measuring occupational prestige known as Siegel's Occupational Prestige Score (OPS). This tool allowed scores to be created by having respondents situate/place occupational titles/roles into nine categories (e.g., bottom, middle, top) reflecting their subjective sense of each occupation's social standing or value (Siegel, 1971). Jackling, de Lange, Phillips, and Sewell (2012) set out to determine if differences existed between Australian and international students' perceptions of the accounting profession's status and prestige. Although this study did not focus on prestige as a selection process to one's choice of majors, it did help identify student thoughts about "accountants".

Unlike other studies which attempted to capture the perception of various profession prestige this study focuses on the comparison between types of

students. Students were asked to indicate their perceptions against two questions using a seven-point Likert scale (1=strongly disagree and 7=strongly agree). The two questions were: (1) accounting is a profession on a par with medicine and law; and (2) the accounting profession is well respected. In measuring “professional prestige”, there was no statistically significant difference found between Australian and international students. It can be concluded, however, that accounting students regardless of whether they were Australian or international believed that accounting was a prestigious profession.

Byrne, Willis, and Burke (2012), identified that students intending to pursue an accounting career as opposed to those who were not, enjoyed a greater level of importance for prestige and financial rewards. Furthermore, Lowe and Simons (1997) also found prestige to be significant at the $p < 0.01$ level amongst accounting students. It signifies that this variable is important to accounting students. Tan and Laswad (2006) reported that when it comes to selection of majors, international students amongst other variables are influenced by factors such as prestige, availability of employment and social status, earning potential, cost of education, and year of study. The concept of prestige emerges to have significance for the choice of major and therefore lends itself to more investigation.

2.7.2 Pathways into University

Pathways to higher education are now greater than ever before giving students of all backgrounds regardless of country of origin an opportunity to study. As outlined earlier in this chapter the increased student numbers into Australian universities were primarily due to policy changes (Birrell, 2020). In order to meet the increase demand for university degrees, the Australian Government introduced alternative entry pathways (Chesters, Rutter, Nelson and Watson, 2018). Australia has opened its borders to offshore students for decades and in return this has increased the avenues into university for them. Domestically students have also now greater avenues into university. Entry into university via a satisfactory year 12 high school completion is no longer the only and main avenue for people to access university education. Pathways to university include

but are not limited to, entry via year 12 completion, entry as a mature student, via a TAFE course and through international programs. International students mainly enter university in the second year after having gained exemption from first year university units completed offshore with an education provider that has a program with an Australian university. The TAFE sector also offers avenues directly into university courses after completion of a diploma or certificate.

In 2010, the Australian government introduced equity targets to encourage universities to provide greater opportunities to people from a larger part of the population to enrol in university degrees (Thomas, 2014). Given the diverse student population in terms of family background (e.g., migrants), previous level of education if any (e.g., left school at year 10), the phase or stage of one's life (e.g., have children, single) and their level of motivation, this policy was to enable opportunity and support to be given to non-traditional students (Gale & Parker, 2014). A non-traditional student is one that did not enter university through the traditional method of completing secondary school and receiving an Australian Tertiary Admission Rank (ATAR) score. Not enough research has looked at the major selection process pending the pathway that students entered university. Given the numerous methods available to enter university today (Thomas, 2014) it is only fitting to further examine the link between pathways in choice of major.

2.7.3 Mode of Study

When referencing the mode of study, relevance is geared to whether students are enrolled in their course in a full-time or part-time capacity. The mode in which a student selects to study (FT or PT) could possibly represent two things: (i) could help distinguish domestic to international students; and (ii) could help identify the number of students balancing education with work, family or other commitments that hold them back from enrolling full-time. Part-time students are more likely to be working and are therefore more likely to understand the role of an accountant better than someone who has come straight out of school. This exposure to the discipline, which part-time students are more likely to experience, may influence their choice of major. Research examining whether choice of major is influenced by a student's enrolment status (FT or PT) is non-existent. Information regarding whether a student is FT or PT is generally collected in surveys in education. Yet,

not much is done with this information other than to create a profile of the sample and bolster demographic statistics.

The one study found to have used collected information regarding mode of study was that done by Nelson, Vondrzyk, Quirin, and Allen (2002). Whilst the study did not use the information for the purpose to identify any influence on choice of major, they did in fact use the information to help them determine whether this status changes from undergraduate to postgraduate students. Nelson et al. (2002) conducted a longitudinal study where they examined accounting student quality and other student characteristics. Initial surveys were implemented to seniors (students enrolled in an accounting major) and Masters students (graduate students in professional accounting). Twenty-two schools participated in the survey in which 1352 students participated in 1995 and 1475 took part in 2000. Results are based on a matched sample and data collected on the students' mode of study found more FT students and fewer PT students at the undergraduate level. At the Masters level, 12% of students reported to be PT in 1995 and only 6% had the same status in 2000. So whilst a significance at 0.01 level was found for Masters students no significant change emerged at the undergraduate level. It was also concluded the higher percentage of students at the graduate level pursuing their studies as FT may be related to the 150-hour rule. Furthermore Worthington and Higgs (2003) examined various variables to help determine choice of major in a business degree and results indicated that the variable mode of attendance held the largest negative marginal effect on the probability of selecting a major in finance. Given the scarcity of research which has looked at this variable, this is a reason to explore it more.

2.8 Self-Efficacy

The concept of self-efficacy is not a new one in the education literature (Pintrich and Schunk, 1995) and it continues to grow. Given the scope and broad range of applicability, self-efficacy lends itself to be employed by researchers to investigate behaviour from various perspectives and across various domains. In addition to providing a broad discussion on self-efficacy this section will focus on "student self-efficacy". In the simplest terms, self-efficacy is about the belief that one has in their ability to fulfil certain tasks.

2.8.1 Self-Efficacy Theory

The concept of self-efficacy is immersed within a theoretical framework known as social cognitive theory, which was established back in 1977 by psychologist Albert Bandura. Over the years this theory has evolved and changed to meet the growing needs of the research field. Self-efficacy has been defined as a person's belief that they can effectively execute courses of action required to deal with issues affecting their lives (Bandura, 1978; Bandura and Schunk, 1981). The theory further proposes that people's achievement depends on interactions between one's behaviours, personal factors and their environmental conditions (Bandura, 1997). Literature to date has shown that the self-efficacy component of the social cognitive theory, has been linked to both academic adjustment and achievement (Zajacova, Lynch and Espenshade, 2005; Fenollar, Roman and Cuestas, 2007; Ramos-Sanchez and Nichols, 2007). Self-efficacy beliefs influence key indices of academic motivation as choice of activities (actual performances), level of effort (vicarious experiences), level of persistence (persuasions they receive from others) and emotional reactions (Schunk, 1995; Zimmerman, Bandura, Martinez-Pons, 1992). According to Pajares (2002) self-efficacy beliefs affect students' choices and the courses of action they make.

2.8.2 Methods to Measure Self-Efficacy

When measuring self-efficacy, researchers have done one of two things: 1. Ask subjects whether they can perform at specific levels on a specific task (responses are either yes or no). For example, "I will be able to achieve most of my academic goals that I have set for myself" and 2. Ask subjects for the degree of confidence in their endorsement (rated on a scale) at each specific performance level. One measure of self-efficacy is referred as *self-efficacy magnitude or level*, which is formed by summing the total positive or otherwise total number of 'Yes' responses collected from the subjects. Some studies which have applied this method are Cervone and Palmer (1990), Peake and Cervone (1989).

Another measure known as *self-efficacy strength*, is formed by totalling the confidence ratings across all performance levels. For instance if there were three questions posed to subjects regarding their academic setting and there were 6 subjects and they all ranked the questions as “strongly agree” on a scale of 5 points then ($6 \times 5 = 30 \times 6 = 180$) the confidence rating is 180. Studies which have applied this method (Bandura and Jourden, 1991; Bandura and Wood, 1989; Lent, Brown and Larkin, 1984; Matsui and Tsukamoto, 1991). As well as studies which used these two measuring techniques, others have combined the methods giving us the third possible measuring option, such as Lee (1988), Podsakoff and Farh (1989), and Taylor, Locke, Lee, and Gist (1984). This was achieved by standardising the self-efficacy strength items by converting them to Z scores and then summing those levels where the subjects responded yes.

The fourth method is a variation to the third model outlined above (e.g., Frayne and Latham, 1987; McAuley, Wraith, and Duncan, 1991). The variation with this method is with using the raw scores on self-efficacy strength instead of adding the z scores. The fifth method of assessing self-efficacy strength is to use a single item for which subjects rate their confidence level on a given task (e.g., Clement, 1987). Whilst the five methods outlined above correspond to Bandura’s (1986) recommendations there are other methods for measuring self-efficacy. These methods included multiple items with: (i) a 14-point Likert-type scale (e.g., Sherer and Maddux, 1982), (ii) a 7-point Likert-type scale (e.g., Jones, 1986); (iii) a 5-point Likert-type scale (e.g., Gould, Hodge, Peterson, and Giannini, 1989); (iv) a 4-point anchored scale (e.g., Bores-Rangel, Church, Szendre, and Reeves, 1990); and (v) a 3-point forced-choice format (e.g., Holahan and Holahan, 1987). A discussion on the New Self-Efficacy scale (Chen, Gully and Eden, 2001) that will be applied within this study is presented below.

2.8.3 General Self-Efficacy Scale

Bandura’s General Self-Efficacy Scale (GSES) is primarily a more generally applied scale as it is used to assess perceived self-efficacy of people in adapting and coping abilities in both stressful and everyday events. Based on Bandura’s theory there are four major sources of self-efficacy: Mastery Experiences (proficiency of a task is strengthened as your ability to perform the task increases

therefore strengthening ones self-efficacy), Social Modelling (self-efficacy can be strengthened via watching other like us complete a task), Social Persuasion (a complement given can strengthen self-efficacy and reduce self-doubt), and Psychological responses (ones mood, emotions or stress level can impact the strength or weakness of self-belief).

According to Chen, Gully and Eden (2001, p. 63) Bandura's "... restrictive words given situational demands have given self-efficacy a narrow focus...", and therefore researchers have limited their work to the magnitude and strength dimensions, conceptualising and studying self-efficacy as a task-specific or state-like construct (e.g., Lee and Bobko, 1994). Thus, GSE captures differences among individuals in their tendency to view themselves as capable of meeting task demands in a broad array of contexts. Although research has shown that general self-efficacy (GSE) can contribute to organisational theory, research and practice, its construct unfortunately has shown some limitations indicating low content validity and multidimensionality.

2.8.4 Development of the New General Self-Efficacy Scale

General self-efficacy may explain some individual differences when a person faces a less clearly defined task, whereas specific self-efficacy may explain individual tasks. Whilst there are several types of assessments available to measure self-efficacy, this study has applied the New General Self-Efficacy (NGSE) scale created by Chen, Gully, and Eden (2001). Unlike Sherer and Maddux's (1982) self-efficacy scale comprising 17 items, Chen, Gully, and Eden (2001) created a shorter scale with 8 items (see Table 2.2 below) that assesses one's belief that they can achieve their goals, whatever difficulties they may encounter. Furthermore, the NGSE scale is thought to have a higher construct validity than the general self-efficacy scale. The 8 survey questions are normally formatted with a five-point response option 1 being 'strongly disagree' and 5 denoting 'strongly agree'. A score for each respondent is then calculated by averaging their ratings and a higher score indicates a greater self-efficacy.

The scale documented in Table 2.2 is employed in this study with minor adjustments to meet the relevance of choice of major. As the scope of job roles expands and become more complex, measuring dispositional constructs that can

predict motivational reactions and behaviours across a variety of work domains becomes increasingly important (Judge, Locke, Durham 1998; Parker, 1998).

Table 2.2 New General Self-Efficacy Scale (taken from Chen Gully and Eden, 2001)

1. I will be able to achieve most of the goals that I have set for myself.
2. When facing difficult tasks, I am certain that I will accomplish them.
3. In general, I think that I can obtain outcomes that are important to me.
4. I believe I can succeed at most any endeavour to which I set my mind.
5. I will be able to successfully overcome many challenges.
6. I am confident that I can perform effectively on many different tasks.
7. Compared to other people, I can do most tasks very well.
8. Even when things are tough, I can perform quite well.

2.8.5 Literature on Self-Efficacy and Choice of Major/Career

Not only has research tied academic self-efficacy to success in higher education (Lent, Brown, and Larkin, 1984; Vrugt, 1994) but it is linked to choice of major (Betz and Hackett, 1983; Lent, Brown, and Larkin, 1984; Eccles, 1987; Astin 1993; Schoenfeld, Segal and Borgia, 2017). For instance Betz and Hackett (1983) examined the relationship between mathematics self-efficacy expectations and a selection of science-based college majors. The mathematics self-efficacy scale was made up of everyday maths tasks and applied to 153 females and 109 male undergraduate students. Results found that mathematics self-efficacy expectations were significantly related to the extent to which students selected their majors.

Along the same lines as Betz and Hackett (1983), research by Lent, Brown and Larkin (1984) linked scientific and technical self-efficacy skills with choosing engineering as a major. As an extension to their 1984 study, Lent, Brown and Larkin (1986) examined the relationship of SE beliefs to education and career choice and performance. This was done by assessing the extent to which efficacy beliefs and other relevant variables help predict academic grades, persistence and career choices. The study focus was on 105 undergraduate students in the fields of science and engineering. The study applied a hierarchical regression analysis and found that SE did actually contribute significantly to the prediction of

grades, persistence and career choices. The study applied two different SE measures and then examined whether there was any gender or course difference in SE. The two SE measures (Osipow, 1980 Career Decision Scale (CDS) and Rosenberg's (1965) Self-Esteem Scale) were not interchangeable and they only intercorrelated at a moderate level, which suggests they may reflect somewhat different aspects of efficacy expectations. Findings of Lent, Brown and Larkin (1986) suggested that self-efficacy was related to career-relevant behaviour in ways consistent with Bandura's (1977) theory and its extension to vocational behaviour (Hackett and Betz, 1981).

Published empirical studies have used either self-efficacy magnitude or self-efficacy strength to capture their data (Lee and Bobko, 1994). *Self-efficacy magnitude* is formed by summing the total positive responses (i.e. the number of yes responses) given by a subject whereas self-efficacy strength, is formed by summing the confidence ratings across all performance levels. This is where the degree of confidence in the related item is measured on a near continuous scale from total uncertainty to total certainty as found in this research. Schoenfeld, Segal and Borgia (2017), applied the Social Cognitive Career Theory (SCCT) model to help explain the relationship between self-efficacy beliefs and students' motivation to pursue a major in accounting and choice of becoming a CPA.

The study captured 228 undergraduate students in a unit required for accounting majors at a public university in the US. A compulsory accounting unit was chosen as the study had aimed to ensure the sample had a majority of accounting majors. The survey included 16 questions which students were required to rank their answers on a five-point Likert scale. Regression analysis was applied to test the self-efficacy of pursuing a certified public accountant CPA career and results indicated that a student's perceived outcome expectation (the goal being to become a CPA) was significantly and positively correlated with self-efficacy.

Overall the work of Bandura (1986, 1997, 2001, 2012) has been applied to large body of research which points to self-efficacy being linked to students' choice of major across many domains (e.g., Accounting, Information and Technology). Alongside Bandura's work other scales assist in capturing SE (e.g., Chen, Gully

and Eden, 2001). Observations show that it is difficult to compare results when research begins to change or adapts parts of existing models. Nevertheless there is a consistent agreement in research results that self-efficacy plays a positive role in not just choice of majors but also other investigative areas.

2.8.6 Literature Surrounding Self-Efficacy on Student Performance

The literature available has attempted to varying degrees to examine the role of accounting students' perceptions and expectations on their performance in various disciplines (Stone, 1996; Burnett, Friedman and Yang, 2008; Christensen, Fogarty, Wallace, 2002). Self-efficacy was employed by Burnett, Friedman and Yang (2008) who examined accounting and non-accounting students' perceptions of their accounting knowledge obtained from an introductory accounting unit. Introductory accounting is completed before students proceed to enrol into the continuing unit of intermediate accounting. The introductory accounting unit and the first three weeks of the intermediate accounting unit are designed in a way to explain financial accounting in regard to journals, etc. In another words the introductory accounting unit prepares students for the content and expectations to prepare financial statements in the next unit of intermediate accounting.

The study measures self-efficacy before and after students complete the first three weeks of the second unit (intermediate accounting). It also examines changes in self-efficacy between the initial and subsequent evaluations for accounting and non-accounting majors and the perceptual differences within the two groups over the three-week periods. Information was collected from students via two methods, 1. A self-report was used to assess students' perception of their accounting skills and 2. A paper survey administered within the first three weeks of the second unit (intermediate accounting). The survey contained 18 questions to help determine students' perceptions of their accounting knowledge gained in the first accounting unit and was administered to 68 students from a private sector university in the US. One example of a question was: "I am comfortable with, describing the nature of current and long-term assets and liabilities". Self-efficacy

nevertheless was found to play a role in students' perceptions and it emerged that both groups had different learning outcomes measured by perception of their abilities.

Drawing on the concept of self-efficacy, Christensen, Fogarty, Wallace (2002), examined 214 accounting students' ability to assess their success of their course mid-term. Results identified the more conservative students were with their self-efficacy the higher the course grade. These authors further investigated the extent of self-efficacy and results implied little is known about the self-regulatory nature of student behaviour. As such, the study suggested that future research was required to identify ways to raise student competency and confidence relative to their skills and to assess what students can anticipate from having such skills. Using students from a New Zealand university enrolled in an introductory accounting course, Beatson, Berg and Smith (2020) examined self-efficacy beliefs and prior learning of accounting students to determine how useful these variables are for predicting academic success in accounting courses. Results found that self-efficacy is predictive of achievement in accounting beyond the influence of high school accounting experience.

With the aim of examining academic achievement, using 171 students from a Dutch high school, Manstead and Van Eekelen (1998) examined whether one of the Theory of Planned Behaviours (TPB) constructs, perceived behavioural control (PBC) and self-efficacy (SE) can be differentiated, and whether these two factors make different contributions to the prediction of intentions and behaviour in a different setting to those studies which have already tested this aspect. For instance, Terry and O'Leary (1995) undertook a similar study on exercise behaviour while Armitage and Conner (1997) looked at the field of dietary behaviours. The study concluded, "... measures of items assessing control perceptions are separable into SE and perceived control components; second, SE is a potent predictor of academic intentions and outcomes" (p. 18). As an aggregate instrument SE had a consistently positive impact on students' choice of major.

2.9 Defining Culture

There is a wide range of opinions and varying degrees of what constitutes 'culture', depending on the theoretical perspective and methodological approach taken by a researcher (Adler, 1983). Until such time as we find consensus on what constitutes culture we need to address research using it with care. Culture is often intertwined with other terms such as nationality, race, and ethnicity. Over time, scholars have developed numerous definitions of the term "culture" to fit the content matter being examined. Some definitions are simple whilst others are more complex. Kroeber and Kluckhohn (1952) discovered 164 distinct definitions of culture and it is evident that the list of definitions continues to grow over time (Soudijn, Hutschemaekers, and van de Vijver, 1990; Hofstede, 2001).

Kroeber (1949) suggested the word 'culture' originated in agriculture and pearl culture going back to 1871. Parsons and Shils (1951) on the other hand suggest that culture is composed of values and norms that guide a person's or group's behaviour in contrast to the definition put forward by Herskovits (1955) who argued that culture is something that can be learned. Straub, Loch, Evaristo, Karahanna and Strite (2003) suggest that the definitions which can be found relating to culture can be classified into three main groups: (i) Definitions Based on Shared Values, (ii) Definitions Based on Problem Solving, and (iii) General All-Encompassing Definitions. The notion of countries having a specific culture can be traced back to the emergence of European imperial and national states at the end of the nineteenth century (Beugelsdijk and Maseland, 2011). Given the understanding of culture has evolved significantly over time, it is important that such changes mirror the definition applied in new literature.

In some instances culture has been equated to nationality or citizenship, as evident in Offermann and Hellmann's work (1997) where culture was linked to passport status. Conversely, individualism-collectivism has been operationalised through country of origin as in the work by Trubisky, Ting-Toomey, and Lin (1991). According to Schaffer and Riordan (2003), approximately 79% of cross-cultural studies published between 1995 and 2001 used country as a proxy for culture. Evidently the definition of culture has advanced over the years but there

is still no consensus on its meaning. Hofstede's 1980 study on IBM sparked a great interest as it was the first one to employ a theoretical model with a set of indices attempting to rank cultural values through dimensions. This will be examined in more detail below. Taras, Roney and Steel (2009) investigated 121 instruments for measuring culture and they not only looked at the various definitions for culture, but also the reliability of the culture measures available. In reviewing the 112 instruments, 97.5% percent contained some dimensions that were conceptually similar to those introduced by Hofstede.

2.9.1 Hofstede's Cultural Dimensions

Geert Hofstede's (1980, 2001) work came to dominate the literature, as he was the first to develop a national culture framework consisting of four cultural dimensions: (1) Individualism–Collectivism, (2) Power distance, (3) Uncertainty avoidance, and (4) Masculinity–Femininity (Kirkman, Lowe and Gibson, 2006; Minkov, 2017). Further to the first dimension outlined by Hofstede (2011), an individualistic culture is a society represented by individualism which means decisions are based on a person's desires in contrast to a collectivistic culture where decisions are made as a collective group to benefit the group. The second dimension outlined by Hofstede (2011) examines the level of power in high power cultures where it is common to have inequality of power. The third dimension of uncertainty avoidance outlined by Hofstede (2011) refers to the level of uncertainty and ambiguity tolerated in various cultures. Finally, the fourth dimension outlined by Hofstede (2011) is that of masculinity and femininity which examines the prevailing values and priorities amongst cultures. According to Hofstede (2011) a masculine society is one that has different expectations of men and woman, in contrast to a feminine society where social gender roles overlap.

When referring to national culture we refer to the value of differences between groups of nations as explained on Hofstede's website (<https://hi.hofstede-insights.com/national-culture>). The original Hofstede model was later extended to comprise 5 components/dimensions and Hofstede expanded it again in 2001 to incorporate a sixth component, i.e. indulgence/restraint. These components or dimensions are meant to represent a society's culture on the values of its people and how these values relate to human behaviour (Hofstede, 2011). Hofstede's

(2011) work surrounding Cultural Dimension Scores suggested that countries' score against the six dimensions (power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence) aids the characterisation of countries into collectivist or individualistic settings. This model has aided research where basing cultures on individualistic versus collectivist dimensions may explain variations in career decisions among youths (Mau, 2004; Amit and Gati, 2013; Sinha, 2014).

With over 40,000 citations, Hofstede's (1980, 2001) contribution to culture became one of the 25 most cited books in the social sciences (Green, 2016). Culture has been defined by Hofstede (2001, p. 9) as "the collective programming of the mind which distinguishes the members of one human group from another". When referencing groups Hofstede used this to represent countries and their cultures were described by national averages. Hofstede's work despite its popularity and continuous application has been critiqued with concerns expressed over his methodology. The model had been questioned on its coherence and predictive properties (Goodstein, 1981; Hunt, 1981; Roberts and Boyacigiller, 1984; Dorfman, Howell, and Bautista, 1986; Minkov, 2017). There has also been criticism around the confusion caused by the varying definitions of some of its dimensions (McSweeney, 2002). For instance when making reference to Hofstede's masculinity-femininity nexus, initially the focus is placed on achievement orientation but later Hofstede expanded his definition on what constitutes gender roles.

2.9.2 Cultural Influences on Choice of Major

In a multicultural country such as Australia, a clearer picture of the variables which impact career preference and choice of major on various cultural groups will undoubtedly shed light on how to improve and attract a higher number of students to major in accounting. The need for understanding this is partly driven by the number of full fee-paying overseas students studying in Australia. Most surveys investigating choice of majors collect some level of information on ethnicity. Unfortunately, there are questions surrounding the collection of this data as it is difficult to find an agreed measure of what constitutes ethnicity. The definition of what constitutes an ethnic group or ethnicity is the subject of much

detailed theoretical discussion (Connelly, Gayle and Lambert, 2016). There is an extensive literature (Banton, 1998, 2014; Burton, Nandi and Platt, 2008; Cornell and Hartmann, 2006) discussing the meaning and use of the term 'ethnicity' and how this concept differs and overlaps with similar concepts of race, national identity and culture. Auyeung and Sands (1997) examined the influence of career choice on accounting students from different cultural backgrounds. Given previous research into culture (Markus and Kitayama, 1991; Triandis, Brislin and Hui, 1988, 1990), it is suggested that the concept of individualism and collectivism could explain the pattern of one's behaviour, Auyeung and Sands (2008) set out to apply these cultural dimensions as a means to examine factors that influence the career choices of Australian, Hong Kong and Taiwanese students. These countries were chosen by the study because Hofstede's (1980, 1983) culture behaviour model shows that Australia differs greatly from Hong Kong and Taiwan on the measure of individualism and collectivism.

The study further implied that disregarding cultural variations may impose a limitation in career choice studies. A total of survey participants were collected from four universities in Australia, Hong Kong and Taiwan. Auyeung and Sands (2008) adopted the same 12 variables which were used by Paolillo and Estes (1982). Participants were asked to indicate on a seven-point Likert scale (1 being not important and 7 being very important) the importance of the 12 variables in their choice of accounting as a career. The participant's native culture (country of birth) was used in this study. Participants' responses from the Australian universities were categorised as individualistic cultures while those from Hong Kong and Taiwan were envisaged as collectivistic cultures as per Hofstede (1980 model). Results found a significant difference in the mean scores between the two groups with nine of the twelve variables tested.

The study examined the influence of four REF groups (Parents, Teachers, Peers and association with others in the field) and found that across all four variables the differences in mean scores to have a greater impact on the Hong Kong and Taiwanese accounting students than on the Australian cohort. The second group of variables were "Materials" (availability of employment, prestige and social status, earning potential, cost of education and year of study) in which results

emerged as formative concerns for Hong Kong and Taiwanese students, more so than for the Australian students. The third category tested was that of “Beliefs” in which the study reported the Australian students were more influenced by aptitude for subject matter as opposed to Hong Kong and Taiwanese students. It was concluded that most of the career variables tested did vary in degrees of influence in different cultures.

Pines and Baruch (2008) examined the influence of culture and gender on the choice of a career in management amongst MBA students across seven different countries (USA, UK, Turkey, North Turkey, Cyprus, Hungary and India). These nations were chosen in order to capture a variety of cultures and they also differ on all four of Hofstede’s (1991) criteria (individualism versus collectivism, power distance, masculinity versus femininity and uncertainty avoidance). With respect to examining culture the study applied two theories, namely, Hofstede’s and an application of Schneider’s (1987) Attraction, Selection, Attrition model (ASA). According to Hofstede (1991) there are four ways to distinguish culture. The study collected 747 surveys and results reported a significant cross-cultural difference in all the variables which were examined.

Tan and Laswad’s results (2006) were consistent with those of Auyeung and Sands (1997), indicating that Asian students, as part of their culture, tend to place more value on the opinion of referents in particular their parents. Some studies which have shown that cultural values have an impact on the factors that influence career choices of youths (Mau, 2000; Caldera, Robitschek, Frame and Pannell, 2003; Wambu, Hutchison and Pietrantonio, 2017; Hui and Lent, 2018; Tao, Zhang, Lou and Lalonde, 2018). Similarly, Wesarat, Sharif and Majid (2017) presented a conceptual framework on the role cultural values play on career choices and in doing so focused on individualistic and collectivistic cultural values which have an important impact on choice. An individuals’ career decisions on career path will rely on the extent to which they carry out individualistic or collectivistic cultural values (Vigoda-Gadot and Grimland, 2008).

In 2009 Noble and Watkins investigated the relationship in which ethnicity and disposition to academic achievement and it was identified that various socio-

cultural groups have different approaches to learning. The study put forward the argument that varying cultures encourage different home and school practices, such as self-discipline which can foster academic achievement. Watkins and Noble (2008) highlighted that Chinese students were required to do more schoolwork outside of school hours because they were more disciplined compared to their other peers from Caucasian or other ethnic backgrounds.

More recently Dalci and Özyapici (2018) set out to identify whether Hofstede's cultural values were relevant to the relationship between career drivers and students' intention to pursue an accounting career. The study surveyed 266 students from the same university in North Cyprus. Participants were grouped into the following cultural cluster groups according to Hofstede (1980): Turkish cluster (Turkey and Northern Cyprus students), West and East Africa Cluster (Nigeria, Senegal, Tanzania, Kenya and Eritrea), Iranian Cluster and Arabic cluster (Sudan, Palestine, Lebanon, Syria, Saudi Arabia, Tunisia and Morocco). Using Hofstede's 1980 model, the study obtained the national scores for power distance, individualism, masculinity and uncertainty avoidance. Where country scores were not available countries were grouped with other alike countries.

The study used the same 12 career choice factors used by Paolillo and Estates (1982) but used the classification applied by Auyeung and Sands (1997): Significant others: parental, teacher, peer influence and association with others in the field; The materials: availability of employment, social status and prestige, earning potential, cost of education, years of study; Beliefs: job satisfaction, aptitude for subject matter and previous work experience) and applied Hofstede's cultural values. The results revealed students characterised by collectivism and/or large power distance cultures as per Hofstede's (2001) typology. As pointed out by Hofstede (2001), collectivist refers to a culture that emphasises the importance of the community as opposed to individualist ones, and large power cultures are those consisting of people who accept an unequal society. It was identified that culture did play a positive role in students' intention to pursue accounting. The outcomes were consistent with the characterisation of collectivism and/or large power distance dimensions (Hofstede, 1980; Triandis, Brislin and Hui 1988).

Results were also in line with those of Dalci, Arasli, Tümer, and Baradarani (2013) who reported that ideas of different referent groups are important for Iranian students in majoring in accounting. This is also consistent with Umar's (2014) findings which imply that parental and peer group influences are important factors for Nigerian university students in choosing accounting career. In Malaysia which has a collectivist culture and large power distance according to Hofstede's 2011 model, Zandi, Naysary and Say (2013) recorded similar results where referent groups exert significant influence on students' decision to major in accounting. Given the extensive application of Hofstede's cultural dimensions across various disciplines including accounting and length of time it has existed, it seems quite justifiable for the current study to apply the Hofstede rationale.

2.10 Conclusion

Overall the discussion of empirical studies in this chapter has demonstrated that in making a choice of major whether accounting or non-accounting students are motivated by a mixture of factors. There is no one variable or a prescribed set of variables identified to predict a student's choice of major. Research results have varied depending on the country of study and discipline major being investigated. The chapter highlighted that whilst some factors may have a positive influence in choice of major in one country they may have a negative impact in another. Educators and policy-makers have long been interested in how students decide on academic majors which ultimately become their career. Identifying the factors which influence choice of major are of significance in order to avoid the profession from witnessing critical shortages of quality graduates. Understanding the factors which drive student choice may influence the sustainability of university courses, maintain a gender balance in required fields and curtail student attrition amongst other things. The next chapter will review a selection of competing theoretical frameworks previously applied in this area of research and then choose the model to be employed.

Chapter 3: Theoretical Framework

3.1 Introduction

This chapter provides a blueprint of the theoretical framework for this study. Building on Chapter 2 (the Literature Review) and leading up to the discussion of the model applied in this study, Section 3.2 looks at some competing models developed over the years to help understand how students select their major. These competing models will include John Holland's theory, Vroom's expectancy theory, Theory of Reasoned Action (TRA) and then finally Theory of Planned Behaviour (TPB). Section 3.3 will then discuss further the desired theoretical framework and the reasons for choosing it. Section 3.4 outlines the concept of self-efficacy and how it fits into the realms of this research and Section 3.5 concludes on the appropriateness of the theoretical framework.

3.2 Competing Models

Many theories have emerged over the years allowing researchers to investigate major/career selections. Some models even re-emerged via improvement or were combined to other models to help identify the reasons behind choice of major/career. The models stated above are reviewed below and a conclusion reached on the best model to be applied in this study.

3.2.1 John Holland's Theory of Career Choice (JHTCC)

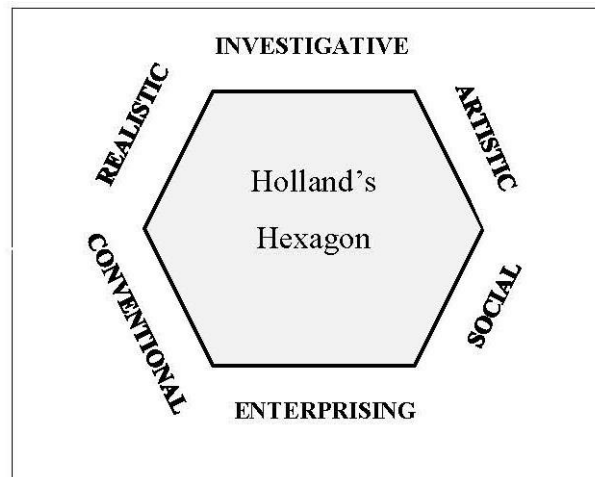
3.2.1.1 Premise and Assumptions Held by Holland's Theory

Holland's theory-based interventions have been a significant force in shaping career development theory that was designed initially to help students select careers in which they would succeed. Holland's 1959 model was his earliest formulation of many subsequent revisions. Holland's continuous theory reforms of vocational personalities and work environments were developed to describe, understand, and predict the vocational choices people make, this included fields of study, occupations and other choices involving working environments (Holland, 1997). Holland not only devised and expanded on his models, he was also recognised for devising dictionaries of occupations coded accordingly to the characteristics and interests of various occupations (Gottfredson and Holland,

1996). There are certainly advantages to Holland's (1966, 1973, 1985, and 1997) person-environment fit theory as an approach for advancing our knowledge and understanding of vocational and education behaviours. Holland (1997) has outlined there is a strong resemblance of choice, satisfaction and achievement in education as is in vocational behaviour. Holland's theory provides specific theoretical attention to the attributes of individuals, their environments, and the best fit of these two items.

The validity of the theory has been supported by its lengthy existence (40-year contribution to career development theory) and by the many studies that have used the theory (e.g., Spokane, 1985; Assouline and Meir, 1987; Spokane, Meir, and Catalano, 2000; Tsabari, Tziner, and Meir, 2005). Compared to other models, Holland's theory contributes to both psychological (individual) and sociological (environment) characteristic components of behaviour. The premise of Holland's vocational theories (1959, 1985, 1992, and 1997) were underpinned by the idea that human behaviour results from the interaction between individuals and their environments. The theory posits that people project self and work views onto occupational titles and hence make career decisions that satisfy their preferred personal traits. The theory further suggests that when people choose a career, they will seek roles where they are surrounded with other likeminded people who share similar traits to them and therefore Holland suggests that career choice is considered to be an extension of one's personality (<http://career.iresearchnet.com/career-development/hollands-theory-of-vocational-choice/> visited 03/01/2022). Holland's theory is centred on the basis that most people fit into one of six personality types, namely, realistic, investigative, artistic, social, enterprising and conventional (RIASEC). This concept of classifying personality types has over the years been well known and referred to as Holland's Hexagon (see Figure 3.1). Numerous studies support this measure of classification (Rounds and Tracey, 1993; Day and Rounds, 1998; Rounds, Smith, Hubert, Lewis, and Rivkin, 1999; Tracey and Rounds, 1992).

Figure 3.1 Holland's Hexagon (Model of Personality Orientation)



It should also be noted the theory incorporates several constructs from personality psychology, vocational behaviour, and social psychology, including self-perception theory and social stereotyping. A brief explanation of the six personality types as explained by Rayman and Atanasoff (1999) and Nauta (2010) are as follows. (1) Realistic, refers to people who mainly work with their hands and may also be extended to people who can operate equipment and tools. Some likely roles for this personality type include pilot, farmer, builder: (2) Investigative, as the term suggests would be appropriate for a person who enjoys experimenting and researching ideas. Ideal roles for this trait include people in the medical and health industry, zoologist, and scientist: (3) Artistic, holds an interest in art, music and drama and suitable occupations include, illustrator, dancer, and hairdresser: (4) Social, enjoy working with others, teaching, training, serving and are suitable to roles such as teaching, police officers, waiters: (5) Enterprising, enjoy meeting people, talking and encouraging others and the likely roles here include lawyer, salesperson, accountant, travel agent: (6) Conventional, like working indoors with tasks involving organising, working with numbers and planning; suggested roles include receptionists, librarian, and bank clerk (Holland, 1985).

In 2010 Nauta, looked at 50 years of research spanning from Holland's work to see how far it had come and summarised the impact of Holland's models on the research world. In running a search strategy for PsycInfo database in 2010, Nauta identified 2,209 citations of Holland's works from 1999 to August 2009. Holland's work continues to contribute to the research world (Hans and Sears, 2020)

3.2.1.2 Literature Surrounding Holland's Theory

Literature surrounding Holland's theory expands across various disciplines. Several empirical studies assessed the use of the RIASEC codes of medical students (Henry and Bardo, 1987; Elam, 1994; Antony, 1998) and in so doing found varying degrees of consciences to Holland's theory. There was a premise that medical students were not continuing with their course and researchers wanted to identify why this was the case. In determining answers, Antony (1998) decided to apply Holland's theory to get answers. According to Antony (1998), there are generally three distinct reasons for why people may aspire to medical careers: (1) strong academic abilities with an interest in science; (2) altruistic motivations, such as a desire to help people; and (3) attraction to the salaries and status associated with being a doctor. Holland's hexagon (see Figure 3.1) on the other hand suggests that doctors generally possess characteristics from three personality types: investigative, social, and artistic. In light of Antony's (1998) research and Holland's theory there seems to be a gap with why one would aspire to become a doctor. Two of Holland's types link back to Antony's research: strong academic abilities and an interest in science, reflects Holland's investigative type; and altruistic motivations, a desire to help people and reflects Holland's social type.

Porter and Umbach (2006) applied Holland's theory of careers (Holland, 1966, 1985) to help understand the importance of person–environment fit in relation to academic choice of major. The study used the CIRP Freshman Survey and institutional data for three cohorts of first-year students and graduating students. The dependent variable was the academic major(s) at graduation and the six independent variables used to help explain choice of major were demographics,

parental influence, academic preparation, future views of the academic career, political views, and personality based on the Holland typology. Given the dependent variable was a set of discrete nominal outcomes the study decided that multinomial logistic regression was the best statistical method to apply in order to understand why one major category is preferred to another. Holland maintains that by late adolescence most people come to resemble a combination of six vocational personality interests. Applying Holland's theory, studies (Smart, Feldman, and Ethington, 2000; Porter and Umbach, 2006) suggest that students' choice of majors are influenced by their environments that compatible with their personality types.

For the last twenty years studies illustrate how constructs from Holland's theory may be incorporated into broader research designs to assist in the understanding of student success in terms of important and commonly investigated outcomes (see Milem and Hakuta, 2000; Milem and Umbach, 2003; Milem, Umbach, and Liang, 2004; Umbach and Milem, 2004). Cruickshank and Haan (2005), in noting the increasingly competitive environment of colleges/universities and the many marketing strategies used by institutions in their efforts to recruit prospective students, suggest a variety of ways that Holland's theory might be used by university admissions officials and others to better target and recruit students.

3.2.1.3 Benefits and Limitations of Holland's theory

Gottfredson, and Richards (1999) state that the major advantage of Holland's theory is that it provides a way to compare people and environments. The development of techniques helps to assess and categorise different vocational environments. Campbell and Borgen (1999) commended Holland's impact on vocational psychology, praising his hexagon as something simple to apply in an occupational scenario. Reardon and Lenz (1999) state that Holland's RIASEC theory has been successful in career assessment. Smart and Thompson (2001) tested one of Holland's newer assessments, the Environmental Identity Scale (EIS) and their results confirmed its adequate reliability and discriminant validity.

The EIS is a 22-item instrument that attempts to delineate between environments with strong and clear identities compared to environments with a weak and diffuse identity. Amongst the highlights the literature draws out three challenges of Holland's theory, namely: 1. Measures of people do not adequately reflect some key elements of the person; 2. Measures of the environment also miss some key elements and there are ambiguities about the environment and its conceptualisation; and 3. The data used in the calculation of congruence indices are not precise enough (Spokane, Meier and Catalano, 2000; Smart and Thompson, 2001; Arnold, 2010). Furthermore, Stead and Watson (1999) have raised questions on whether Holland's theory is applicable to both genders or to people from different cultural backgrounds. Sharf (2006) asserts that at times Holland's theory is not helpful. In particular it was noted that in Holland's Occupations Finder (Holland, 1985) there are 53 possible occupations listed matching the RIE code. Holland does not provide the additional information necessary to enable a client to choose fewer options from this large group.

Despite the success of Holland's concepts, Gottfredson and Johnstun (2009) amongst others highlighted that some influential factors are beyond the theoretical scope. For instance, changes in the economy can change the mix and demand of occupations available for people. The modern example is the COVID-19 pandemic which has led to many job losses worldwide and changed how industries do business. It means many people will now need to move into other disciplines as a matter of economic survival even if their personality or skill set is not suitable for a new role. In the future this could influence the occupations required from country to country. Other factors that Holland's models do not take into account are family responsibilities and the general health of individuals. Additionally where there is the question of a person making a poor career choice. Questions have also been raised in terms of abilities, for example a poor choice could be made by a person if they do not evaluate their talents accurately and therefore the person could be seen to aspire to a career that might be consistent with the model but not with them personally.

Questions have been raised on whether the codes developed by Holland in 1985 do indeed match the personality type of individuals entering employment or already working in an education setting. For instance, Spokane, Meier and Catalano (2000) examined a large pool of empirical studies conducted since 1985 relating to Holland's codes and many suggested the codes may not be valid. Holland's theories were applied internationally and across various cultural populations. Even though Holland's theory is relevant to the current study given the theory does not take into consideration a variety of issues (such as influence of third parties to decision-making, influence of a person's health and the state of the economic) as discussed earlier, other theories began to surface.

3.2.2 Vroom's Expectancy Theory

3.2.2.1 Premise and Assumptions held by Vroom's Expectancy Theory

In 1964, Victor Vroom developed what is known as expectancy theory (VET) of motivation, which explains the behavioural process of why individuals choose one behavioural option over another. VET focuses on what people want and the prospect of them getting what they want (Marriner-Tomey, 2004). The model can be used to predict occupational preference and choice. This theory explains that individuals can be motivated to achieve goals if they believe there is a positive correlation between effort and performance. The outcome of a favourable performance will result in a desirable reward, and a reward from a performance will satisfy an important need so that the effort has been worthwhile (Vroom, 2007). Vroom's theory was one of the earliest models devised to understand people's behaviour about job choice. Vroom (1964) was one of the first to suggest that an individual's career choice could be explained by one's belief that it would result in certain outcomes according to an evaluation of the outcomes. Wanous, Keon, and Latack (1983) further proposed that expectancy theory better predicts discrete choices in circumstances where the individual has a clear choice among several alternatives.

Since the late 1960s and early 1970s, expectancy theory has been extensively applied especially when focusing on job search and decision-making behaviour of graduates with very convincing results. As the popularity of the expectancy theory grew, so did the criticism of these assumptions and its usefulness as a

predictive tool representing reality (Wanous, Keon and Latack, 1983; Breugh, 1992). Expectancy theory neglects the extensive process of the organisational and job choice assuming just one final decision is made by the person. Vroom (1964) proposes that where the theory's equation ($\text{force} = \text{valence} \times \text{expectancy}$) is applied with the correct parameters, it can help predict an individual's motivation/force. VET focuses on three areas, force, valence, and expectancy. Force describes the amount of effort one will exert to reach one's goal. Valence speaks to the level of attractiveness or unattractiveness of a goal. Valence is graded between +1, an outcome that is highly attractive to the individual, and -1, a highly unattractive goal. A valence of 0 indicates the goal does not interest the individual. Expectancy is the perceived possibility that the goal will be achieved. Expectancy is evaluated between 1 and 0. One designates a complete confidence that the goals will be achieved, and zero indicates that the individual sees the goal as impossible to achieve (Gyurko, 2011). Later conceptualisations of expectancy theory (i.e. Valence Instrumentality-Expectancy theory; VIE theory; Porter & Lawler, 1968) expanded and elaborated on Vroom's theory to develop what we know as expectancy theory today.

3.2.2.2 Literature Surrounding Vroom's Expectancy Theory

Vroom's (1964) expectancy model describes occupational preference as a function of the attraction to an occupation and further describes occupational choice as a function of the attraction and the expectancy lies with attaining the occupation. The expectancy model is the more inclusive and comprehensive of Vroom's model because it includes both expectations and valences as predictors of vocational behaviours. The literature found using VROOM's model (e.g., Brooks and Betz, 1990; Mitchell and Beach, 1976; Wanou, Keon and Latack, 1983; Wheeler and Mahoney, 1981) reported positive correlations between occupational preferences (i.e. attitudes) and choices. It should be noted that the correlation between occupational preference and occupational choice can vary depending on the occupation being analysed (Brooks and Betz, 1990).

Wheeler and Mahoney (1981), examined the differences between the factors related to occupational preference and occupational choice for college students from business and psychology classes. The results of their study strongly supported the concept of the model that a person's motivation is directly tied to their expected outcome due to their effort to meet their goals, Brooks and Betz (1990) applied Vroom's model to 188 undergraduate students enrolled in psychology at a US university. Expectancy was measured as comprising four stages: (a) expectation of completing the education/course, (b) expectation of getting a job in the required field, (c) advancing, expectation of being able to perform the role, and (d) expectation of advancing. An example of how the question was worded is: "Assuming you had completed the necessary education what are your expectations concerning your ability to get a job in this occupation". In order to measure expectancy, students were asked to respond on a 10-point Likert scale ranging from very unlikely (1) to very likely (10). The expectancy score represented the sum of the four item scores divided by 4. The findings reported that the internal consistency reliability of the four expectancy items ranged from 0.76 (elementary teacher) to 0.89 (accountant).

Measuring the attractiveness of the option (otherwise referred to as Occupational Valence) was a combination of two variables: (i) the likelihood that a given occupation will deliver a specific outcome such as high earnings; or (ii) a person's valence or preference for one outcome over another. Ten intrinsic and extrinsic outcomes were used, many borrowed from previous studies that applied the Vroom model. Responses were collected using a 10-point Likert scale that ranged from very unimportant (1) to very important (10). Students responded to measures of Expectancy and Valence with respect to 6 male-dominated and 6 female-dominated careers. Likelihood of choosing each of the 12 occupations served as an indicator of force of behaviour as explained in Vroom's (1964) expectancy model. Results indicated that the Expectancy $\times$ Valence interaction for an occupation accounted for from 12% to 41% of the variance in the tendency to choose that occupation.

3.2.2.3 Benefits and Limitations of Vroom's Expectancy Theory

Alongside the benefits of the Vroom model(s) are some reported shortcomings. Shermerhorn, Hunt and Osbourne (2002) opine that the model's operation of the multiplier effect remain subject to some questions. Other indications have suggested that whilst there are several different rewards available to employees the valence of each reward must be assessed with the valences of other rewards in order to estimate the total motivational force for each employee. Remembering that Vroom's model suggests that motivation, expectancy, instrumentality, and valence are related to one another by the equation: $M = E * I * V$ (Motivation = Expectancy * Instrumentality * Valence and thus motivation is a result of high levels of expectancy, instrumentality and valence (Parijat and Bagga, 2014). Instrumentality within the model refers to an individual's estimate of the probability that a given level of a task performance will lead to a particular outcome or reward (Parijat and Bagga, 2014).

Other weaknesses highlighted of the expectancy theory include: firstly, there was not enough detail on instrumentality; secondly, it did not provide enough detail in distinguishing actions and outcomes; and thirdly, the relationships between the motivational facets associated with actions and outcomes (Campbell, Dunnette, Lawler and Weick, 1970). An example of instrumentality would be that a student's perception they hold the appropriate skills to do well in accounting units would generate for them an outcome of graduating with an accounting degree. The problem with this lies with how an individual measures his/her own perception. A confident person is likely to hold a stronger perception of completing a task than a less confident one. This leads us to the next weakness where rewards or outcomes and their link to performance may be seen differently in different cultures (Shermerhorn and Hunt, 2002).

Moorhead and Griffen (2012) suggested that this theory is more likely to better explain people's motivation in the United States where people tend to be more goal-driven and have greater autonomy to influence their success, than countries such as South Africa or China. Given one of the variables in this study is "culture"

and given Moorhead and Griffen (2012) highlighted that different patterns may exist in different countries, that are impacted by culture. This theory was ruled out as a possibility as the data collected from students includes a high percentage of students from various countries and cultures.

3.2.3 Theory of Reasoned Action

3.2.3.1 Premise and Assumptions of the Theory of Reasoned Action Model

The idea that there was a relationship between beliefs and attitudes was first pioneered in the 1960s by a social psychologist, Martin Fishbein (1965, 1967). In the 1970s Martin Fishbein teamed up with Icek Ajzen and devised what the research world now recognises as the Theory of Reasoned Action (TRA). In 1980 Ajzen and Fishbein further simplified the model developed in 1975 in order to make it more practical so it could be applied across various disciplines.

Figure 3.2 Theory of Reasoned Action Early Model (Fishbein and Ajzen, 1975)

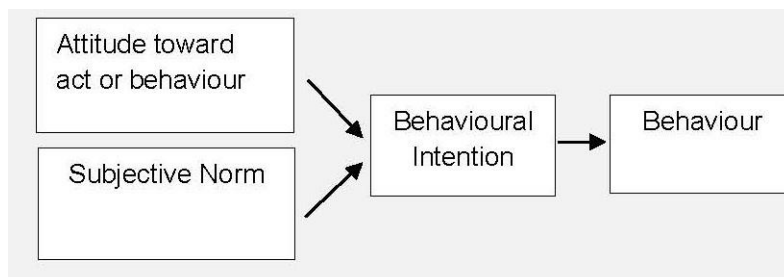
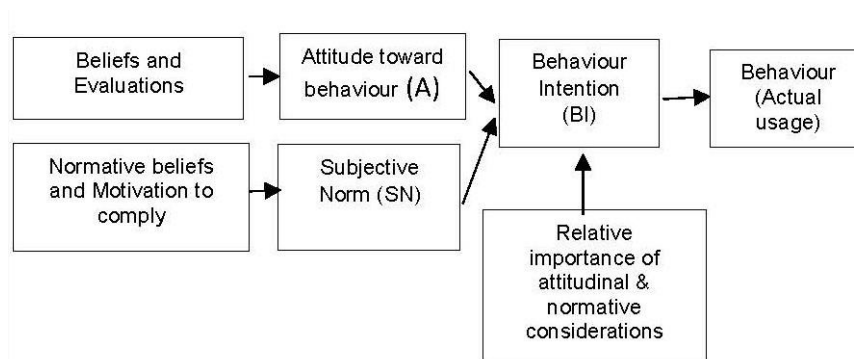


Figure 3.3 Theory of Reasoned Action Established Model (Ajzen and Fishbein 1980)



The TRA model (Figure 3.2 and Figure 3.3) suggests that people consider the implications of behaviour before action. In other words the theory assumes attitudes result from a combination of beliefs and evaluations of characteristics. Intent plays a critical role in this theory and is identified as the greatest predictor of whether or not someone will complete a specific behaviour (Ajzen and Fishbein, 1977). The TRA model highlights the two major constructs of intention are: a) an individual's attitude toward the behaviour (personal factor); and b) the social influences on that behaviour also known as subjective norms. Together, these two aspects form intent. Ajzen and Fishbein (1980) argue that in general, individuals will intend to execute a behaviour when they evaluate it positively and when they believe important "others" think they should do it.

3.2.3.2 Literature Surrounding Theory of Reasoned Action

Since the early 1980s the TRA model has formed the backbone of extensive studies and is one of the most widely applied models of predicting and explaining human behaviour across various domains. The model has received support in empirical studies relating to consumers' decisions and in the broader spectrum of the social psychology literature (Ryan, 1982; Sheppard, Hartwick, and Warshaw, 1988). It has further generated research interest probing into the theory and its application in various disciplines (see reviews by Ajzen and Fishbein, 1973; Farley, Lehmann, and Ryan, 1981). The TRA has also been used to model the relationship between attitudes and career choice in many studies recommended as a useful framework for examining the variables affecting career choice (Cohen and Hanno, 1993). Studies that applied the TRA model with reference to career selections include Felton, Buhr, and Northey (1994) who examined business students' choice of a career in chartered accountancy. Zakaria, Fauzi and Hasan (2012) examined factors that influence students to choose accounting as their academic program, while Jackling and Keneley (2009) evaluated the potential supply of accounting graduates in Australia with reference to personal and social influences on the accounting major chosen.

Using the TRA model in a Hong Kong-based study, Law (2010) examined factors that influenced accounting students' career choice in public accounting practices in the post-Enron period. The two constructs in the model, intrinsic factors (attitude toward the behaviour) and parental influence (subjective norm), were found to make significant and independent contributions to predicting the career choice of accounting students. The intrinsic factors variable had a significant influence on the dependent variable. This was found to be inconsistent with prior literature which asserted that intrinsic factors and parental influence have no significant influence on the decision to choose a CPA career (Ahmed et al., 1997). Law (2010) used multinomial logistic regression to analyse survey data of 214 accounting students from three universities in Hong Kong. Three dependent variables were used, namely, pursue a career in public accounting (CPA); general accounting; and a non-accounting career. This study identified that financial rewards did not constitute an influencing factor on career choice of students post-Enron. Yet it was found that accounting students place significantly higher importance on the flexibility of career options factor. Gender influenced choice whereas having completed accounting at high school showed no influence.

Jackling, de Lange, Phillips and Sewell (2012), further examined the underlying motivations of Australian and international students for studying accounting and entering the accounting profession. The study applied the theory of reasoned action (TRA) and focused on a cohort of second year accounting students to assess intentions in making career choices. The study utilises a validated attitude to accounting scale (AAS) that measures how the accounting profession is viewed by students generally, and more specifically, differences in attitudes towards accounting and the accounting profession between Australian and international students. Whilst the study found students had a positive attitude to accounting as a profession, there were significant differences between Australian and international students' level of interest in the work of accountants. These differences could have been linked to motivation to pursue accounting based on

personal, cultural and social forces. Similarly, it can be noted that prior studies using the TRA model as Silverstone and Williams (1979) and Paolillo and Estes (1982) found reference groups have had limited influence on career choice in accounting. Kumar and Kumar (2013) applied the TRA model on 670 undergraduate students to examine the factors that influence college students' intentions to selecting a business major.

Over the years, there have been numerous attempts to refine the TRA model so that it will better predict behavioural intention and behaviour. For example, a series of studies have examined more complex versions of the model, allowing for cross-over effects between the normative and attitudinal components of the model (Liska, 1984; Oliver and Bearden, 1985; Ryan, 1982; Shimp and Kavas, 1984). Attempts have also been made to find more precise ways to represent the attitudinal and normative belief components of the model through decomposition (Burnkrant and Page, 1988; Davis et al., 1989; Grube et al., 1986; Shimp and Kavas, 1984). More recent efforts have concentrated on the boundary conditions of the model, examining how well the theory performs.

3.2.3.3 Benefits and Limitations of the Theory of Reasoned Action

When the TRA model was initially created by Ajzen and Fishbein in 1980, it was confined to behaviours that people had volitional control, under the assumption that this category included most behaviours of interest to social psychologists. In time it became apparent that this formulation imposed a severe limitation on the model that was supposed to predict and explain all kinds of socially significant behaviours. A meta-analysis was done on the TRA model (Sheppard, Hartwick, and Warshaw, 1988) which concluded that whilst the theory had strong predictive ability it lacked the ability to explain the behaviour of people who have little or feel they have little control over their behaviours. This weakness identified in the TRA model eliminates the theory used in the current study, which is looking to determine what influences career choices. Studies that use TRA do this by eliminating a group of people who have little control over their behaviours and would set back the rationale of this study. In order to accommodate instances where people may

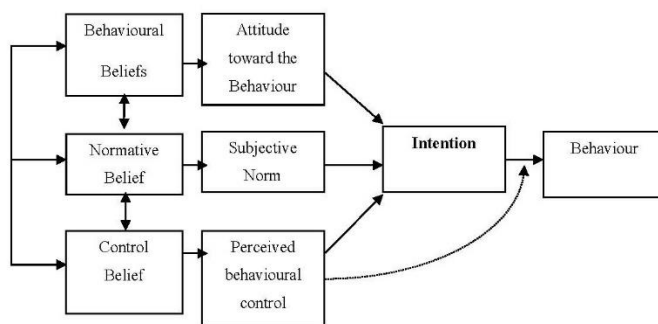
have limited volitional control, the TRA model was expanded in order to take this into account (Ajzen, 1985). Specifically, a new construct was added to it and this was the concept of perceived behavioural control, which paved the way for the Theory of Planned Behaviour (TPB) (Ajzen, 1991, 2005, 2012). This was designed to accomplish this goal by incorporating the concept of "perceived behavioural control" as an additional predictor of intentions and behaviour.

3.2.4 Theory of Planned Behaviour

3.2.4.1 Premise and Assumptions Held by the Theory of Planned Behaviour

As highlighted in the earlier section of this chapter, Ajzen and Fishbein's (1980) TRA model raised some behavioural limitations and hence Ajzen's (1985, 1988) Theory of Planned behaviour (TPB) evolved. One of the main differences between the two models was the added third construct to the model referred to as perceived behaviour control (PBC) (see Figure 3.4). The TPB was first discussed by Ajzen in 1985 and then refined in 1991 to help predict and explain human behaviour in a specific context (Ajzen, 1991).

Figure 3.4: Theory of Planned Behaviour (Ajzen, 2006)



TPB has the variable 'Behaviour' as the dependent variable, which is predicted by intention. Intention in turn depends on attitudes, subjective norms and perceived behavioural control. Attitude toward the behaviour refers to "the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question" (Ajzen, 1991, p. 188). Subjective norm refers to "the perceived social pressure to perform or not to perform the behaviour" (Ajzen, 1991, p. 188). These are then predicted by sets of beliefs. This is graphically

displayed in Figure 3.4 and explained in more detail further on in this chapter. The purpose behind the TPB is the intention to perform certain behaviour. The theory assumes that intention(s) influence the enactment of behaviour. Intention is an indication of how hard people are willing to try, or how much effort they are willing to make. According to the TPB, the stronger the intention is, the more likely it is that individuals exert the behaviour (Sharma and Bock, 2005). Besides intention, a second factor directly influencing the expression of behaviour is “Perceived Behavioural Control”. The execution of behaviour depends, to a certain extent, on the availability of time, money, skills and the cooperation of others. This is referred to as control. This deals with people’s perception of how difficult it is to exert certain behaviour. Perceived Behavioural Control, can, together with Intention be used directly to predict Behaviour (Ajzen, 1991).

3.2.4.2 Benefits and Limitations of the Theory of Planned Behaviour

One of the major strengths surrounding the Theory of Planned Behaviour (TPB) is that it is widely applicable to a variety of disciplines and behaviours, ranging from health-related behaviours such as exercise and drug abuse, teaching, communications and environmental concerns, just to mention a few. More importantly the TPB has been applied to numerous studies attempting to determine how students select their university majors, which then lends strength to its use in this study. Other popular areas of theory application include research on technology and Internet-related behaviours, for instance Lee, Cerreto, and Lee (2010) used the theory to study teachers’ decisions to create and deliver lessons using computer technology, while Moss, O’Connor, and White (2010) used it to examine students’ intentions to use podcasting as a college course learning tool. Robinson and Doverspike (2006) used the Theory of Planned Behaviour to see what factors predict students’ decision to take an online course instead of a face-to-face course.

The TPB has its roots in Vroom's (1964) expectancy theory. Expectancy theory is one of the most commonly accepted explanations of human motivation, and has been supported by extensive research (Felton, Buhr and Northey, 1995). In

tum, the TPB has been described as a methodology that makes the elements of expectancy theory operationally explicit (Felton, Buhr and Northey, 1995). The critical difference between the two theories is that the Theory of Reasoned Action focuses on voluntary behaviour (volitional control) whilst the Theory of Planned Behaviour now includes a third independent determinant (or otherwise referred to as a construct) being intention and perceived behavioural control (PBC). By definition, volitional control means a person must have the resources, opportunity and support available to perform a specific behaviour (Ajzen, 1991).

Ajzen (1991) attempted to address an issue that keeps arising in the literature regarding the nature and measurement around the third construct of PBC. Noting that TPB is derived from the TRA that assumes behaviour is volitional control and therefore can only be predicted from intentions alone. According to Ajzen (1991, p. 2), the construct of perceived behavioural control is added in an attempt to deal with situations in that people may lack complete volitional control over the behaviour of interest. An example of this would be in the scenario where a graduate intends to secure an advertised accounting role in one of the top six accounting firms. Logically it is identifiable that carrying out such an intention is not in complete control by the graduate and is influenced by actions of other parties (e.g., the accounting firm may already have someone lined up for the role even though it was advertised). In order to avoid misunderstandings around PBC, Ajzen (1991, p. 4) pointed out that "the term perceived behavioural control should be read as perceived control over performance of a behaviour". The TRA and the TPB theories were widely applied in social psychology for decades independently and side-by-side to investigate behavioural dimensions of students selecting majors and careers. Yilmaz and Ozer (2011) compared both these theories on accountants' information technology usage and found the TPB showed a higher predictive power than TRA.

3.2.4.3 Literature Surrounding the Theory of Planned Behaviour

Ajzen developed the TPB some time ago and it is the explicit theoretical basis for 222 studies published in the Medline database, and 610 studies published in the PsycINFO database, from 1985 to January 2004 (Ajzen, 2006). As previously

highlighted there are many studies that have used the TPB and that continue to use the TPB in both determining choice of major and in other fields of study. A comprehensive literature review was done by Simons, Lowe and Youngstown (2004) in the area of business education regarding decisions on choice of major. Twenty-one studies were identified across accounting (eight studies) and general business. The eight studies linked to the accounting discipline focused on identifying what factors were important to majoring in accounting. The literature surrounding the TPB that focuses on career choice and extends some similarity to the current study are Cohen and Hanno (1993) and Tan and Laswad (2006 and 2009). In a US setting, Cohan and Hanno (1993) used the TPB to examine 287 students (across accounting and non-accounting) across five schools (public and private) on their choice of major. They asserted that all three constructs made independent contributions to the prediction of choice of major. In New Zealand, Tan and Laswad (2006) applied the TPB to students at one university (across three campus) enrolled in the first business unit of their course.

3.3 The Theoretical Model Selected for this Study

The TPB has been used successfully in hundreds of studies in the last two decades (Ajzen, 2011). This research offers another opportunity to apply this model and attempt to determine what characteristics influence students to pursue accounting and non-accounting majors. Given the strengths of the TPB over the other models explained, this study will take parts of the TPB model and adjust it to meet the research objectives of this study. Figure 3.4 presents the TPB model that suggests a student's intentions are actioned by their behaviour. Thus, one would expect that students who have chosen accounting as a major would then practice as an accountant upon graduation, representing the behavioural outcome shown in Figure 3.4. This component of the model cannot be applied given this study was unable to track student behaviour after graduation. Nevertheless a combination of favourable attitudes held by students, a positive subjective norm and strong PBC a student should hold a strong intent to perform a particular behaviour (Ajzen, 1991; Chen, Pratt, and Cole, 2016).

Figure 3.5 represents the modifications made to the TPB model for the purpose of this study. The figure adapts the original three constructs of the TPB (behavioural beliefs, normative, beliefs, control beliefs) plus an extension of an added construct to assess self-efficacy. The study will examine how these four constructs shape student intention and student behaviour (choice of major). There is another box of personal characteristics (gender, age, sex, ethnicity, full fee-paying student, language spoken at home, first in immediate family to go to university) that are assessed to see if personal characteristics help explain choice of major in addition to the four constructs. Overall the TPB was selected for this research given its long history and well-established framework in not just various disciplines but also across several country settings.

3.3.1 Explanation of Theory of Planned Behaviour Constructs

The three constructs outlined in Figure 3.4 are used to predict the intention to exercise particular behaviour. One of the aims of this research is to predict the behaviour of students' choice of major. In order to explain how these constructs are formed, Ajzen introduces beliefs that precede these: behavioural beliefs, normative beliefs and control beliefs. These beliefs are antecedents for the three constructs' attitude, subjective norms and perceived behavioural control, respectively. Ajzen's behavioural model requires the target behaviour to be as specific as possible, including the time and, if appropriate, the context. As applied here, behavioural intention is a student's intent to major in accounting. Basically, the TPB suggest that human behaviour is driven by three constructs: Behavioural Beliefs (BB), Normative Beliefs (NB) and Control Beliefs (CB). Basic outlines of these three constructs are explained below.

3.3.1.1 Behavioural Beliefs (BB)

Behavioural beliefs link the behaviour of interest to expected outcomes (Ajzen, 2006). These beliefs produce a favourable or unfavourable attitude toward the behaviour (Ajzen, 1991). Behavioural beliefs are based on personal experience and information. In this study these are the personal beliefs held by students regarding the consequences associated with their choice of major. For example, the importance of salary and job security towards their major is linked to a career.

Ten separate questions are listed in the questionnaire to help determine the beliefs and attitudes of students.

3.3.1.2 Attitude Toward the Behaviour (ATB)

ATB refers to the evaluation a person has towards behaviour and is made up of two components namely: (i) beliefs about consequences of the behaviour; and (ii) the corresponding positive or negative judgement about that behaviour (behavioural beliefs x outcome evaluations) (Ajzen, 1991).

3.3.1.3 Normative Beliefs (NB)

Normative beliefs refer to the perceived behavioural expectations of important individuals or groups known to the person in question. In this study the person under examination is the student and some examples of important people in the student's life could include, family, friends, teachers and others. Such beliefs result in perceived social pressure or subjective norm. In this research normative referents are elicited through questions about certain groups of people known to a student (parents, relatives, close friends, teachers and career advisors) that would approve or disapprove of the student performing the specific behaviour (pursuing an accounting or non-accounting career). (Ajzen, 1991). When used in research, the following questions can help identify normative referents. An example of Normative Belief being tested in the survey of this research, is:

How much do you agree that "My parents think I should pursue a career in accounting".

3.3.1.4 Subjective Norms (SN)

The subjective norm (SN) construct is the perceived social pressure to engage or not to engage in a behaviour (Ajzen, 2006). It is assumed that subjective norm is determined by the total set of accessible normative beliefs concerning the expectations of important referents (referents being the people considered of importance). Specifically, the strength of each normative belief is weighted by motivation to comply with the referent in question, and the products are aggregated (Ajzen, 2006). Subjective Norms refer to what individuals (in this case students) believe other key people in their lives think about whether or not they should enact the behaviour in question (they should major in Accounting or not).

The perceived opinions of these key people help determine whether the student will actually do the behaviour (Ajzen, 2006). An example of a Subjective Norm being tested in this research would be: **How important is the student's opinion about what their parents think**.... "Generally, my parents' opinion as to what career I should pursue is".

3.3.1.5 Control Beliefs (CB)

Control beliefs refer to the perceived presence of factors that may facilitate or impede the performance of behaviour (Ajzen, 2006). Such beliefs indicate whether the person (student) feels in control of the action in question and whether they give rise to perceived behavioural control (PBC). Control Beliefs can be ascertained by generating a list of factors that may facilitate or impede the performance of a specific behaviour (Ajzen, 2006).

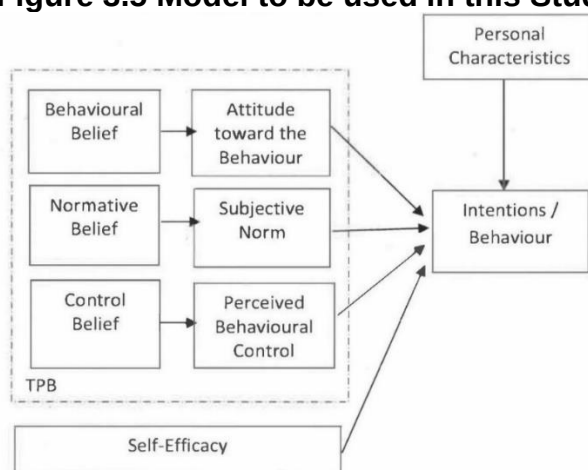
3.3.1.6 Perceived Behavioural Control (PBC)

Perceived behavioural control refers to people's (students) perceptions of their ability to perform a given behaviour and how easy it is to do (Ajzen, 2006). This encompasses the perceived ease or difficulty a person associates with a specific task or behaviour (an example from this study would be the question: Would pursuing a career in Accounting demand a heavy workload?). PBC is basically determined by the total set of *accessible control of factors* that may facilitate or impede performance of the behaviour; other examples include the need to work with lots of numbers, job availability, etc. Specifically, the strength of each control belief is weighted by the perceived power of the control factor, and the products are aggregated (Ajzen, 2006). Some items have to do with a person's sense of self-efficacy toward a specific behaviour, and other items measure a person's perceived control of the behaviour.

3.3.1.7 Behavioural / Intention (B/I)

Behavioural intention (BI) is an indication of a person's readiness to perform a given behaviour or action (Ajzen, 1991; Chen, Keys, and Gaber, 2015). Behavioural intention is considered to be the immediate antecedent of behaviour. This intention is based on attitude toward the behaviour, subjective norm, and perceived behavioural control, with each predictor weighted for its importance in relation to the behaviour and population of interest (Ajzen, 2006). In previous studies using the Theory of Planned Behaviour, behaviour intention variables included communication behaviours, health related risk prevention actions, specific technological adoptions and of course career intentions. Ajzen's behavioural model requires the target behaviour to be as specific as possible, including the time and, if appropriate, the context. In Ajzen's original model as displayed in Figure 3.4, the three constructs influence "behavioural intention" that alternately should equal or predict behaviour. Behaviour is often assessed via self-reporting. A slight modification was done to the TPB for this study. The concept of Intention and Behaviour as reflected in Figure 3.5 has been amalgamated in the same box. Intention in this study is represented through First Year (FY) students and the concept of behaviour is captured through Third Year (TY) students. These are not the same group of students and will be discussed in greater detail in section 4.4.5.

Figure 3.5 Model to be used in this Study



Note: Intention is the dependent variable for first year students while Behaviour is the dependent variable for third year students

3.3.2 Self-Efficacy

As demonstrated in Figure 3.5 this study will apply the TPB model in conjunction to an additional construct of SE to help assess whether there is any influence on the choice of major. Whilst it is not unusual to find literature where the concept of SE has been examined on its own or combined with a theoretical model (Wood and Locke, 1987; Owen and Froman, 1988), it is rare to find research in the area of choice of major where SE has been combined with the TPB model. There are various definitions of what self-efficacy means. For instance, Wood and Bandura (1989) proposed a more general definition as “beliefs in one’s capabilities to mobilise the motivation, cognitive resources, and courses of action needed to meet given situational demands” (p. 408). Elsewhere, Lent, Brown, and Hackett (1994, 1996), define SE as the perceived level of confidence in one's ability to perform various activities related to career planning and development. In this study the latter definition is applied.

3.3.2.1 Self-Efficacy Theory

The concept of SE exists in various forms depending on what interpretation is taken and how we choose to measure it. SE was discussed since the 1960s when Rosenberg (1965) developed the Self-Esteem Scale. Theories developed to measure SE have generally stemmed from the social cognitive theory (SCT) developed by Bandura (1986). Over time various SE theories have been devised to enable a better assessment of SE in various settings. For instance the concept of SE has been embedded into the creation of career theories such as the: (i) College Self-Efficacy Inventory developed by Solberg, Gusavac, Hamann, Felch, Johnson, Lamborn and Torres (1993); (ii) Bandura’s (1986) general social cognitive theory; (iii) Lent, Brown, and Hackett’s (1994) social cognitive career theory where decisions to pursue a career may be influenced by self-efficacy expectations and anticipated career outcomes; and (iv) Feldt and Woelfel’s (2009) academic self-efficacy scale. Sherer and Adams (1983) developed a 17-item general Self-Efficacy Scale (SGSE) to measure “a general set of expectations that the individual carries into new situations” (p. 664). It should be noted that this scale was initially invented for clinical and personality research but has still been applied in other areas.

This study has used the new General Self-efficacy scale created by Chen, Gully, and Eden (2001). The eight-item measure of self-efficacy requires individuals' rating on a discontinuous bipolar scale, statements that they can "perform effectively on tasks, succeed at tasks, achieve their goals and overcome challenges". Although these statements were created as indefinite items, this study altered them to specify the activity to be performed, for instance instead of "I will be able to achieve most of the goals that I have set for myself", the statement in the questionnaire for this study was, "I will be able to achieve most of my *academic* goals that I have set for myself". Students were then required to select an option from strongly disagree, disagree, neutral, agree and strongly agree. As intended by Chen, Gully, and Eden (2001), the measures include some statements with "I can" that represent efficacy and some statements with "I will" that represent intention.

3.3.2.2 General Literature on Self-Efficacy

In examining the literature, Lee and Bobko (2007) compared five methods of operationalising the concept of SE. The research assessed the antecedents and consequences of self-efficacy based on Bandura's (1986) conceptualisation. In examining the literature they reported that the most common method chosen to measure SE was to ask survey participants to rate their SE strength(s) (e.g., Bandura and Jourden, 1991). The Magnitude was the second most used measuring method for assessing SE (e.g., Cervone and Palmer, 1990). It was further found that some studies measured SE on a combination of measuring scales available incorporating both strength and magnitude (e.g., Rebok and Balcerak, 1989). Literature on SE varies across industries and disciplines and has been found to predict several work-related outcomes such as, job attitudes (Saks, 1995), training proficiency (Martocchio and Judge, 1997), and job performance (Stajkovic and Luthans, 1998). It can be specific to either: processes involved in career planning; and completion of education requirements and job success. When people think about possible career choices, the likelihood of choosing a particular career is influenced by expectations of success in those occupations (Betz and Hackett, 1981; Brooks and Betz, 1990). Whilst some studies focus just on examining SE, others combined SE with other models, for example Lent, Larkin and Brown (1986).

3.3.2.3 Literature Surrounding Self-Efficacy and Theory of Planned Behaviour

It has been previously pointed out that literature on choice of major in accounting or non-accounting discipline using four constructs, namely the TPB and SE is not found. Literature is evident in other disciplines where the TPB has been applied with SE but yet the way SE is tested in each study differs from the nature of this study. Manstead and VanEekelen (2006) examined whether PBC and SE vary in their contributions to predicting student intentions regarding learning achievements and behaviour in the same context. The study surveyed 171 secondary school students from a school in the Netherlands across a two-year period across three different subjects. Six items were used to assess the PBC and SE construct (12 questions were asked) and the study aimed to determine whether these six items measure one construct or both and to form an assessment of how the two constructs relate. The study expected that a measure of SE would predict intentions better than a PBC measure would and results did find that SE made a significant contribution to the prediction of intentions whereas controllability predicted neither. The authors agreed there was an overlap between PBC and SE as both constructs deal with the concept of control.

In a medical setting, Tolma, Reininger, Evans and Ureda (2006) set out to examine the applicability of the TPB with the addition of a SE construct. The study aimed to understand the motivation of 293 women in obtaining an initial mammograph screening. The results of the study provided support of the TPB with the addition of SE. The study had also reported that SE was the strongest predictor of intention. The study did not mention which SE model or scale was applied or what the questions within the SE construct were made up of. Additionally, some empirical support was presented to help differentiate between SE and PBC, something that Ajzen reported. He stated that the TPB model achieves certain outcomes but other literature states the reverse.

In an Information Technology (IT) setting, Heinze and Hu (2009) researched the factors that influence college undergraduates' decisions to pursue a major in (IT) based on a combination of TPB and Social Cognitive Career Theory (SCCT).

Their research model showed that the SCCT constructs of self-efficacy and outcome expectations influenced PBC and attitudes toward studying an IT major. The findings indicated that positive attitudes toward IT careers and high PBC regarding IT majors had a positive effect on the intention to study an IT major. The study also found a positive relationship between self-evaluating outcome expectations and attitudes toward an IT career. In a recent study by Hiranrat, Harncharnchai and Duangjan (2021) they wanted to determine the influence of communication on SE and factors related to the TPB on the intention to pursue a career in software development. Using a survey the study collected data across six universities in Thailand and it concluded that student attitudes toward software development careers and communication SE for software development had a positive influence on the intention to pursue a career in software development. The study reported that PBC had a positive relationship on career intention, yet the relationship was not statistically significant which contradicts the findings of other research (Johnson, Stone, and Phillips, 2008; Heinze and Hu, 2009).

If Ajzen (1991) is correct in saying that the TPB takes into consideration the concept of SE within the PBC construct, then several things need to be considered. Firstly, where you have two constructs that are measuring similar things there should also be multicollinearity appearing. For this reason, SE has been considered as a separate construct from the PBC. In addition, this study will test for multicollinearity to see whether in fact they are measuring the similar things. This will be examined in the results section (chapter 5) by looking at the variance inflation factors (VIF) for these two variables.

Other studies in various behavioural settings that have also successfully paired SE with the TPB, include; the prediction food choices (Povey, Conner, Sparks, James and Sheperd, 2000), and academic achievement (Manstead and van Eekelen, 1998), prediction of a major in systems development (Chen, Pratt and Cole, 2016), the influence of prior learning (Beatson, Berg and Smith, 2020). Although the TPB model has strong qualities, researchers have clearly seen a need to combine it with SE to capture a greater understanding of what ever behaviours and intentions may be under examination. As with this study the aim of adding the fourth construct of SE was to improve the explanatory power of

choosing a major. Whilst SE has shown to play a role in other domains, to the best of my knowledge no previous TPB study looking at choice of major (accounting or non-accounting) has examined the effect of SE in this specific area.

3.4 Conclusion

For researchers a good theory provides an ability to predict events, lends itself to the scientific method of inquiry, and facilitates further predictions about events (Gall, Borg, and Gall, 1996; Osipow, 1983). After reviewing the relevant models in the area it was concluded that this study will apply the TPB to help determine what factors influence the choice of major. The following chapter will explain and describe the research questions, the hypotheses and objectives set out for the study. It will also discuss the research approach, research design and outline how the survey tool is created and applied.

Chapter 4: Research Methods

4.1 Introduction

The previous chapter discussed how this study utilises the Theory of Planned Behaviour (TPB) as a model for determining what influences students' choice of major. The TPB is chosen because it has been widely accepted as a framework for predicting and attempting to understand specific behaviours. Following on from the last chapter, this one outlines the research method that is used to reveal some statistical details about the relationship between explanatory variables and business students' choice of major. The explanatory variables are test correlation rather than causation. This chapter will identify the strategy, process and design behind the research methods and then outline the data collection method and explain how data (variables of interest) are analysed.

In particular the chapter will begin by outlining in section 4.2 the research questions and the hypotheses. Section 4.3 will then discuss research methods employed in previous studies and highlight what method will be implemented here. Section 4.4 will outline the research design explaining the research instrument, data collection method, selection of participants and sample size, while section 4.5 will explain the questionnaire distribution and data collection processes. Section 4.6 will look at data preparation and section 4.7 will review the research models to be used in the study. Data analysis techniques conducted to address research questions will be discussed in sections 4.8 and 4.9. Data (variables of interest) in particular will be analysed using a logistic regression model as well as parametric and non-parametric tests.

4.2 Research Questions, Hypotheses and Objectives

The aim of the research is to investigate the factors that influence students' choice of major. Many researchers have examined this theme to varying degrees as this topic is one of global interest (Tan and Laswad, 2006; 2009; Porter and Umbach, 2006; Apostolou, Dorminey, Hassell and Rebele, 2018; Awadallah and Elgharbawy, 2020). The overarching research problem underpinning this study is, "What influences a student to choose between an accounting or non-

accounting major". It should be noted at this point as outlined in Chapter 1 that all reference within the study made to non-accounting major is to business students. From this a number of research questions arise. Hypotheses are aligned with the research questions posed and presented below. As an aggregate instrument SE has consistently been hypothesised to have a positive influence in the literature but no study has previously looked at the individual components. There is some doubt as to whether every component of the SE construct is aligned in the same direction and to be consistent between the testing of the aggregate SE construct and the individual components of the SE construct this thesis will hypothesise no direction for either the aggregate or individual components of SE.

The research questions and hypotheses are as follows:

RQ1: Do behavioural beliefs influence a student's choice between an accounting major or non-accounting major?

H1. Behavioural beliefs have a positive influence on students choosing between an accounting major or non-accounting major.

This will be examined for each of the following cases:

1. Aggregate
2. Individual
 - a. Dealing with lots of numbers
 - b. Initial salary
 - c. Broad exposure to business
 - d. Opportunities for private practice
 - e. Challenging
 - f. Boring
 - g. Future salary
 - h. Heavy workload
 - i. Social status
 - j. Job opportunities

RQ2: Do referents' attitudes influence a student's choice between an accounting major or non-accounting major?

H2. Referents' attitudes have a positive influence on students choosing between an accounting major or non-accounting major.

This will be examined for each of the following cases:

1. Aggregate
2. Individual
 - a. Parents
 - b. Relatives
 - c. Close friends
 - d. Teachers
 - e. Career counsellors

RQ3: Do control beliefs influence a student's choice between an accounting or non-accounting major?

H3. Control beliefs have a positive influence on students choosing between an accounting major or non-accounting major.

This will be examined for each of the following cases:

1. Aggregate
2. Individual
 - a. Workload in chosen major
 - b. Skills and background in maths
 - c. Success in previous courses
 - d. Job opportunities
 - e. Interest in the discipline
 - f. Less time for extra curriculum activities

RQ4: Does self-efficacy influence a student's choice between an accounting major or non-accounting major?

H4. Self-efficacy has an influence on students choosing between an accounting major or non-accounting major.

This will be examined for each of the following cases:

1. Aggregate
2. Individual

- a. Achieving academic goals set by the individual
- b. The accomplishment of difficult academic tasks
- c. Obtaining outcomes that are important to the individual
- d. Succeeding at any career the individual puts their mind to
- e. Overcoming many academic challenges
- f. Confidence in performing effectively on academic tasks
- g. Can complete academic task well when compared to others
- h. Even during difficult periods can still perform well academically

Research Questions Relating to Student Demographics.

RQ5a: Does gender influence a student's choice between an accounting major or non-accounting major?

H5a: Gender has an influence on students choosing between an accounting major or non-accounting major.

RQ5b: Does ethnicity/culture influence a student's choice between an accounting major or non-accounting major?

H5b: Ethnicity/culture has an influence on students choosing between an accounting major or non-accounting major.

RQ5c: Does age influence a student's choice between an accounting major or non-accounting major?

H5c: Age has an influence on students choosing between an accounting major or non-accounting major.

RQ5d: Does type of student (international vs domestic) influence a student's choice between an accounting major or non-accounting major?

H5d: The type of student (international vs domestic) has an influence on students choosing between an accounting major or non-accounting major.

RQ5e: Does being the first in family to go to university influence a student's choice between an accounting major or non-accounting major?

H5e: Being the first in family to go to university has an influence on students choosing between an accounting major or non-accounting major.

RQ5f: Does language spoken at home influence a student's choice between an accounting major or non-accounting major?

H5f: Language spoken at home has an influence on students choosing between an accounting major or non-accounting major.

RQ6: Does year level alter the effect other items (aggregate and/or individual) have on students choosing between an accounting major or non-accounting major?

H6: Year level alters the effect of other items (aggregate and/or individual) on students choosing between an accounting major or non-accounting major.

Research Questions Relating to Other factors.

RQ7a: Is a student's perception of professional prestige associated with a student's choice between an accounting major or non-accounting major?

H7a: A student's perception of professional prestige is associated with students choosing between an accounting major or non-accounting major.

RQ7b: Is studying accounting prior to going to university associated with a student's choice between an accounting major or non-accounting major?

H7b: Studying accounting prior to going to university is associated with students choosing between an accounting major or a non-accounting major.

RQ7c: Is pathway into university associated with a student's choice between an accounting major or non-accounting major?

H7c: Pathway into university is associated with students choosing between an accounting major or non-accounting major.

RQ7d: Is mode of study (full-time or part-time) associated with a student's choice between an accounting major or non-accounting major?

H7d: The mode of study (full-time or part-time) is associated with students choosing between an accounting and non-accounting major.

To help address these research questions, this study investigates the relationship(s) between the dependent variable of "choice of accounting major Yes or No" with various independent variables. Six research models are used to address the research questions outlined above, and the models are discussed in sections 4.7.1.1 to 4.7.1.6.

4.3 Overview of Research Methods

The research method adopted for any study relies on what the researcher wants to achieve. There are many types of research methods, including exploratory, descriptive, analytical, predictive, quantitative and qualitative (Hussey and

Hussey, 1997). Each one of these methods enables a researcher to solve problems and understand the phenomena of a subject matter being examined (Creswell, 1998). A brief outline of these methods is documented below.

4.3.1 Research Approach and Methods Employed in Previous Studies

Before selecting the most suitable research methods for this study, a review of different methods employed in previous studies was undertaken and a summary can be viewed in Table 4.1. Prior literature demonstrates that a number of studies focusing on choice of majors implemented a survey instrument tool to collect data. From the pool of studies surrounding choice of major some studies applied ad hoc self-developed surveys, for example Paolillo and Estes (1982), Gul, Andrew, Leong and Ismail (1989), Graves, Nelson and Deines (1993), Felton, Dimnick and Northey (1995), Hardin, O'Bryan and Quirin (2000), Geiger and Ogilby (2000), Sugahara Boland, and Cilloni (2008), Wally-Dima (2013), Dalci, Araslı, Tümer and Baradarani (2013), Tang and Seng (2016), Kumar (2017). Meanwhile others used a more structured survey linked to a theoretical framework, including Law (2010), Zakaria, Fauzi and Hasani (2012), Awadallah and Elgharbawy (2020) using the Theory of Reasoned Action (TRA) and Cohen and Hanno (1993); and Tan and Laswad (2006), Tan and Laswad (2009) using the Theory of Planned Behaviour (TPB).

It has been highlighted in the literature that the TPB supports and lends itself better to a quantitative analysis method when applying the theory to an education setting. The TPB framework was developed by Ajzen in 1985 to help predict and explain social and human behaviour and whilst the theory can be applied to qualitative research it has largely been applied over the years to quantitative studies (<https://people.umass.edu/aizen/faqtxt.html> visited 3/01/2022). Apart from the instrument (questionnaire or other) applied to collect data, additional points of difference are in the statistical methods chosen to evaluate data. Most prior studies have taken a quantitative approach to this research area and some statistical methods for data analysis include univariate and multivariate techniques, for instance factor analysis and regression modelling, t-tests, ANOVA, chi-square and factor analysis. A selection of statistical methods are noted in Table 4.1.

Table 4.1 Statistical Tests Applied in Prior Studies

Author(s)/Year	Theoretical Framework	Sample Size	Research Tool	Statistical Test(s)
Paolillo & Estes (1982)		694	Survey	A multi discriminant analysis and a quadratic discriminant analysis model
Cohen & Hanno (1993)	*TPB	287	Survey	Multi-correlation analysis, independent sample t-tests, discriminant function
Felton, Dimnik, & Northey (1995)	*TRA	897	Survey	T-Tests, Discriminant analysis, Univariate tests, Multi-discriminant analysis and a data analytic interpretation used to interpret the discriminatory power of each of the independent variables
Lowe & Simons (1997)		561	Survey	Mean scores, A Kruskal-Wallis 1-way ANOVA test was applied to the scores, Stepwise discriminant analysis
Geiger & Ogilby (2000)		331	Survey	ANCOVA models and t-tests
Chen, Jones, & McIntyre (2005)		450	Survey	Univariate analysis, Multi-Discriminant analysis
Jackling and Calero (2006)		1782	Survey	Logistic regression model (Wald test, degrees of freedom, level of significance, chi-square statistic, Hosmer and Lemeshow Model Fit Test.
Tan & Laswad (2006)	*TPB	1009	Survey	A dichotomous logit regression model, Chi-square statistic for goodness of fit
Tan & Laswad (2009)	*TPB	1009	Survey	A path analysis which is an extension of the regression model
Law (2010)	*TRA	214	Survey	Multinomial logistic regression
Porter & Woolley (2014)		278	Survey	Principle components analysis, The Varimax method, Factor analysis, Cronbach Alpha test, Confirmatory factor analysis, Logistic regression used to simultaneously test all the components.
Sugahara, Bolland & Cilloni (2008)		349	Survey	Logistic Regression Analysis
Saemann & Crooker (1999)		196	Survey	Gough's 1979 30 item creative personality scale (CPS), models tested using multiple regression and t-tests
Tang & Seng (2016)		240	Survey	Turkey HSD Post Hoc Test and logistic regression methods employed
Zakaria, Fauzi & Hasani (2012)	*TRA	340	Survey	Cronbach Alphas, Pearson correlation testing, regression analysis
Djatej, Arsen; Chen, Yining; Eriksen, Scott and Duanning Zhou (2012)	*TRA	1200	Survey	Partial least squares, Cronbach Alphas, model fit analysis, goodness of fit
El-Mousawi & Charbaji (2016)	*TPB	330	Survey	Cronbach Alphas, factor analysis, multiple regression analysis
Awadallah & Elgharbawy (2020)		438	Survey & interviews	Exploratory factor Analysis (EFA), Skewness and kurtosis statistics, variance inflation factor (VIF) of independent variables
* Indicates a Theoretical framework was used				

For example, Cohen and Hanno (1993) applied multiple correlation analysis, independent sample t-tests and discriminant function analysis to determine which continuous variables discriminate between two or more occurring groups. Tan and Laswad (2006) used the TPB framework and through a survey collected 1004 useable responses. Given the target behaviour was identified to be discrete, the researchers thought it was appropriate for a dichotomous logit regression model to assess whether students' perceptions of accounting are related to their intention to major in accounting or non-accounting. Logit allows the prediction of a discrete outcome (intention) from a set of independent variables, and these could be continuous, discrete, dichotomous, or a mixture (Tabachnick and Fidell, 1996). Tan and Laswad (2009) further expanded their data collected in 2006 with a longitudinal examination of students' choice of major. The study applied the techniques of regression modelling, chi square statistics for goodness of fit, correlation coefficients, means and t-tests.

Tang and Seng (2016) examined factors which influence students' choice of accounting major in Cambodian universities and analysed results using logistic regression and ANOVA. To gauge the difference between universities, Tukey's Honest Significant Difference test (HSD), post hoc method was applied. The study further used principal component analysis as an extraction method with the Varimax and Kaiser Normalization as a rotation method. Cronbach's alpha reliability test was applied to examine internal reliability and consistency of instruments adopted. Elsewhere, Law (2010) whilst using a TRA framework, used multinomial logistic regression to analyse survey results collected from 214 students from three universities in Hong Kong. Multinomial logistic regression was employed because the dependent variables (pursue a career in public accounting (CPA), general accounting and a non-accounting career) were considered nominal and consisted of more than three categories of career choice variables. It was concluded there was no multicollinearity issue since the tolerance values tested for the predictor variables are greater than 0.1 and all Variance Inflation Factor (VIF) values are less than 10.

Awadallah and Elgharbawy (2020) who also applied a TRA framework, published one of the very few studies that used a mixed methods approach to data collection and analysis. Collection of data was done via questionnaires and semi-structured interviews in order to explore students' opinions about their preferences and motivations to major in accounting. The study used Exploratory Factor Analysis (EFA) to assess the construct validity of the questionnaire. EFA is often used where a study has no hypothesis. EFA was conducted using the principal component method and Varimax orthogonal rotation method. Communalities (≥ 0.5), Eigen values (≥ 1) and variance extracted (≥ 0.5) served to identify the number of factors to be extracted. Variables exhibiting low factor loadings < 0.40 and/or high cross-loadings > 0.40 and/or low communalities < 0.50 were removed. The study indicated no multicollinearity issue given the Variance Inflation Factor (VIF) of independent variables ranged between 1.15 and 1.52, which is less than the cut-off threshold of 10.

Porter and Woolley (2014) separated factors that previously had been found to exert a significant influence on professional career-choice decisions and treated them as independent variables. All the data came from the same time period hence this eliminated: (1) the time-series problem of collecting data over more than one time period; and (2) the concern about the stability of the classification process from one time period to another. Elsewhere, Zakaria, Fauzi and Hasani (2012) conducted reliability testing by running Cronbach's alpha coefficients. Additionally the Pearson correlation test was carried out to investigate the correlation between intention, attitude and subjective norm. The results indicated that attitude was significantly and positively correlated with intention ($p < 0.01$, $r = 0.62$), subjective norm was significantly and positively correlated with intention ($p < 0.01$, $r = 0.40$) and the correlation between the independent variables, namely attitude and subjective norms was also significant ($p < 0.01$, $r = 0.53$). All the correlation scores were less than 0.8, meaning that the problem of multicollinearity did not exist. The results of regression analysis indicated that the model was significant with an adjusted $R^2 = 0.38$ ($p < 0.01$) and thus indicating that 38.3% of the dependent variable (intention) could be explained by the independent variables (attitude and subjective norm).

El-Mousawi and Charbaji (2016) surveyed 330 students in Lebanon. Construct validity was applied using Cronbach's alpha and factor analysis was executed as a data reduction technique. Two statistical tests were conducted in order to determine the suitability of factor analysis. The Kaiser-Meyer-Olkin (KMO) measure of sampling with an adequacy score of 0.674 was well above the recommended level of 0.5 and the Bartlett test of sphericity was significant (Chi Square = 4834.326, $P = 0.000$), indicating there are adequate inter-correlations between the items which make factor analysis possible. Oblique factoring was used as a rotation method. Multiple Regression Analysis showed the results of multiple linear regression, and the findings here revealed that only one explanatory variable out of the seven independent variables was significant. The study further highlighted that the path analysis was not an acceptable fit of data. The final results were somewhat mixed; although the results of the multiple regression analysis supported previous literature that intrinsic factors and

parental influence play a significant role in career choice of students, the regression analysis with the enter method showed otherwise. In running the regression analysis with the enter method elimination, subjective norms were retained and the following three were removed: (1) Beliefs and Attitude towards Accountant and CPA, (2) Self-Efficacy, and (3) Perceived Behavioural Control.

In summary the review above highlights the variety of methods (univariate and multivariate techniques such as factor analysis and regression modelling, t-tests, ANOVA and chi-square) used by various researchers in examining career choices. The complexity of research questions posed also influenced the types of statistical methods applied.

4.3.2 Research Approach and Methods Employed in the Current Study

This study will use a quantitative research approach via the implementation of a questionnaire (discussed later in this chapter) as featured by a number of studies guiding this literature. A theory-driven social scientific approach will be used to examine variables that may influence students in selecting an accounting or non-accounting major. This study will also examine the relationship between key demographic variables and identify whether any such variables impact students' choice of an accounting or non-accounting major. Quantification makes it easier to aggregate, compare and summarise data allowing for statistical analyses. In this study the theoretical perspective of the TPB lends itself to using quantitative research analysis as it has been supported within the literature. This quantitative approach also allows for further testing of the theoretical model's robustness. The application of the TPB to student choice of major using a quantitative research approach has been demonstrated in numerous studies (see Table 4.1). The research method to be applied in this study is logistic regression and it will be discussed further in section 4.9.

4.4 Research Design

4.4.1 Research Instrument

Once the research approach has been chosen it is time to select the instrument for collecting the data. There are various methods to collect data from different sources and to suit different settings, they can include: (i) interviews (face-to-face,

telephone), (ii) questionnaires (administered face-to-face, via mail or electronically), and (iii) observations of people or events (Sekaran, 1992; Canals, 2017). Based on the literature discussed in Chapter 2 and keeping in mind the research questions for this study the most appropriate research instrument is discussed below.

4.4.2 Questionnaire Development and Design

Collis and Hussey (2003) describe a questionnaire as being a list of carefully structured questions with a view to eliciting reliable responses from respondents. It is not uncommon to find questionnaires (whether ad hoc or theoretically based) being used as an instrument tool for collecting data in research. It is a widely adapted research tool across many disciplines because it is not as time-consuming to implement, involves very little cost, if any, and is relatively quick for a researcher to collect data. As a result of all these factors a questionnaire typically allows the collection of a larger sample that could lead to a stronger analysis.

Ajzen's (1991, 2002, 2006) theory aims to capture people's intentions, hence it is acceptable that a questionnaire be constructed to collect this information. Whilst there is no official questionnaire attached to the TPB there are sample questionnaires and instructions on Ajzen's website (<http://people.umass.edu/aizen/faq.html> visited 03 Jan 2022) on how to create a questionnaire when using this theory. In using Ajzen's questionnaire designs and in conjunction with the literature guiding this research (Cohen and Hanno, 1993; Tan and Laswad, 2006, 2009), a paper-based questionnaire was developed. Some minor modifications were made to reflect the Australian and Malaysian academic environments and the behavioural aspect of interest that this research aims to capture. For example, one of the survey questions asked "How did you qualify to enter your present course?", and students were only to select one choice from several options. The first option for students taking the questionnaire in Australia read "Entered University direct from Year 12", however, given overseas students would not recognise the term "year 12" the wording was changed for the Malaysia cohort to read "Entered University from Pre-university".

The questionnaire was designed to contain items to assess the three major constructs in the TPB as outlined by Ajzen (1991): (i) attitudes, (ii) subjective norms and (iii) perceived behavioural controls. An additional construct for self-efficacy was developed for the questionnaire alongside some open/ended questions and other measures of background factors such as demographic characteristics such as age and gender. The additional self-efficacy construct was adapted from Bandura's theory (1977, 1986) and questions created from those presented by Chen, Gully, Eden (2001). This additional construct was added to the questionnaire to assess whether the confidence level of the student had any influence on their choice between an accounting and non-accounting major. The questionnaire was initially designed for first year (FY) undergraduate business students, but later amended so it could be implemented to third year (TY) undergraduate business students. The reasons and changes are discussed in section 4.4.5. The main difference between the FY and TY questionnaire concerned the way in which it was written and a few changes to selected questions that allowed this researcher to capture students' intentions at the end of their course. An online questionnaire was also created to potentially capture graduated students, and this will be discussed in section 4.5.2.

For TY students it was required that some minor changes take place to the FY questionnaire to be suitable for TY students to use. The TY questionnaire was not pilot tested as the changes were not considered significant enough for a pilot test to be required. The changes that took place in the TY questionnaire involved the use of tense in the way questions were asked. For example instead of asking "what did you INTEND to major in?" the question was rephrased for TY students to read "what DID YOU major in?"

4.4.3 Questionnaire Validation

When it comes to gathering data many obstacles and unforeseen problems can be identified early by running a pilot test on the instrument to be used with a small number of informants (Turner, 2005). To assess the validity of the questionnaire senior academics from the accounting discipline reviewed the questionnaire for completeness, format, accuracy and reliability. After careful review of the

questionnaire some minor changes were made and the questionnaire was ready to be further pilot tested by a sample of business students from one of the participating universities. Student volunteers were sought to provide feedback on the reliability and readability of the questionnaire. A presentation letter with instructions and a draft of the questionnaire was administered by this researcher in a face-to-face setting. This was done in order to observe any facial expressions (such as sign of confusion) from the students participating in the pilot study and to receive clear feedback on any ambiguities or design problems with the questionnaire. A second pilot study was undertaken in order to ensure the final questionnaire was free from ambiguities and design problems. The instrument was then ready to be distributed.

4.4.4 Selection of Subjects and Sample Size

The literature review demonstrated that prior studies have used a cross-sectional design to examine students' choice of major, either by using students who have selected accounting or non-accounting majors or accounting graduates who have completed their career choice process (Cohen and Hanno, 1993; Ahmed, Alam and Alam, 1997). Tan and Laswad (2009) conducted a longitudinal study of students' attitudes, beliefs and choice of major decisions.

The population for this study is made up of students enrolled in a higher degree business course (accounting and non-accounting majors). Students are selected from the first year compulsory accounting unit of the course or a third year business unit required to be undertaken by all business students regardless of selected major. Respondents were sourced from three Australian universities and two overseas international partners of one of the participating universities.

The universities chosen for this study are classified as traditional universities as they place greater emphasis on face-to-face classes. The teaching delivery pattern at a traditional university in Australia is normally a two-hour lecture and a one-hour tutorial. Gradual assessment is conducted during the semester with final examinations at the end of each semester. In addition respondents are deliberately sourced from these three universities because they have similar degree course structures and curricula. They are also affiliated with the same

accounting professional bodies, have similar entry requirements, status and heavy reliance on international onshore students. Most of the participating universities have offshore international programs with various Asian nations. In the case of this research it refers to programs that one of the participating universities has with Malaysia.

The universities selected were contacted by email. The research study procedures and ethical considerations were explained and permission was granted to contact students in a face-to-face setting. Appropriate appointments with individual academics on time and days were then arranged for the questionnaire implementation. The collection of FY data was conducted within the first six weeks of the teaching semester. This important phase enabled students to give their opinion about accounting as a possible major/career choice. In collecting the data within this early time frame in the teaching semester, it avoided any potential bias of academic assessment performance, good or otherwise, which would occur around week 12 or 13 of the semester. TY data was also collected within the first six weeks of the teaching semester for consistency.

4.4.5 First Year and Third Year Survey Implementation

The questionnaire was distributed to FY students enrolled in compulsory first year business units in all three universities. The FY compulsory business units allowed a greater range of data to be captured from a combination of students who were likely to select an accounting or non-accounting major. In addition, TY students enrolled in a compulsory business unit at one participating university were also surveyed as an attempt to apply a repeated measure design where you could match FY student data to TY student data. The FY student questionnaire included an open-ended question requesting students if they were prepared to be contacted at a later stage to follow up on their career and employment path. Those willing to participate provided contact details. This then allowed the study to further expand upon the outcomes.

4.4.6 Composition of the Questionnaire Employed in this Study

A cover page accompanied the questionnaire, with a brief explanation of the purpose of the study, the importance of the students' participation and how their contribution would improve the understanding of how students select their university majors. It was also highlighted to students those responses will be held in the strictest confidence if they chose to provide a student ID number(s) where they may be followed up a later stage for further question(s) and or research. The questionnaire was divided into six main sections with various components within each one to make it easier for the participants (students) to read and respond to. Questionnaire participants responded to statements within each section using one of the 5-point Likert scale options listed below:

(1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly agree **or**

(1) Very unlikely, (2) Unlikely, (3) Neutral (4) Likely, (5) Very likely **or**

(1) Not at all important, (2) Unimportant, (3) Neutral, (4) Important, (5) Very important **or** (1) Extremely bad, (2) Bad, (3) Neutral, (4) Good, (5) Extremely good.

A number of questions were presented as open-ended and others had a two or three point option selection. In addition to the variables tested within the TPB, the questionnaire also contained variables external to the TPB model, such as demographic questions (e.g. age, gender, how they entered university, country of birth). The questionnaire consisted of 33 questions of which twelve elicited responses on demographic information, seven on general information surrounding student studies, two on career choice, seven questions (with subsections) on the three TPB constructs, two (with subsections) on self-efficacy and three open-ended follow-up questions (see Appendix). The questionnaire in the appendix displays the original questionnaire distributed. In addition, the coding applied to the study is visible on the left hand side margin. An in-depth discussion of the questionnaire components can be found below.

4.4.6.1 Part 1 - Demographics

This part of the questionnaire comprised 12 questions in total relating to student demographics such as gender, age, country of birth, whether the student is domestic or international, mode of study (part-time or full-time), language

spoken at home and if the student was first in their family to go to university. Most questions in this section were categorical with a few open-ended questions.

4.4.6.2 Part 2 - About Your Studies

This part aimed to identify the student's educational background, the students intended (FY) / actual major (TY), whether they completed an accounting unit at high school and what their Australian Tertiary Admission Rank (ATAR) score was if they entered university via year 12 (i.e. final year of secondary school). There was also a question in this category assessing a student's perception of the prestige that various professions enjoyed. Unfortunately, only very few responses were received for the ATAR question and hence the information which was collected was not usable.

4.4.6.3 Part 3 - Intentions of Major/Career

This part of the questionnaire attempted to capture information about major/career choices. There were two questions, namely: (i) asking students INTENDED major/career at point of completing the survey; and (ii) when this decision was made. These questions initially formed part of the questionnaire to allow for a longitudinal study if we wanted to track the same students down the road which never eventuated hence these questions were not used in the analysis.

4.4.6.4 Part 4 – Theory of Planned Behaviour Constructs

This section of the questionnaire contained variables aimed at assessing the three major constructs which make up the TPB model. Each of the three constructs were made up of several sub-questions. Construct 1 comprises questions 20, 21 and 22 and this part sought student attitudes and beliefs (personal perception) to particular outcomes and the likelihood of achieving those outcomes conditional on the decision to major in an accounting or non-accounting discipline. In addressing the three questions within this construct, students were required to complete with the following instructions:

Q20. Evaluating 10 outcome statements on a five-point Likert scale (1= extremely bad to 5 =extremely good), students were asked to tick the box that best

represented their evaluation of how good or bad they thought the 10 outcomes were in deciding on a major/career. For instance, Q20 “a” read “Pursuing a major/career that deals a lot with numbers”.

In keeping with the ten outcomes addressed in Q20 students were then asked in Q21 to identify the likelihood that each of the ten outcomes would occur if they chose accounting as their major. Once again, the questions were measured using a five-point Likert scale (1 = very unlikely to 5= very likely). For instance Q21, “a” read “If I pursue a major/career in accounting: I will deal a lot with numbers”. The same principle applied to Q22 except that the question was asked on the condition that students were to pursue a major/career other than accounting, for example Q22 “a” read: “If I pursue a major/career other than accounting, I will deal a lot with numbers”.

Construct 2, set out to assess referents and the role they play in students selecting their major via Q23 and 24 of the questionnaire. Question 23 sought out normative beliefs of the referents views on students’ choice of major/career. The question was made up of 10 outcomes, 5 were related to accounting and 5 were related to non-accounting. Using a five-point Likert scale (1=strongly disagree to 5 = strongly agree) students were required to agree or disagree on whether referents (parents or others) held the view that they should or should not major in accounting. For instance Q23, “a” read: “my parents think I should pursue a major/career in accounting” and Q23 “f” read: “my parents think I should pursue a major/career in a discipline other than accounting”.

Q24 was made up of 5 components and it aimed to identify the level of influence on students by various referent groups. They were asked to indicate how important the referent group opinion was to them using a five-point Likert scale (1=not at all important to 5=very important). For example, Q24 “a” stated: “Generally my parents opinion as to what major/career I should pursue is”.

Construct 3, was made up of two questions (Q25 and Q26) that focused on capturing information on students’ perceived behavioural control. Students were asked to indicate the extent of their agreement or disagreement on a five-point

Likert scale (strongly disagree to strongly agree) against 6 outcomes/statements presented to them for each question. For instance, Q25 aimed to identify whether the six outcomes presented to students would make it difficult for them to pursue a major/career in accounting. For example, for one the factors examined, Q25 “a” read as: “The required workload in the accounting discipline”. Furthermore Q26 assessed the same factors except the question was asked from the aspect of selecting a non-accounting major.

4.4.6.5 Part 5 – Self-Efficacy Construct

Question 27 assesses the concept of self-efficacy. This question consists of 8 components and students were asked to indicate the extent of their agreement on a five-point Likert scale (1=strongly disagree to 5=strongly agree). For instance, Q27a read as: “I will be able to achieve most of my academic goals that I have set for myself”.

4.4.6.6 Part 6 – Follow up Stage

The last question was open-ended and investigated what students thought would be their greatest difficulty in achieving their major/career. Given the research had originally intended to focus on employment and major/career direction taken on completion of studies. This section gave students an opportunity to provide contact details for follow up and for further research. This question was applicable to all FYS and TYS surveyed across all universities. This question was omitted for the graduate students, however, it was replaced with different open-ended questions on whether they had found a job in their specified major/career path.

4.5 Questionnaire Distribution and Data Collection

Questionnaires were distributed in three phases. A questionnaire was developed with a combination of closed-ended and open-ended questions. An online version of the survey was also created using Qualtrix for later use in the study, but not used as per the discussion in section 4.5.2.

4.5.1 First Phase of Survey Collection – First Year Students (FYS)

In order to minimise the disruption to classes, the questionnaire was distributed in a face-to-face setting at the start of each lecture stream across all three universities which agreed to partake in the research. Students were given a quick rundown about the nature of the questionnaire and advised it was voluntary. They were allowed 15 minutes to complete the questionnaire during the lecture. In order to encourage participation, Melbourne students who gave a name or student ID number on the questionnaire went into a draw for a Coles voucher. The winner was drawn and announced at the completion of the implementation session.

In order to increase the number of questionnaires collected from FY students, the questionnaire was also distributed to universities in Malaysia affiliated with one of the participating universities. Extending the participation of the questionnaire to students in Malaysia gives this study further opportunity, insight and point of difference to other research on this topic. Questionnaires were photocopied and sent with a Melbourne staff member from one of the participating universities who was travelling to Malaysia on a teaching assignment. The questionnaire was handed out in a lecture to accounting and non-accounting students. The protocols for distribution to the offshore university were identical to the Australian universities.

4.5.2 Second Phase of Survey Collection – Graduated Students (GS)

In order to improve the strength of the statistics the study also aimed to collect data from students six months after graduating from their course. A six-month period after graduation was thought enough time for graduated students to secure employment. When referencing graduates in this section it doesn't refer to the same cohort of students surveyed at FY. It was hoped that the graduating cohort would shed a different perspective on choice of major when compared to students in their FY. An online link to the survey was published and further promoted via one of the participating universities alumni newsletters which are emailed to graduates quarterly. Unfortunately, the response rate to the online survey was not sufficient to continue looking at 16 graduate students within this study.

4.5.3 Third Phase of Survey Collection – Third Year Students (TY)

Initially the study was going to assess and compare the choice of student major and examine the intention followed after graduation. The response rate obtained after graduation was too small to be useful in this study to provide meaningful understandings and insights. Therefore in order to try and increase the sample size a decision to collect information from TY students from one of the participating universities was made. TY students completing a final compulsory business unit (Professional Development 3). This unit has accounting and non-accounting students enrolled therefore adding valuable insight to this study. The questionnaire implementation occurred within the first six weeks of semester. This made it possible to compare between FY student views to TY student views on choice of major. It needs to be noted that the students surveyed at TY were not the same as those from FY, therefore there were no matching samples as occurs in a repeated measures design. Table 4.2 presents the three phases of data collection and in total, 1264 questionnaires were gathered from participants of which 837 became usable.

Table 4.2 Collection Summary of Questionnaires

University	Time	Year level	Collections
University 1	Semester 1 2014	FYS	177
University 2	Semester 1 2014	FYS	71
University 3	Semester 1 2014	FYS	131
University 1	Semester 2 2015	FYS	209
University 1	Semester 2 2015	TYS	128
University 1 Malaysia	Semester 2 2015	TYS	120
University 1 Malaysia	Semester 2 2015	FYS	152
University 1 Malaysia	Semester 1 2016	TYS	83
University 1	Semester 1 2016	TYS	177
University 1 Online Collection	Semester 1 2016	Graduates	16
Total questionnaires collected			1264

4.5.4 Ethical Considerations

Ethical criteria of voluntary student participation were considered in the research design. Hence, an ethics application was submitted to VU's ethics panel. The ethics application (application number HRE13316) was accepted and deemed to meet the requirements of the National Health and Medical Research Council

(NHMRC) National Statement on Ethical Conduct in Human Research (2007) by the Victoria University Human Research Ethics Committee. Upon receipt of ethics approval, the questionnaire was distributed to students. The questionnaires were implemented with professional integrity and strict confidentiality.

Prospective participants were provided with an information to participants (see Appendix). This enabled potential participants to understand the nature of the research and to make a knowledgeable and voluntary decision on whether they wanted to take part. As part of the informed consent process, this assurance was documented in both the hard-copy face-to-face questionnaire and in the pilot study solicitation phase and the email follow-up reminders with the online version of the questionnaire. Participants were explicitly informed the study was voluntary and they could discontinue at any time and withhold consent previously granted to be contacted in the future. For the online questionnaire, students had previously consented to be contacted at a later stage. A confidentiality statement was attached on each questionnaire giving the respondents full anonymity.

4.6 Data Preparation

The quantitative data was entered and analysed in the Statistical Package for the Social Sciences (SPSS) version 25. In this study, priority was given to the quantitative data collection and subsequent analysis, the qualitative open-ended questions helped shape the study but not used for statistical purposes.

4.6.1 Coding the Questionnaire and Entering Data into SPSS

Questionnaires which were manually collected were given a numerical number when entered into SPSS to allow for tracking at a later point. In preparing the data for statistical analysis some cleaning was necessary. Data cleaning is a time consuming and essential process to ensure the validity of data. The data cleaning process intends to identify or at least, minimise errors in the data that may impact results. The process ensures that data is correct, consistent and useable by identifying any errors. Errors identified were either corrected or deleted depending on what was identified. Any deletions took effect for the entire student response not just sections.

In cleaning up and preparing for data analysis, a number of stages commenced. First, respondents that had omitted sections of the questionnaire (only completed a small subset of variables) had been removed from the dataset. Second, where main variables (see section 4.7) used in the research model were omitted the entry had been removed from the dataset. Third, jumbled and unintelligible answers were removed from the dataset. Fourth, questionnaires were deemed unusable if students marked the same answer for all of the Likert scale questions or a pattern of responses was noticed.

At this stage of the study, it was decided what variables would be used in the main analysis of the data. This part was driven by the level of completeness of variables in the questionnaire. Whilst a number of variables were omitted from the main analysis they were subsequently used in separate analysis. The study's dependent and independent variables were identified. The dependent variable was the choice of major (accounting was represented as 1 and non-accounting was represented as 0). The independent variables comprised all the constructs that make up the TPB model, the self-efficacy construct and selected demographic variables such as age, gender, language spoken at home, whether the student was first in the family to go to university, ethnicity/culture, and whether the student was domestic or international.

4.6.2 Changes to Variables

Language Spoken at Home

When examining the question on what language students speak at home, initially it was decided to sort the responses into three categories - English, Non-English and Dual. The dual category signified that a student spoke English plus one other language. Unfortunately, when the dual category was grouped for data analysis there were not enough respondents, so a decision was made to collapse the data into two categories, namely English and non-English. The dual category respondents were reclassified within the English-speaking group. It is important to note that no responses were lost as it was reclassification of categories.

Measuring Culture

There were several questions in the questionnaire that generated responses of a student's culture/ethnicity. Both questions were examined to ascertain where the majority of responses were made to allow for further processing of results. Question 5 was an open-ended question asking respondents for their ethnic background. The number of ethnic backgrounds identified in the study from respondents were too many for a meaningful analysis thus were collated in a meaningful manner. This study decided to measure the concept of culture using the Hofstede cultural dimensional framework. As pointed out in Chapter 2 (section 2.8) the Hofstede model ranks culture to country rankings across six dimensions that are universal to countries (Hofstede, 2011).

Culture was measured using Hofstede's cultural dimension measures provided on his official Hofstede website (<https://www.hofstede-insights.com/> visited 03/01/2022). The Hofstede website does not incorporate all countries, thus when a country a participant had written in the questionnaire was not listed it was grouped by the researcher with a country that shared similar values and cultural settings. For example Romania was used as a proxy for Ukraine. There was approximately 11% of students (97) out of the total sample which listed a country that did not appear on the Hofstede website.

These classifications were further collapsed into five cluster centres using cluster analysis. Cluster analysis is a technique of grouping items of a similar nature into the same group and therefore making them more meaningful in nature (Wilks, 2019). Cluster analysis was run trying four, five and six categories and the decision to use five clusters was made as it still had a significant number in every cluster. It was further identified that cluster two did not contain enough responses which led to a failure of the analysis and hence the cluster was no longer beneficial to the analysis. The six respondents out of the total possibility of 843 (0.72%) who were identified in this cluster (cluster 2) were omitted from the data pool. Please see table A1 of summarised clusters in the appendix. In reviewing the summarised cluster table it was found that the group of countries that make up cluster 1 (C1) were different to the group of countries which make up cluster 5 (C5). In Hofstede terms this means that C1 and C5 have similar power distance,

individualism, masculinity and uncertainty avoidance. The major differences between C1 and C5 are found in long term orientation and indulgence. This is what makes these two clusters significantly different to each other.

4.6.3 Explanation of How the TPB Constructs are Used in the Study

Given all the constructs within the questionnaire are made up of numerous components it was important to find a way to measure the responses. Hence when the study refers to “Aggregate of Items” it is referring to a single measure of a construct. On the other hand, when the study refers to “Individual items” it is referring to the items or components that make up a construct. The Personal Beliefs measure in the TPB is based on collapsing Q20 to Q22 of the questionnaire into one construct or one single measure. Analysis could not be undertaken until this was turned into a single measure. The same was done for Q23 and Q24 (questions relating to Referents), Q25 and Q26 (questions relating to Personal Behaviour controls) and Q27 components (parts a to h) were also tallied up into one single figure. A more detailed explanation will be provided below.

4.6.3.1 Theory of Planned Behaviour Construct 1: Personal Beliefs

Questions 20 to 22 of the questionnaire were further collapsed into one construct or one single measure. Section 4.4.6.4 explained what each TPB construct aims to measure. In Q20, students were asked to evaluate 10 outcomes on a five-point Likert scale of how good or bad they think each of the outcome relates to choice of major/career. Outcome number one for instance is, “Pursuing a career that deals a lot with numbers”. The five-point Likert scale was then rescaled to a -2 to +2 scale in order to be consistent with the studies of Davis, Ajzen, Saunders and Williams (2002) and Daigle, Hrubes and Ajzen (2002) as cited in the results in Ajzen (2005). Cohen and Hanno (1993) who had a 7-point scale rescaled from -3 to +3. Then, Q21 and Q22 which were on a number scale from 1 to 5, asked students to evaluate the likelihood of each of the 10 outcomes (listed in Q20) occurring on the basis of whether they select an accounting or a non-accounting major.

In order to make sense of these outcomes, each rescaled response to the outcomes in Q20 (outcomes that help influence a major) was multiplied by the difference of the two responses received from Q21 and Q22. The difference in the responses represents how much more likely the outcome is perceived to happen if accounting is chosen as a major. The individual response from each student against each component is then totalled serving as a measure of the attitude towards choosing a major. A positive difference score would suggest that a student had a more favourable attitude toward choosing an accounting major rather than selecting a non-accounting major and the reverse if it was a negative score. For instance if the final response for Q20a equals -5 then it is to be read that “dealing with lots of numbers” is much less likely to happen if accounting is chosen instead on non-accounting and vice versa.

Calculating the aggregate measure for each student is as follows across the 10 TPB Personal Beliefs items:

$$\sum_{i=1}^{10} Q20_i * (Q21_i - Q22_i)$$

Where

Q20_i = the rescaled response to item i (ranging from 1 (a) to 10 (j)) on survey question 20

Q21_i = the rescaled response to item i (ranging from 1 (a) to 10 (j)) on survey question 21

Q22_i = the rescaled response to item i (ranging from 1 (a) to 10 (j)) on survey question 22

4.6.3.2 Theory of Planned Behaviour Construct 2: Referents

Using a five-point Likert scale (1=strongly disagree to 5=strongly agree), question 23 examined student normative beliefs by asking 10 questions. The 10 questions aim to measure how strongly each referent's view was on whether the student should study an accounting or non-accounting degree. Five outcomes were in favour of pursuing an accounting major and five in favour of pursuing a non-accounting major. For example, Q23a read, “My parents think I should pursue a career in **Accounting** verses Q23f which read, “My parents think I should pursue a career in a discipline **other than accounting**”.

As explained in 4.4.6.4, Question 24 is made up of five components and aims to measure the subjective norms by asking students to rate how important various referents (parents, other relatives, close friends, teachers, and career counsellors) opinions were to them. For instance Q24a read, “Generally my parent’s opinion as to what career I should pursue is”. The answer to Q24a (how important the referent’s opinion is to the student) was multiplied by the difference found from deducting Q23f from Q23a which measures how strongly the referent preferred the student to pursue an accounting major over a non-accounting major. Therefore a positive score, for instance of +4, meant the referent had a strong preference that the student did not pursue an accounting major. Conversely, a negative score of -4 for example, meant the referent had a strong preference for the student to pursue an accounting major. This calculation is further portrayed in a mathematical equation below:

$$\sum_{i=1}^5 Q24_i * (Q23_i - Q23_{5+i})$$

Where

Q24_i = the response to item i (ranging from 1 (a) to 5 (e)) on survey question 24

Q23_i = the response to item i (ranging from 1 (a) to 10 (j)) on survey question 23

4.6.3.3 Theory of Planned Behaviour Construct 3: Personal Behavioural Controls

Using a 5-point Likert scale Q25 asked students to indicate their agreement or disagreement against six factors. Students had to identify whether the six factors “make it” or “would make it” difficult for them to pursue an accounting major. Question 26 comprised the same six factors for students to examine however students were required to respond to each factor on the premise of selecting a non-accounting major. In order to collapse the responses into one working column, Q25 responses for each factor were deducted from Q26 responses. The mathematical equation for this construct is stated below.

$$\sum_{i=1}^6 (Q26_i - Q25_i)$$

Where

Q25_i = the response to item i (ranging from 1 (a) to 6 (f)) on survey question 25

Q26_i = the response to item i (ranging from 1 (a) to 6 (f)) on survey question 26

4.6.3.4 Self-Efficacy Construct

This construct comprised eight components that students were asked to measure against a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The questions under this construct gauged student self-worth and ability. An example of a question is: “I will be able to achieve my academic goals that I have set for myself”. The eight components of this construct were collapsed into one by adding the responses of each component. The mathematical equation for this construct is written here.

$$\sum_{i=1}^8 (Q27_i)$$

Where

Q27_i = the response to item i (ranging from 1 (a) to 8 (h)) on survey question 27

4.7 Research Model for Main Analysis

The research model applied to the study combines a number of factors. The study will use the three constructs from the TPB in conjunction with the concept of Self-Efficacy (Bandura, 1977) plus a number of general characteristics some of which have not previously been used in this way (i.e. First in family to go to university). For example, the way in which culture has been applied in this study is different to prior literature. Together these components will form the model to be applied within this study. It should be noted that some variables have been omitted from the main model (example RQ7 factors). The first reason for this omission is that the study would have had to drop too many data points. Secondly, those variables omitted were not causative variables or were seen to be confounding variables related to the same factors as the dependent variable in this study. If a variable is not causative it is irrelevant how many points it has for it still cannot be used.

4.7.1 Model Development

Logistic regression is a statistical model used to model the probability of a certain action occurring. For example, in this study whether a student selects to major in accounting or another major. Logistic Regression is used when the dependent variable is categorical 0 to 1. For example, in this study 1 represents a student selecting to major in accounting whereas 0 represents students selecting a non-accounting major (Lorenzen, 1989). The predicted value from a logistic regression is the log of probabilities from two mutually exclusive and exhaustive possibilities. In this study it would be whether a student chose to major in accounting divided by the probability they would not major in accounting. Therefore the p in the model represents the probability of outcome 1 (student selecting an accounting major). The odds ratio is the probability of majoring in accounting divided by the student not majoring in accounting and then you log it. The entire equation is designed to predict this ratio. For example, if you take a set of calculated betas and feed in values of one student for all variables being measured you will have a predicted value somewhere between 0 and 1. This number is then interpreted as the log of the ratio of the probability. Therefore, if the equation predicted a specific student 0.70 of selecting an accounting major then you need to work backwards to determine what value of P gives the log of $p/(1-p) = 0.70$. Where the ratio is greater than 0.50 this means there is a greater likelihood of students doing accounting as opposed to non-accounting and would therefore predict their major would be accounting but this is not a certainty. The strong possibility exists that the prediction will be wrong. It is not unusual for the model to show a ratio higher than 0.50 but a student still not pursue accounting.

4.7.1.1 Justification of Using an Individual Model in Conjunction to an Aggregate Approach

Whilst individual variable models are not commonly used in business research they are in fact common in the behavioural literature field (Johnson, Rosen and Chang, 2011). Johnson, Rosen and Chang (2011) pointed out numerous advantages to such models including offering unique insight into areas that an aggregate model would not be able to achieve. The estimated full logistic regression model used in this study inclusive of explanatory variables is as follows:

$$Z = \log \left(\frac{p}{1-p} \right) = \beta_0 + \beta_1 * \text{Personal (TPB)} + \beta_2 * \text{Referents (TPB)} + \beta_3 * \text{Behavioural Control (TPB)} + \beta_4 * \text{Self-Efficacy} + \beta_5 * \text{Gender} + \beta_6 * \text{Age} + \beta_7 * \text{International/Domestic} + \beta_8 * \text{Culture} + \beta_9 * \text{Language spoken at home} + \beta_{10} * \text{First in family to go to university}.$$

Where

Z= the dependent variable

p= probability of outcome 1 occurring (student majoring in accounting)

Where Z is the dependent variable between choice of major, 1 = major in accounting and 0 = major in non-accounting; Where the logit to be estimated by the right-hand side variables and β 's are the parameters of these variables. Additionally, p is the probability of outcome 1 occurring (student majoring in accounting).

Six models have been developed to analyse the data collected in this study. Research models have been created for FY (models 1 and 2) and TY (models 3 and 4) student cohorts where information has been examined separately on an individual and aggregate level for each cohort. In addition it was decided that the information should also be explored from a combined perspective. Therefore, FY and TY cohorts are combined to form models 5 and 6 as another means of interpreting results. The combined method will allow for an analysis on whether the level of impact of the affected variables in FY differs to the impact they may have on TY. The mathematical representation of the key concepts/research questions that this study aims to address is found below and an explanation of the symbols used in the mathematical representation is shown in Table 4.3.

Table 4.3 Definition of Variable Symbols used in Research Models

P_A = Personal (TPB) Aggregate construct	B_4 = Behavioural (TPB) item construct 4
P_1 = Personal (TPB) item 1 construct	B_5 = Behavioural (TPB) item construct 5
P_2 = Personal (TPB) item 2 construct	B_6 = Behavioural (TPB) item construct 6
P_3 = Personal (TPB) item 3 construct	S_A =Self-Efficacy Aggregate construct
P_4 = Personal (TPB) item 4 construct	S_1 = Self-Efficacy item 1 construct
P_5 = Personal (TPB) item 5 construct	S_2 = Self-Efficacy item 2 construct
P_6 = Personal (TPB) item 6 construct	S_3 = Self-Efficacy item 3 construct
P_7 = Personal (TPB) item 7 construct	S_4 = Self-Efficacy item 4 construct
P_8 = Personal (TPB) item 8 construct	S_5 = Self-Efficacy item 5 construct
P_9 = Personal (TPB) item 9 construct	S_6 = Self-Efficacy item 6 construct
P_{10} = Personal (TPB) item 10 construct	S_7 = Self-Efficacy item 7 construct
R_A = Referent (TPB) Aggregate construct	S_8 = Self-Efficacy item 8 construct
R_1 = Referent (TPB) item 1 construct	G =Gender
R_2 = Referent (TPB) item 2 construct	L = Language spoken at home
R_3 = Referent(TPB) item 3 construct	I =International/Domestic
R_4 = Referent (TPB) item 4 construct	F =First in family to go to university
R_5 = Referent (TPB) item 5 construct	C_1 = Culture 1
R_6 = Referent (TPB) item 6 construct	C_2 = Culture 2
R_7 = Referent (TPB) item 7 construct	C_3 = Culture 3
R_8 = Referent (TPB) item 8 construct	C_5 = Culture 5
R_9 =Referent (TPB) item 9 construct	A_1 = Age (18-20)
R_{10} = Referent (TPB) item 10 construct	A_2 = Age (21-25)
B_A = Behavioural (TPB) Aggregate construct	A_3 = Age (26-29)
B_1 = Behavioural (TPB) item construct 1	A_4 = Age (30plus)
B_2 = Behavioural (TPB) item construct 2	DT = Dummy Third Year
B_3 = Behavioural (TPB) item construct 3	β_x = Estimated coefficient of variable X

4.7.1.2 Research Model 1: Aggregate TPB and First Year Cohort

The first research model is represented by the equation below. It focuses on the FY student data where aggregate constructs are applied in running statistical tests. This research model helps address RQ1 (1), RQ2 (1), RQ3 (1), RQ4 (1) and RQ5 (a-f).

$$FYM = \log(p/(1 - p)) = \beta_0 + \beta_{PA} * P_A + \beta_{RA} * R_A + \beta_{BA} * B_A + \beta_{SA} * S_A + \beta_G * G + \beta_{A1} * A_1 + \beta_{A2} * A_2 + \beta_{A3} * A_3 + \beta_I * I + \beta_{C1} * C_1 + \beta_{C2} * C_2 + \beta_{C3} * C_3 + \beta_L * L + \beta_F * F + \varepsilon \quad (1)$$

4.7.1.3 Research Model 2: Individual TPB and First Year Cohort

The second research model is represented by the equation below. It focuses on the FY student data but in this instance individual items were applied in running statistical tests. This research model helps address RQ1 (2a-j), RQ2 (2a-e), RQ3 (2a-f), RQ4 (2a-h) and RQ5 (a-f).

$$FYM = \log(p/(1-p)) = \beta_0 + \sum_{i=1}^{10}(\beta_{Pi} * P_i) + \sum_{i=1}^5(\beta_{Ri} * R_i) + \sum_{i=1}^6(\beta_{Bi} * B_i) + \sum_{i=1}^8(\beta_{Si} * S_i) + \beta_G * G + \beta_{A1} * A_1 + \beta_{A2} * A_2 + \beta_{A3} * A_3 + \beta_I * I + \beta_{C1} * C_1 + \beta_{C2} * C_2 + \beta_{C3} * C_3 + \beta_L * L + \beta_F * F + \varepsilon \quad (2)$$

4.7.1.4 Research Model 3: Aggregate TPB and Third Year Cohort

The third research model is represented by the equation below. It focuses on the TY student data where an aggregate total of items are applied in running statistical tests. This research model helps address RQ1 (1), RQ2 (1), RQ3 (1), RQ4 (1) and RQ5 (a-f).

$$TYM = \log\left(\frac{p}{1-p}\right) = \beta_0 + \beta_{PA} * P_A + \beta_{RA} * R_A + \beta_{BA} * B_A + \beta_{SA} * S_A + \beta_G * G + \beta_{A1} * A_1 + \beta_{A2} * A_2 + \beta_{A3} * A_3 + \beta_I * I + \beta_{C1} * C_1 + \beta_{C2} * C_2 + \beta_{C3} * C_3 + \beta_L * L + \beta_F * F + \varepsilon \quad (3)$$

4.7.1.5 Research Model 4: Individual TPB and Third Year Cohort

The fourth research model is represented by the equation below. It focuses on the TY student data but in this instance individual items were applied in running statistical tests. This research model helps address RQ1 (2a-j), RQ2 (2a-e), RQ3 (2a-f), RQ4 (2a-h) and RQ5 (a-f).

$$TYM = \log\left(\frac{p}{1-p}\right) = \beta_0 + \sum_{i=1}^{10}(\beta_{Pi} * P_i) + \sum_{i=1}^5(\beta_{Ri} * R_i) + \sum_{i=1}^6(\beta_{Bi} * B_i) + \sum_{i=1}^8(\beta_{Si} * S_i) + \beta_G * G + \beta_{A1} * A_1 + \beta_{A2} * A_2 + \beta_{A3} * A_3 + \beta_I * I + \beta_{C1} * C_1 + \beta_{C2} * C_2 + \beta_{C3} * C_3 + \beta_L * L + \beta_F * F + \varepsilon \quad (4)$$

4.7.1.6 Research Model 5: Individual Combined First year and Third Year Cohort Comparison (Cross Product Model)

The fifth research model is represented by the equation below. It is a comprehensive data collection of FY and TY students collated into one group and variables looked at individually and therefore statistical analysis was completed on individual variables. The equation model also signifies the dummy variable

introduced into this model which is used to create multiple cross-product variables.

$$\begin{aligned}
 FYM \text{ and } TYM = \log\left(\frac{p}{(1-p)}\right) = & \beta_0 + \beta_{DT} * D_T + \sum_{i=1}^{10}(\beta_{Pi} * P_i) + \sum_{i=1}^{10}(\beta_{PDi} * P_i * \\
 & D_T) + \sum_{i=1}^5(\beta_{Ri} * R_i) + \sum_{i=1}^5(\beta_{RDi} * R_i * D_T) + \sum_{i=1}^6(\beta_{Bi} * B_i) + \sum_{i=1}^6(\beta_{BDi} * B_i * \\
 & D_T) + \sum_{i=1}^8(\beta_{Si} * S_i) + \sum_{i=1}^8(\beta_{SDi} * S_i * D_T) + \beta_G * G + \beta_{GD} * G * D_T + \beta_{A1} * A_1 + \\
 & \beta_{A1D} * A_1 * D_T + \beta_{A2} * A_2 + \beta_{A2D} * A_2 * D_T + \beta_{A3} * A_3 + \beta_{A3D} * A_3 * D_T + \beta_I * \\
 & I + \beta_{ID} * I * D_T + \beta_{C1} * C_1 + \beta_{C1D} * C_1 * D_T + \beta_{C2} * C_2 + \beta_{C2D} * C_2 * D_T + \beta_{C3} * C_3 + \\
 & \beta_{C3D} * C_3 * D_T + \beta_L * L + \beta_{LD} * L * D_T + \beta_F * F + \beta_{fD} * F * D_T + \\
 & \varepsilon \quad (5)
 \end{aligned}$$

4.7.1.7 Research Model 6: Aggregate Combined First year and Third year Cohort Comparison (Cross Product Model)

The sixth research model is represented by the equation below. It focuses on a comprehensive data collection of FY and TY students collated into one group and variables looked at as aggregate totals. This equation model also signifies the dummy variable introduced into this model which is used to create multiple cross-product variables.

$$\begin{aligned}
 FYM \text{ and } TYM = \log\left(\frac{p}{(1-p)}\right) = & \beta_0 + \beta_D * D_T + \beta_P * P_A + \beta_{PD} * P_A * D_T + \beta_R * \\
 & R_A + \beta_{RD} * R_A * D_T + \beta_B * B_A + \beta_{BD} * B_A * D_T + \beta_S * S_A + \beta_{SD} * S_A * D_T + \beta_G * \\
 & G + \beta_{GD} * G * D_T + \beta_{A1} * A_1 + \beta_{A1D} * A_1 * D_T + \beta_{A2} * A_2 + \beta_{A2D} * A_2 * D_T + \\
 & \beta_{A3} * A_3 + \beta_{A3D} * A_3 * D_T + \beta_I * I + \beta_{ID} * I * D_T + \beta_{C1} * C_1 + \beta_{C1D} * C_1 * \\
 & D_T + \beta_{C2} * C_2 + \beta_{C2D} * C_2 * D_T + \beta_{C3} * C_3 + \beta_{C3D} * C_3 * D_T + \beta_L * L + \beta_{LD} * L * \\
 & D_T + \beta_F * F + \beta_{fD} * F * D_T + \varepsilon \quad (6)
 \end{aligned}$$

4.7.1.8 Discussion of the Models Used in the Study

The six models presented offer two different ways of estimating a coefficient for each variable in FY and TY. The difference is that one of them forces a common approach to the estimation of the residual and the other method does not. The combined model forces a common structure for the residuals whereas the individual models do not allow this to occur. The combined models create a test of whether the difference in the coefficients for a single variable across FY and

TY is statistically significant, something that the standalone models lack. Data run for FY and TY cohorts on their own allows discussion on the significance of each individual variable that changes. However, there is no test of whether the coefficients size has changed in a significant way, hence why model 5 and 6 were constructed. The delta variables (explained further on page 143) in models 5 and 6 test whether the effect of any particular variable has a significant change between FY and TY. This distinct information can only be provided from combined models.

The individual models (FY cohort, TY cohort and combined cohort) comprise an epsilon ε at the end of each formula. Each distribution of ε is estimated for each model as there is a lack of commonality between these models. All other variables in the model come directly from the research data file. The ε 's on the other hand are estimated by SPSS during the estimation process (the residuals) and because they are run as three separate models there is nothing that forces the distributions of those three ε 's across the three different models to have anything in common with each other. SPSS creates the distributions of each ε to fit the best possible model. Consequently, when model 2 and model 4 are estimated there is nothing that forces the distribution of the residuals in the FY cohort to have anything to do with the distribution of the residuals in the TY cohort. However, in estimating model 5 (where FY and TY cohorts are combined in the one model and there is one set of ε) it will force the distribution of the ε to create commonality between FY and TY data. Model 5 forces common types of behaviour between the residuals in FY and TY and subsequently, different results between individual and aggregate models emerge. It strengthens the common point of variance and mean of the residuals.

4.8. Descriptive Statistics

Descriptive statistics are used to explain characteristics of the sample population. The descriptive statistics help simplify the large amount of data collected and forms the basis of the quantitative method within this study. Some forms of descriptive statistics for categorical data include frequencies (the number of observations which are often displayed in contingency tables) and

proportions (the percentage that each category accounts for out of the whole sample). This study will apply a combination of both to its categorical variables which specifically are age, gender, year level of study, domestic or international students, enrolment status, whether they were first in family to attend university. For Likert scale responses descriptive statistics such as simple means and standard deviations will be applied as well as minimum and maximums.

Questions 9, 14, 16 and 17 did not form either part of the main model or part of the logistic analysis. Reasons for these questions being omitted were: (i) the variables being tested in the questions were missing too much data and if added to the study too many observations would have been omitted; (ii) the variables were not causative or confounding; and (iii) these were peripheral variables, hence not key to the main model analysis. Nonetheless there is still interest in whether they had any impact on the choice of major so they were examined in isolation. They were analysed by generating cross-tabulations on the data and then conducting chi-square test (non-parametric tests).

Cross-tabulation is a method frequently applied to quantitative research data to help analysis two or more variables and to help understand the correlation between the variables selected. Table 4.4 presents the survey questions together with the matching relevant research questions. The following are the survey questions: Q9 whether students were full-time or part-time; Q14 how students qualified into their course; Q16 whether students studied accounting before coming to university; and Q17 how students rank the prestige of other professions. These variables were compared individually against the dependent variable of student choice of major. In addition to cross-tabulations the Pearson chi square was calculated against all these questions. With the exception of Q14 and Q17 these questions were a 0-1 variable.

Table: 4.4 Survey Questions Relevant to Research Question 7

Relevant Survey Question	Relevant research question
Q9. Enrolment Status	Research Question 7d
Q14. How did you qualify to enter your present course?	Research Question 7c
Q16. Did you study accounting prior to university	Research Question 7b
Q17. Students perception on professional prestige	Research Question 7a

4.9 Data Analysis Techniques – Main Models

4.9.1 Calculation of Cronbach's Alpha (CA)

Cronbach's alpha is a measure used to assess the reliability, or internal consistency, of a set of scale or test items. Cronbach's alpha is used when items are scaled and the scores have a range of values, as is the case with Likert scales (Ary, Jacobs and Razavieh, 2002). Cronbach's alpha coefficients are determined so as to identify whether it is viable to use scores that have been aggregated for each construct. Cronbach's alpha examines significance and internal consistency between the scale scores. In this study Cronbach's alpha was calculated for the aggregated variables for the four constructs namely, Personal Beliefs, Referents, Personal Behavioural Control, and Self-efficacy. The calculations were completed separately for FY and TY student data. The measure of reliability ranges from 0 to 1 with alpha coefficients in the 0.60 to 0.80 range commonly acceptable. It should be kept in mind that these ranges are found to vary at times in diverse scenarios (Ary, Jacobs and Razavieh, 2002; Field, 2009).

4.9.2 Validating the Models

As part of the logistic regression analyses, chi-squared values are used to indicate the validity of the models. As well, multicollinearity was tested by generating the Variance Inflation Factors (VIF) via SPSS. Contingency tables for Hosmer and Lemeshow Test were employed for FY and TY data using detailed and aggregated totals.

4.9.3 Logistic Regression Modelling to Compare FYS to TYS

The study employs a logistic regression model that is commonly used in quantitative modelling given the nature of the dependent variable that is categorical (<https://towardsdatascience.com/logistic-regression-2e11487cc44d> sited 26/10/20 12.56pm). An additional logistic regression model was employed

to compare TY to FY data, which is the cross-product model. The full model was run by applying the backward stepwise logistic regression. The model was run in two different ways. First, it was run by aggregating the totals of each question/variable and second, run using the individual variables that make up the constructs. This allows the researcher to identify any factors influencing students' choice of major and if moving from FY to TY level changed their decision-making in choice of major.

4.9.4 Backward Stepwise Logistic Regression

The Wald test within the logistic regression was applied to research model 5. This test initially incorporated all variables, testing each variable one at a time and then eliminating the variables that give the most statistically insignificant explanation to account for choice of major. The backwards step wise process in SPSS was set at a cut-off significance level of 10%. However, the three main constructs of PB, REF and PBC were considered directional variables and therefore the analysis was undertaken at the 5% significance level. Therefore only results statistically significant at 5% or less are discussed in Chapter 5. It should be noted that Q27 related to SE is not a directional variable.

It is also noted that the Δ variables by nature are not directional because there is no reason to believe what direction things will travel between FY and TY. Non-directional variables that fell between 0.05 and 0.10 were considered not significant or relevant for this study. If considered to be not significant then this study has accepted that the true coefficient could be zero and hence there is nothing of relevance to consider because the study has accepted there is no effect of that variable on the choice of major. It should be noted that there is nothing this study has excluded by using backward stepwise regression which may be relevant.

4.9.5 Test for Multicollinearity

To address issues with multicollinearity, collinearity statistics variance inflation factor (VIF) and tolerance scores were investigated, where $VIF = 1/\text{tolerance}$. Menard (1995) proposes that tolerance values should be less than 0.10, and Field (2005) advises that a VIF value greater than 10 is a cause for concern.

4.9.6 Robustness Tests Conducted

Robustness tests using alternative forms of variance variables was applied to this study. For instance, there were two variables in the questionnaire that were able to test for the same thing, i.e. that being whether students were domestic or international. Therefore, the research model was tested using both variations of that variable to see which one better represented the data. The results employing the two questions (6 and 7) of the questionnaire are documented in the Appendix.

4.10 Data Analysis Techniques Subsidiary Model

4.10.1 Parametric and Non-Parametric Tests to Address RQ7a

Research Q7a “Is a student’s perception of professional prestige associated with a student’s choice between an accounting or non-accounting major?” is related to Q17 in the questionnaire. This variable was analysed using both parametric and non-parametric tests. Parametric tests assume underlying statistical distributions in the data whereas non-parametric tests do not rely on any distribution, so they can be applied even if parametric conditions of validity are not met (Yolsal, 2011). A parametric correlation uses information about the mean and deviation from the mean while a non-parametric correlation will use only the ordinal position of pairs of scores. Often, it is identified that if the measurement scale is nominal or ordinal non-parametric statistics are used but if the measurement scale is interval or ratio parametric statistics are used.

If using parametric statistics, it is important to check the distribution of data is normal from the frequency output of SPSS for skew and kurtosis measures. If a distribution deviates markedly from normality, there may be a risk that the results will be inaccurate and therefore it is best to use an equivalent non-parametric statistic. Parametric tests can provide trustworthy results with distributions that are skewed and not normal (Lazar, Deng and Hochheiser, 2017). The Mann-Whitney U Test combines the two groups, i.e. FY and TY and ranks the ratios from lowest to highest. Once ranking is completed the Mann-Whitney U Test can extract students who belong in the non-accounting group and students who belong to the accounting group, and then calculate the mean rank of the two groups. The mean rank for accountants is 527 while that for non-accountants is

352. Therefore in terms of prestige for accounting, the mean rank for accountants was a larger number which meant on average it had bigger ratios, because it ranked it from lowest to highest.

Question 17 asked students to indicate the level of perception they held regarding the prestige placed on 10 different professions, one of which was the “accountant”. A 5-point Likert scale from 1= very low prestige to 5= very high prestige was applied. Both Parametric (t-test) and non-parametric tests (Mann-Whitney U test) were conducted in order to help address research question 7a (RQ7a). Question 17 is not a 0-1 variable but rather a ratio therefore the appropriate tests performed were two independent sample tests using Mann-Whitney U Test in addition to parametric t- test to compare means. Although a parametric test assumes a normal distribution, the normality assumption is irrelevant given this study has a large data pool. Question 17 comprised 10 components, in order to work with this question it was converted to a ratio value. The totals of the 10 responses for each respondent were added up and then deducted from the response/rating given to the “accountant”. This total was then divided by 9 as it was the number of professions assessed. The ranking of the accountant was then divided by the average to get a ratio value.

$$(\sum_{i=1}^9 (Q17_i)) / 9 = Average$$

$$(Q17A / Average = Ratio)$$

Where

$Q17_i$ = the response to item i (ranging from 1 to 9) on Q17 for non-“Accountant” professions

$Q17A$ = the response on the profession “Accountant” item

9 = the number of professions students were asked to rate prestige against, excluding the “Accountant”

4.11 Conclusion

The combined cohort forces the use of a common distribution of residuals for both FY and TY data. Doing this increases the chances of getting significant results but has in turn limited the behaviour of the common residual. When one runs the combined data the residual is forced to have the same variants in both the FY and TY groups but this does not happen when running the FY and TY cohort data on its own. If done on its own it allows the researcher to estimate different variants of the residual, which means the combined cohort is less restrictive in its estimation than the individual FY and TY cohorts.

This along with other points made in this chapter reinforces the credibility of doing individual models and individual analysis alongside aggregate models (Johnson, Rosen and Chang, 2011). The individual model was worth trying because it allows a researcher to use non-equal weightings. Instruments used equally weight for each component of each item in that instrument but when one uses individual variables it is no longer limited to using equal weights. Regression with all the variables in them can weight them differently because they do not all have the same coefficient in front of them. Furthermore it should be noted as highlighted that inconsistent results can emerge between the single year cohort and the combined year cohort due to the stricter assumptions explained in the previous chapters. In summary this chapter captured the general methods employed for this study and in doing so set out the research questions, hypotheses and research models. The statistical tests to be run were also discussed in this chapter and the following chapter will proceed to look at the results found by these tests.

Chapter 5: Results and Discussion

5.1 Introduction

The previous chapter presented and discussed the methodology to be applied to address the research questions and hypotheses. This chapter will describe and present the statistical tests and analyses conducted in the Statistical Package for Social Sciences (SPSS) version 25. Presented and discussed here in detail are the data collected. The chapter highlights the: (1) reliability of the questionnaire applied based on internal consistency of the measures by testing the Cronbach's alpha; (2) validity of the constructs applied in the study; and (3) descriptive analysis associated with the demographic data. Data analysis is divided into two parts. The first part includes testing the validity of the measurement and the second part reviews the logistical regression results.

5.2 Discussion of Validation Methods and Results

Table 5.1 has been constructed in order to understand the abbreviated variable terms applied in this chapter.

Table 5.1 Definition of Abbreviated Variables

Abbreviated term	Full Variable Name	Abbreviated term	Full Variable Name
AGE	Age	PBj	Job opportunities
AGEa	Age (18-20)	PBC	Perceived Behavioural Control
AGEb	Age (21-25)	PBCa	workload in chosen major
AGEc	Age (26-29)	PBCb	skills and background in maths
AGED	(30+)	PBCc	success in previous courses
CC1	Culture Cluster 1	PBCd	job opportunities
CC3	Culture Cluster 3	PBCe	interest in the discipline
CC4	Culture Cluster 4	PBCf	less time for extra curriculum activities
CC5	Culture Cluster 5	REF	Referents
FFS	Full Fee Student	REFa	Parents
FFU	First in family to go to university	REFb	Relatives
G	Gender	REFc	Closefriends
INT/DOM	International/Domestic Student	REFd	Teachers
LSH	Language Spoken at Home	SE	SelfEfficacy
PB	Personal Beliefs	SE a	Achieving academic goals
Pba	Dealing with lots of numbers	SE b	Accomplishment of difficult academic tasks
PBb	Initial salary	SE c	Obtaining outcomes important to the individual
PBc	Broad exposure to business	SE d	Succeeding at any career
PBd	Opportunities for private practice	SE e	Overcoming academic challenges
PBe	Challenging	SE f	Confidence in performing academic tasks
PBf	Boring	SE g	Can complete academic task well when compared to others
PBg	Future salary	SE h	Even during difficult periods can still perform well academically
PBh	Heavy workload	YL	Year level of student
PBi	Social status	Δ	The delta sign is used to represent variables that measure the difference between FY and TY

5.2.1 Reliability Analysis using Cronbach's Alpha

As part of the process of examining the reliability and validity of the measures, Cronbach's alpha coefficients are calculated for the four constructs applied in this study. Cronbach's alpha helps test whether or not the individual variables within each construct are measuring similar items. Cronbach's alpha is used when items are scaled and the scores fall between a range of values, as can be the case for Likert scales (Ary, Jacobs and Razavieh, 2002). The aggregated totals are used in the calculation and this was completed separately for both FY and TY student data. The measure of reliability ranges from 0 to 1 and the closer the reliability coefficient is to 1.0, the more comprehensive the result. Given previous researchers have used a cut-off somewhere between 0.60 and 0.80, this research will apply a cut-off of 0.70 as an acceptable score (Ary, Jacobs and Razavieh, 2002; Field, 2009; Sekaran, 2000; Bland and Altman, 1997; DeVellis, 2003; Churchill and Brown, 2006; Nunnally and Bernstein, 1994).

The "Perceived Behavioural Control" (PBC) construct in this study is comprised of 6 variables (a to f) for the TY student data. The Cronbach's alpha calculated for this group was found to exhibit a high value of 0.814 (see Table 5.2). This implies that the 6 variables being measured are the same or similar and therefore supports the collection of these variables into one construct or one single measure. On the other hand the Cronbach's alpha for the same construct for the FY student data presents a lower value of 0.489 (see Table 5.2). This suggests the 6 individual variables that make up this construct are measuring different things and therefore are not considered as one construct. Whilst this construct was weak the study followed the practice of other literature (Cohen and Hanno, 1993) and used all aggregate variables allowing the study to get comparative results. These results or in particular this weak Cronbach's alpha reinforces one of many reasons why the study also used an individual model as part of the analysis alongside some of the stronger points highlighted in Chapter 4. It should be noted that the FY data presents a poor Cronbach's alpha for the PBC Construct although this is not the case for the TY data. The remaining Cronbach's alpha results suggest that the set of items within each other construct group are closely related, as shown by Cronbach's alpha greater than 0.7 (Table 5.2).

Table 5.2 Cronbach's Alpha of Aggregated Item Constructs

Year Level	Aggregated Variables	Cronbach's Alpha	No of Items
FYS	Personal beliefs	0.783	10
FYS	Referents	0.913	5
FYS	Perceived Behavioural Control	0.489	6
FYS	Self-Efficacy	0.923	8
TYS	Personal beliefs	0.793	10
TYS	Referents	0.898	5
TYS	Perceived Behavioural Control	0.814	6
TYS	Self-Efficacy	0.888	8

5.2.2 Testing for Multicollinearity

Multicollinearity appears in statistics when some of the independent variables are highly correlated. If multicollinearity is found to be present in data, the statistical outcomes may not be reliable and consequently require further examination. To address the issue of multicollinearity, Variance Inflation Factor (VIF) and tolerance scores are calculated and investigated. Menard (1995) proposes that tolerance values should be less than 0.10, and Field (2005) advises that a VIF value (1/tolerance) greater than 10 is a cause for concern. A VIF value of 1 means that the variable or predictor is not correlated with other predictors. Higher values suggest a greater correlation of the variable with other variables. In other words the higher the VIF outcome the less reliable the results. Multicollinearity testing was performed on FY and TY aggregated data items (Table 5.3), FY and TY individual data items (Table 5.4), combined aggregated data items (Table 5.5) and combined individual data items (Table 5.6).

Examining the aggregate items for FY and TY in Table 5.3 and individual items for FY and TY in Table 5.4 revealed no multicollinearity issues in the data. In reviewing combined individual items in Table 5.5 and combined aggregate data in Table 5.6 there appears to be serious multicollinearity in some areas which warrant further investigation and in particular item values above 10. Table 5.5 shows variables with very high multicollinearity, in particular the cross-product SE construct, the cross-product of Age b construct and the cross-product of CC1. This suggests that the full model will not show an accurate picture because multicollinearity is present in the incremental variables. This high degree of

multicollinearity is dealt with by using a stepwise backward regression approach to sequentially eliminate predictors that have the least incremental explanatory power (which will include those highly correlated to other predictors).

Table 5.3 Multicollinearity Statistics VIFs (Aggregated Items FY and TY)

Model Aggregated Variables	FYS	TYS
	VIF	VIF
Gender	1.026	1.092
CC1	1.982	4.137
CC3	2.255	2.513
CC4	1.611	-
CC5	-	2.582
INTDOM	1.268	2.095
LSH	1.705	1.626
AGE a	4.217	3.473
AGE b	3.916	4.552
AGE c	1.576	-
AGE d	-	2.303
FFU	1.036	1.036
PB	1.296	1.252
REF	1.340	1.382
PBC	1.043	1.121
SE	1.042	1.091

Table 5.4 Multicollinearity Statistics VIFs (Individual items FY and TY)

Individual Model Items FYS				Individual Model Items TYS			
Variable	VIF	Variable	VIF	Variable	VIF	Variable	VIF
Gender	1.108	REF a	3.439	Gender	1.218	REF a	2.900
CC1	2.107	REF b	3.491	CC1	5.069	REF b	3.091
CC3	2.369	REF c	3.511	CC4	1.854	REF c	3.053
CC4	1.725	REF d	3.438	CC5	2.825	REF d	3.710
FFS	1.331	REF e	3.258	FFS	2.380	REF e	3.310
LSH	1.749	PBC a	1.802	LSH	1.791	PBC a	1.778
AGE a	7.088	PBC b	1.748	AGE a	3.800	PBC b	1.994
AGE b	6.268	PBC c	1.063	AGE b	4.810	PBC c	2.053
AGE d	2.713	PBC d	1.615	AGE d	2.405	PBC d	1.836
FFU	1.096	PBC e	1.661	FFU	1.159	PBC e	2.133
PB a	1.394	PBC f	1.808	PB a	1.646	PBC f	1.859
PB b	1.811	SE a	2.573	PB b	1.507	SE a	1.925
PB c	1.918	SE b	2.879	PB c	2.447	SE b	1.987
PB d	1.461	SE c	2.981	PB d	2.195	SE c	2.027
PB e	1.560	SE d	2.329	PB e	1.789	SE d	2.039
PB f	1.346	SE e	2.947	PB f	1.425	SE e	2.207
PB g	1.714	SE f	2.974	PB g	1.965	SE f	2.232
PB h	1.158	SE g	2.506	PB h	1.255	SE g	2.329
PB i	1.386	SE h	2.789	PB i	2.236	SE h	3.149
PB j	1.839			PB j	2.514		

Table 5.5 Multicollinearity Statistics VIFs (Combined individual Items)

Individual Item Model using Combined Student Data							
Variable	VIF	Variable	VIF	Variable	VIF	Variable	VIF
YL	102.549	REF a	5.225	Δ CC3	3.307	ΔREF d	5.391
Gender	1.692	REF b	5.178	Δ CC4	2.388	ΔREF e	5.115
CC1	3.606	REF c	5.333	Δ FFS	4.371	ΔPBC a	2.901
CC3	3.047	REF d	4.967	Δ LSH	7.252	ΔPBC b	3.000
CC4	2.169	REF e	4.892	Δ Age a	4.270	ΔPBC c	2.179
FFS	3.731	PBC a	2.868	Δ Age b	20.833	ΔPBC d	2.823
LSH	3.004	PBC b	2.665	Δ Age c	2.759	ΔPBC e	3.101
AGE a	7.298	PBC c	1.112	Δ FFU	3.663	ΔPBC f	3.005
AGE b	8.259	PBC d	2.421	Δ PB a	2.205	ΔSE a	52.072
AGE c	2.540	PBC e	2.379	Δ PB b	2.273	ΔSE b	64.726
FFU	1.694	PBC f	2.756	Δ PB c	3.206	ΔSE c	72.636
PB a	1.901	SE a	3.884	Δ PB d	2.912	ΔSE d	64.531
PB b	2.580	SE b	4.177	Δ PB e	2.478	ΔSE e	66.772
PB c	2.660	SE c	4.768	Δ PB f	2.130	ΔSE f	64.377
PB d	2.188	SE d	3.347	Δ PB g	2.727	ΔSE g	52.034
PB e	2.243	SE e	4.670	Δ PB h	1.695	ΔSE h	70.420
PB f	1.965	SE f	4.931	Δ PB i	3.014		
PB g	2.477	SE g	3.914	Δ PB j	3.325		
PB h	1.603	SE h	4.378	ΔREF a	4.655		
PB i	2.129	Δ Gender	2.798	ΔREF b	4.771		
PB j	2.640	Δ CC1	12.521	ΔREF c	5.060		

Table 5.6 Multicollinearity Statistics VIFs (Combined Aggregate Items)

Aggregate Model using Combined Student Data			
Variable	VIF	Variable	VIF
YL	94.441	Δ Gender	2.536
Gender	1.568	Δ CC1	11.967
CC1	3.393	Δ CC3	2.879
CC3	2.900	Δ CC4	2.097
CC4	2.026	Δ FFS	3.949
FFS	3.554	Δ LSH	6.736
LSH	2.928	Δ Age a	4.028
Age a	7.057	Δ Age b	19.902
Age b	7.876	Δ Age c	2.646
Age c	2.442	Δ FFU	3.336
FFU	1.601	Δ PB	1.837
PB	1.876	Δ REF	2.064
REF	1.978	Δ PBC	1.602
PBC	1.384	Δ SE	46.525
SE	1.533		

5.3 Descriptive Analysis

Table 5.7 highlights a summary of the main non-binary variables used in this study, otherwise referred to as descriptive statistics. The descriptive statistics were run on the entire sample of 837.

Table 5.7 Summary of Non-Binary Descriptive Statistics

Summary of Non Binary Descriptive Statistics (based on sample of 837)									
Variable	Minimum	Maximum	Mean	Std. Deviation	Variable	Minimum	Maximum	Mean	Std. Deviation
Pba	-8	8	0.17	1.798	PBCa	-4	4	-0.18	1.098
PBb	-8	8	0.07	1.785	PBCb	-4	4	-0.30	1.247
PBc	-6	8	-0.12	1.690	PBCc	-96	4	-0.37	3.517
PBd	-8	8	0.15	1.664	PBCd	-4	4	-0.30	1.160
PBe	-6	8	0.09	1.372	PBCe	-4	4	-0.56	1.384
PBf	-8	8	-1.01	2.545	PBCf	-4	4	-0.30	1.087
PBg	-8	8	0.12	1.915	PBC	-97	24	-2.02	6.099
PBh	-8	6	-0.05	1.000	SE a	1	5	3.81	0.785
PBi	-8	8	-0.14	1.473	SE b	1	5	3.79	0.746
PBj	-8	8	-0.15	1.928	SE c	1	5	3.95	0.712
PB	-49	60	-0.89	10.277	SE d	1	5	3.96	0.751
REFa	-20	20	-1.34	5.938	SE e	1	5	3.86	0.744
REFb	-20	16	-1.18	4.750	SE f	1	5	3.84	0.745
REFc	-20	16	-1.93	4.857	SE g	1	5	3.66	0.795
REFd	-16	20	-1.31	4.735	SE h	1	5	3.71	0.777
REFe	-20	20	-1.24	4.692	SE	8	40	30.57	4.772
REF	-88	88	-7.00	21.465					

As with Table 4 from Tan and Laswad (2006), Table 5.8 presents the means of aggregate constructs (PB, REF, PBC and SE) for this study and helps highlight the direction of the difference as previously explained in section 4.6.3.1. It emerges that the mean for the accounting measures is higher than the mean for non-accounting measures.

Table 5.8 Means of Aggregate Construct by Major

Means of Aggregate Construct by Major		
Values	1=Acc	0=NA
Aggregate of PB	4.41	-4.12
Aggregate of REF	6.43	-15.18
Aggregate of PBC	-1.10	-2.57
Aggregate of SE	29.97	30.93
Note: Acc represents Accounting & NA represents Non Accounting		

5.3.1 Demographics

The demographic section of any study is important as it sets the scene about the population in which the quantifiable data are collected and analysed. As explained in Chapter 4, part one of the questionnaire solicited 12 demographic questions to help profile the participants. In addition to the common demographic questions such as age, gender and sex there are other questions enlisted to help paint a picture of what may influence a student's choice of major. For example, the inclusion of culture, language spoken at home (LSH), full fee-paying student (FFS) and first in family to attend university (FFU) were added to ensure greater detail in the data gathering and analysis process. As explained in Chapter 4 the demographic questions were designed as Yes/No questions together with sections where participants were able to write their response or where participants were given an option of answers to a choice from.

It should be noted there were several questions asked in the demographic section of the questionnaire where data collected was not utilised. Table 5.9 provides a snapshot of the demographic section of the questionnaire. Data collected and not used were related to Q3, Q4, Q6 and Q11 from Table 5.9. For instance, Q6 (in which country is your permanent home residence) and Q7 (are you are full fee-paying student) measure roughly the same thing even though not identical. These two variables were approximately 80% correlated. Both variables were applied to the models and Q7 showed better results and had more data points to work with, so the study results for analysis relate to Q7. Additionally, Q4 "if you were born outside of Australia how old were you when you came to Australia?" did not have enough data points and hence was not considered viable to use. Q11 attempted to source postcodes from current Australian addresses but was discarded due to a low number of data points.

Table 5.9 Demographic Questions from the Questionnaire

1. Student Id Number: (optional) _____

Please tick (✓) the appropriate box that best applies to you.

2. Gender: Female ☐ Male ☐

3. In which country were you born: Australia ☐ Other? ☐

4. If you were born outside of Australia how old were you when you came to Australia? ____

5. What is your ethnic background (e.g. Chinese, Malaysian, Greek, Italian) _____

6. In which country is your permanent home residence? _____

7. Are you a full-fee paying overseas student? Yes ☐ No ☐

8. What language do you usually speak with your parents? _____

9. Enrolment Status: Full-time ☐ Part-time ☐

10. Age Range (years): 18-20 ☐ 21-25 ☐ 26-29 ☐ 30 and over ☐

11. What is the postcode at your current Australian address?

12. Are you the first in your immediate family to go to University? Yes ☐ No ☐

The study data sample was a total of 837 respondents (students). As presented in Table 5.10 approximately 38% (520) of respondents indicated they were intending to major in accounting while the remaining 62% (317) indicated they were intending to major in some business discipline other than accounting. This table also indicates a higher percentage of domestic students 65.35% (547), compared to international students who represent 34.65% (290) of the data. Reasons for this imbalance of domestic versus international students is likely to be due to the timing of the courses in which participants were solicited to take part in the survey. The participating universities who had international twinning programs were most likely to see their international students arrive in the second year of their course to complete their degree in Australia and hence appear only in TY and not in FY. The sample used in this study comprised a total of 65% full fee-paying students (international students) and a total 35% of non-full fee-paying students (domestic students). FY international students were 14.44% compared to 72.76% of international students at TY.

Just over 90% of students were found to be between the ages of 18-25. The majority of the surveyed students (89.73%) were enrolled as full-time at the time of data collection. The demographic information for gender indicated there was almost an equal balance between females and males. Females represented 52% (437) and males at 48% (400) of the sample size. There also appears to be a good balance of gender in the majors selected. For example, students who had indicated they were pursuing an accounting major were made up of 158 females

compared with 159 males whereas the students who indicated a non-accounting major were made up of 279 females compared to 241 males. Furthermore, approximately 53% of respondents (443) indicated their main language spoken at home is English whilst 47% (394) declared the main language spoken at home was something other than English. There also appeared to be a strong presence of first in family to go to university (64%).

Table 5.10 Summary Demographics

Variables	FY Numbers	FY %	TY Numbers	TY %	Total Numbers	Total %
YL	547	65.35	290	34.65	837	100.00
Male	267	48.81	133	45.86	400	47.79
Female	280	51.19	157	54.14	437	52.21
FFS: No	468	85.56	79	27.24	547	65.35
FFS: Yes	79	14.44	211	72.76	290	34.65
Age (18-20)	356	65.08	30	10.34	386	46.12
Age (21-25)	137	25.05	234	80.69	371	44.32
Age (26-29)	20	3.66	11	3.79	31	3.70
Age (30+)	34	6.22	15	5.17	49	5.85
CC1	184	33.64	219	75.52	403	48.15
CC3	180	32.91	26	8.97	206	24.61
CC4	79	14.44	17	5.86	96	11.47
CC5	104	19.01	28	9.66	132	15.77
LSH: Non english	182	33.27	212	73.10	394	47.07
LSH: English	365	66.73	78	26.90	443	52.93
FFU: Yes	193	35.28	109	37.59	302	36.08
FFU: No	354	64.72	181	62.41	535	63.92
Major Accounting	161	29.43	156	53.79	317	37.87
Major Non Accounting	386	70.57	134	46.21	520	62.13

5.3.2 Cross-Tabulations Analysis of Variables not part of the Main Model

There were selected questions within the questionnaire that did not form part of the main model for reasons explained below. They were assessed separately via other statistical methods such as cross-tabulations and chi-square tests. These additional variables relate to research questions 7a to 7e.

5.4 Supplemental Variables Testing

5.4.1 Professional Prestige

Question 17 aims to measure the individual's (student) prestige rating of "Accountants" and therefore set out to address RQ 7a. Students were asked to indicate the level of prestige they placed on 10 various professions, one of which was "accountant". A 5-point Likert scale from 'very low prestige' to 'very high prestige' was applied to capture this information. Question 17 aims to compare

the importance of how participants rate the prestige attached towards the accounting profession compared to nine other professions. A ratio was calculated taking the score given to the accounting profession divided by the average score given to the other nine professions. Tests were then performed on this ratio outcome.

Given the t-test assumes the ratio is normally distributed it was plausible to conduct both a Parametric (t-test) and Non-Parametric test (Mann-Whitney U Test) to help explain the data collected from Q17 as we can't be sure the variables are distributed normally. Table 5.11 presents descriptive statistics for the two variables and Table 5.12 presents t-test results for the data found in Q17 relating to professional prestige. After running parametric statistics, it was identified as per Table 5.11 that from the total sum of responses (837) the Non-Accounting students had a mean ratio of 0.95 and the Accounting majors had a mean ratio of 1.3. A standard t-test was then run to see whether the 1.3 was significantly different to the 0.95. Equal variance was not assumed and an exceptionally large t-statistic with a strong significance is evident. Results clearly show that when focusing on the ratio for professional prestige, students completing an accounting major have a significantly higher percentage ratio than those students not completing an accounting major.

Table 5.11 Statistics on Professional Prestige

Descriptive Statistics for Q17									
Group Statistics									
MAJOR 1=Acc/0=NA		N	Mean	Std. Deviation	Error Mean				
%	0	520	0.9564	0.3649	0.0160				
	1	317	1.3072	0.6821	0.0383				

T-tests for Q17									
Independent Samples Test									
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower Upper
%	Equal variances assumed	76.056	0.000	-9.676	835	0.000	-0.3508	0.0363	-0.4219 -0.2796
	Equal variances not assumed			-8.449	427.967	0.000	-0.3508	0.0415	-0.4324 -0.2692

df=degree of freedom, N=number, Sig=significance,

A number of parametric tests have an equivalent non-parametric test so the same t-tests performed above in Table 5.11 were then repeated. The Mann-Whitney U test (nonparametric test) were also found to be highly significantly at 0.000 (see Table 5.12). Therefore the results indicate that the difference is significant which is what the t-test also highlighted in Table 5.11. Thus both parametric and non-parametric tests performed on question 17 were similar, indicating strong evidence that students who major in accounting deem accounting to be more prestigious than other professions. The prestige variable clearly was a contributing factor to selecting a major. The results shown in Table 5.12 reveal a significantly higher mean rank for group 1 (527.34 - accounting major) compared to the mean rank of group 0 (352.95 Non-accounting major). This signifies that the average response to Q17 for accounting majors was higher than the average response for non-accounting majors.

Table 5.12 Mann-Whitney U Test Results for Professional Prestige

Descriptive Statistics for Q17				
Ranks				
MAJOR		N	Mean Rank	Sum of Ranks
1=Acc/0=NA				
percentage	0	520	352.95	183536.00
	1	317	527.34	167167.00
	Total	837		

Mann-Whitney Results for Q17

Test Statistics	
	percentage
Mann-Whitney U	48076.00
Wilcoxon W	183536.00
Z	-10.13
Asymp. Sig. (2-tailed)	0.00

Overall it may be concluded that accounting students have a higher opinion of accounting as a profession compared to a group of other possible professions than the non-accounting students. Q17 was not added to the main model because it could have been seen to have a confounding impact or be highly correlated therefore hiding the impact of the main variables of interest. How prestigious students feel about a discipline is confounding with why they chose a major because they are likely both caused by almost the same set of other factors.

5.4.2 Mode of Study (Full-time or Part-time)

Question 9 within the questionnaire (linked to RQ7d) required students to classify their mode of study as full-time (FT) or part-time (PT). In order to identify whether there was a relationship with these two variables the below cross-tabulations and chi-squares (see Table 5.13) were prepared. Table 5.13 shows there were 751 FT students and 86 PT students. Of the non-accounting majors 89.2% were FT students ($464/520=89.2\%$) and of the accounting majors 90.5% were FT students. In examining these statistics it is clear there is no vast difference between the distribution of PT and FT accounting and non-accounting majors. The Pearson chi-square test further established to have an insignificant point of difference on students' choice of major depending on their enrolment

status/mode of study. The results in Table 5.13 indicate no significance, a chi-square value of 0.364 and significance level of 0.546. This is interpreted as there being no relationship between FT and PT distribution to majors. In conclusion Mode of study (Q9) was not found to be a factor relevant to choice of major.

Table 5.13 Cross-Tabulations Mode of Study

Cross tabulation Major / Q9 Mode of study				
		MAJOR		
		0=NA	1=ACC	Total
Q9 Enrolment Status 0=F T 1=PT	Count	464	287	751
0=F T	% within MAJOR 1=Acc/0=NA	89.2%	90.5%	89.7%
1=PT	Count	56	30	86
	% within MAJOR 1=Acc/0=NA	10.8%	9.5%	10.3%
Total	Count	520	317	837

Chi-Square Major / Q9 Mode of study			
Chi-Square Tests			
Q9 Student Enrolment Status FT/PT			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	0.364	1	0.546

5.4.3 Completed Accounting Prior to Entering University

Question 16 aimed to address RQ7b, where it required students to declare if they had previously completed an accounting unit at year 12 or equivalent. In order to determine whether exposure to accounting prior to university had any correlation to students' choice of major, cross-tabulations were calculated. Results of the cross-tabulations were further tested by running a Pearson chi-square test, see Table 5.14.

Completing accounting prior to entering university is also a confounding variable. Things which most likely lead the student to complete year 12 accounting or equivalent are likely the same factors which lead the student to complete accounting at university. Therefore this variable was not added to the model. In reviewing the statistical results related to this question it should be noted that it is not compulsory to complete an accounting unit in year 12 to enrol in a university accounting degree in Australia. Table 5.14 indicates that of the 800 students the study collected data relating to year 12 accounting, 498 students did not choose to complete an accounting major while 302 did so. Of the 498 students who

chose not to pursue an accounting major, 77.1% (384) did not complete year 12 or equivalent in accounting and 22.9% (114) did complete year 12 or equivalent in accounting. Of the 302 students who chose to pursue an accounting major, 47.7% (144) did not complete year 12 or equivalent in accounting and 52.3% (158) did complete year 12 or equivalent in accounting.

Completing accounting at year 12 can be concluded as significant and a good predictor of choice of major and this is indicative of the significance of the statistics presented in Table 5.14 at 0.000. A Mann-Whitney U Test of the relationship between accounting completed in year 12 or equivalent and major chosen yields a chi-square value of 4.437 and p value of 0.0000, which signifies there is an association between these variables. Consequently there is a significant relationship between students completing an accounting unit prior to university with their choice of major. Further discussion in Chapter 6 will follow as to why this variable is excluded from the main model.

Table 5.14 Cross-Tabulations Completed Accounting Prior to University

Cross tabulations for Q16				
		MAJOR		Total
		0=NA	1=ACC	
Q16 Study Acc pre Uni 1=Yes 0=No	Count	384	144	582
0=No	% within MAJOR 1=Acc 0=NA	77.1%	47.7%	66.0%
1=Yes	Count	114	158	272
	% within MAJOR 1=Acc 0=NA	22.9%	52.3%	34.0%
Total	Count	498	302	800

Pearson Chi-square Q16

Chi-Square Tests			
Q16 Completed Accounting Prior to University			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	72.543 ^a	1	0.000

5.4.4 Pathway into University

The aim of Q14 (linked to RQ7c) is to determine what pathway a student embarked on in entering university. In responding to the question, students were offered six pathway options to select from, namely;

- 14a Entered university directly via year 12 which means they completed their Victorian Certificate of Education (VCE),
- 14b Mature age student (MA),
- 14c partially completed university degree (PCC),
- 14d TAFE articulation program (TAFE),
- 14e Overseas qualification (OSQ) and
- 14f through an international partnership program (INTP).

In order to assess whether there is any correlation amongst these six possible pathways into university and choice of major some cross-tabulations were run and then some chi-square tests performed. The statistical tests associated with the discussions surrounding all options into university can be found in Table 5.15.

5.4.4.1 Entry via Year 12

In examining the results in Table 5.15 (14A) it can be seen that a total of 457 students entered university directly from year 12. Of these 457 students, 157 were accounting majors and 300 were non-accounting majors. Of the accounting majors there was 49.50% (157/317) who entered university via completing year 12 compared to the higher percentage of non-accounting majors 57.7% (300/520). The chi-square test results indicate a significant difference therefore portraying a strong correlation for entering university via year 12 VCE to student choice of major.

5.4.4.2 Mature Age Student (MA)

In examining the results in Table 5.15 (14B) it can be seen there is a total of 102 students who enrolled in university via the mature age entry level. Of the 102 students, 23 were accounting majors and 79 were non-accounting majors. Of the accounting majors there was 7.3% (23/317) who entered as MA and 15.2% for those entering a non-accounting major. The difference in the results was a significant 7.9%. Significance level of the difference is 0.001.

5.4.4.3 Partially Completed University Course (PCC),

The results in Table 5.15 show that 65 students entered university via partially completing another course (PCC). From this group of 65, 19 students selected an accounting major and the remaining 46 students selected a non-accounting major. A comparison between accounting major vs a non-accounting major indicates that 19 students represent the 6% who completed accounting and 46 students represent the 8.8% who did not do accounting. There is very little difference between the 6% and 8.8% and this means this particular variable makes no significant difference to choice of major.

Table 5.15: How you entered into University

Cross-Tabulations for Question 14

		MAJOR 1=Acc/0=NA		
Q14A		0	1	Total
0=other	Count	220	160	380
	% within Q14 A 1=VCE 0=other	57.9%	42.1%	100.0%
	% within MAJOR 1=Acc/ 0=NA	42.3%	50.5%	45.4%
	% of Total	26.3%	19.1%	45.4%
1=VCE	Count	300	157	457
	% within Q14 A 1=VCE 0=other	65.6%	34.4%	100.0%
	% within MAJOR 1=Acc/ 0=NA	57.7%	49.5%	54.6%
	% of Total	35.8%	18.8%	54.6%
Total	Count	520	317	837

		MAJOR 1=Acc/0=NA		
Q14B		0	1	Total
0=other	Count	441	294	735
	% within Q14B 1=MA 0=other	60.0%	40.0%	100.0%
	% within MAJOR 1=Acc/ 0=NA	84.8%	92.7%	87.8%
	% of Total	52.7%	35.1%	87.8%
1=MA	Count	79	23	102
	% within Q14B 1=MA 0=other	77.5%	22.5%	100.0%
	% within MAJOR 1=Acc/ 0=NA	15.2%	7.3%	12.2%
	% of Total	9.4%	2.7%	12.2%
Total	Count	520	317	837

		MAJOR 1=Acc/0=NA		
Q14C		0	1	Total
0=other	Count	474	298	772
	% within Q14C 1=PC 0=other	61.4%	38.6%	100.0%
	% within MAJOR 1=Acc/ 0=NA	91.2%	94.0%	92.2%
	% of Total	56.6%	35.6%	92.2%
1=PC	Count	46	19	65
	% within Q14C 1=PC 0=other	70.8%	29.2%	100.0%
	% within MAJOR 1=Acc/ 0=NA	8.8%	6.0%	7.8%
	% of Total	5.5%	2.3%	7.8%
Total	Count	520	317	837

		1=Acc/0=NA		
Q14D		0	1	Total
0=other	Count	467	290	757
	% within Q14D 1=TAFE 0=other	61.7%	38.3%	100.0%
	% within MAJOR 1=Acc/ 0=NA	89.8%	91.5%	90.4%
	% of Total	55.8%	34.6%	90.4%
1=TAFE	Count	53	27	80
	% within Q14D 1=TAFE 0=other	66.3%	33.8%	100.0%
	% within MAJOR 1=Acc/ 0=NA	10.2%	8.5%	9.6%
	% of Total	6.3%	3.2%	9.6%
Total	Count	520	317	837

		1=Acc/0=NA		
Q14E		0	1	Total
0=other	Count	493	287	780
	% within Q14E 1=OS 0=other	63.2%	36.8%	100.0%
	% within MAJOR 1=Acc/ 0=NA	94.8%	90.5%	93.2%
	% of Total	58.9%	34.3%	93.2%
1=OS	Count	27	30	57
	% within Q14E 1=OS 0=other	47.4%	52.6%	100.0%
	% within MAJOR 1=Acc/ 0=NA	5.2%	9.5%	6.8%
	% of Total	3.2%	3.6%	6.8%
Total	Count	520	317	837

		1=Acc/0=NA		
Q14F		0	1	Total
0=other	Count	505	256	761
	% within Q14F 1=INTERN 0=other	66.4%	33.6%	100.0%
	% within MAJOR 1=Acc/ 0=NA	97.1%	80.8%	90.9%
	% of Total	60.3%	30.6%	90.9%
1=Int	Count	15	61	76
	% within Q14F 1=INTERN 0=other	19.7%	80.3%	100.0%
	% within MAJOR 1=Acc/ 0=NA	2.9%	19.2%	9.1%
	% of Total	1.8%	7.3%	9.1%
Total	Count	520	317	837

Pearson Chi-square Tests for Question 14

Pearson Chi-Square Tests							
Q14A	Value	df	Asymptotic Significance (2-sided)	Q14D	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.297 ^a	1	0.021	Pearson Chi-Square	.639 ^a	1	0.424
Q14B	Value	df	Asymptotic Significance (2-sided)	Q14E	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.593 ^a	1	0.001	Pearson Chi-Square	5.662 ^a	1	0.017
Q14C	Value	df	Asymptotic Significance (2-sided)	Q14F	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	2.237 ^a	1	0.135	Pearson Chi-Square	63.836 ^a	1	0.000

5.4.4.4 TAFE Articulation Program

Results in Table 5.15 indicate 80 students entering university via a TAFE program. From this group of 80, 27 students are accounting majors and the other 53 are non-accounting majors. Comparison between accounting major and non-accounting major indicate that 27 students' represents 8.5% who completed accounting and the 53 students represent 10.2% of those who did not do complete accounting. There was no significant difference found in these results.

5.4.4.5 Overseas Qualification (OSQ)

The results in Table 5.15 present the number of students admitted to university via successful completion of another higher degree from overseas. The overseas qualification variable proved to be significant. This variable is not to be confused with international students entering university via the partnership programs in Q14F. The students in this category are domestic students from overseas. A total of 57 students were admitted through this pathway, 30 students are accounting majors and 27 students are non-accounting majors. The group of 30 students represent 9.5% who completed accounting and 27 students represent the 5.2% of those who did not complete accounting. Given there are more accounting majors this is a significant difference. The significance level of the difference is 0.017.

5.4.4.6 International Partnership Program (INTP)

A total of 76 students entered university via an International partnership program, 61 were completing accounting majors and the remaining 15 students were enrolled in non-accounting majors, see results in Table 5.15. The number of students with accounting majors is extremely low in this cohort most likely because there was a higher percentage of FY students surveyed rather than TY students. International students who enter university via international partnership programs most often arrive in Australia to begin the second year of their course. The group of 61 students represent the 19.2% who did accounting and the 15 students represent the 2.9% who did not do accounting. A significant level of difference was present at 0.000.

5.4.4.7 Conclusion on Supplemental Variables Testing

The supplemental variables discussed outside of the model (5.4.1 to 5.4.4.6) have been included and analysed given they could still guide the trajectory of the main analysis. Some of these variables may be correlated with variables in the analysis and may assist in other explanations. For instance, question 14(f) did not form part of the main analysis because there was a comparable variable in Q7 (are you a full fee-paying overseas student?) already within the main analysis thus capturing and testing similar aspects. The students who entered university through an international partnership program Q14 (f) are a subset of those students captured by Q7. Question 7 captures both students who came through a partnership program and those who enrolled in university directly. Therefore all students picked up in Q14 (f) would also have been picked up in Q7. Students who came via 14(f) are only one part of those students who answered positively to Q7 and that is why Q7 is considered the more comprehensive measure of international students and why it was used in the main model.

These other variables that are correlated may prove to be good predictors on whether or not students will select accounting when they get to university. For instance those variables that are highly correlated and measured before they start university may be a way of predicting which students would choose an accounting major and may be applied as a marketing strategy. Hence, if one wanted to predict at the end of a VCE year which students would do an accounting major at university, it would be reasonable to look at the group that did accounting at year 12. In addition, prestige of accounting was strongly related to choosing accounting. There was, however, an insignificant point of difference on students' choice of major pending their enrolment status/mode of study.

5.5 Logistic Regression

Logistical regression estimates the best relationship between a categorical dependent variable and independent variables. Given the backward stepwise method is applied to the study data, only variables with the potential of relevance are remaining. Results at the 0.05 significance level or lower are discussed in this

section because this is the cut-off level chosen for the study. Please refer back to Chapter 4, section 4.9.4 for an explanation surrounding the cut-off point.

5.5.1 FYS Data Aggregate and Individual Variables

Tables 5.16 to 5.21 inclusive have the following designations; 'D' represents hypothesised direction, 'B' presents regression coefficient, 'S.E' presents the estimated standard error, 'Sig' presents significance and 'ExpB' presents the exponentiation of the B coefficient, or odds ratio of a student majoring in Accounting.

Table 5.16 FYS Data Aggregate

Model Summary FYS Aggregate Totals						
-2 Log likelihood		Cox & Snell R ²		Nagelkerke R ²		
448.287		0.325		0.462		

Logistics Regression FYS Aggregate data Variables in the Equation						
	D	B	S.E.	Sig.		Exp(B)
FFS	?	-1.059	0.305	0.001 ***		0.347
PB	+	0.078	0.015	0.000 ***		1.081
REF	+	0.078	0.011	0.000 ***		1.081
Constant		0.201	0.277	0.470		1.222

Table 5.17 FYS Data Individual Variables

Model Summary FYS Individual Data						
-2 Log likelihood		Cox & Snell R ²		Nagelkerke R ²		
410.751		0.369		0.526		

Logistics Regression FYS individual Data Variables in the Equation						
	D	B	S.E.	Sig.		Exp(B)
FFS	?	-0.959	0.326	0.003 ***		0.383
AGEa	?	0.869	0.420	0.039 **		2.385
AGEb	?	0.882	0.469	0.060 **		2.416
PBa	+	0.291	0.087	0.000 ***		1.338
PBb	+	0.178	0.087	0.020 **		1.195
PBf	+	0.159	0.057	0.003 ***		1.173
PBj	+	0.163	0.083	0.024 **		1.177
REFa	+	0.190	0.040	0.000 ***		1.209
REFb	+	0.092	0.049	0.030 **		1.096
PBCe	+	0.320	0.108	0.002 ***		1.377
SEb	?	0.321	0.192	0.094 **		1.378
SEg	?	-0.552	0.190	0.004 ***		0.576
Constant		0.156	0.835	0.852		1.168

*** Statistically significant at 1%, ** statistically significant at 5%, *statistically significant at 10%

The FYS aggregate data in Table 5.16 establish that the personal belief (PB) and referent (REF) constructs are statistically significant to the study. This can further be supported by considering the FYS individual variables in Table 5.17 that highlight four of the ten individual PB constructs (PB a, b, f, j) as significant. A similar pattern of significance was also found in two of the items in the referent construct, namely REFa and REFb.

Further examination of the FYS aggregate data highlighted in Table 5.16 shows that the PBC construct was not found to be significant as it is absent in the results. Nonetheless, when examining the individual variable results of PBCe significance was evident. A similar interpretation can be made to Self-Efficacy (SE) where the aggregate construct was not found to be significant as it also did not appear in Table 5.16. Furthermore the individual data items in Table 5.17 indicate that SEb and SEg were found to be statistically significant at the 5% level. These results support and portray the benefits associated with the individual variable statistical tables being able to detect items of significance that the aggregate statistical tables were unable to detect. It should also be pointed out that the R^2 results for the FYS individual variable model (0.369) were higher than that of the aggregate model (0.325).

5.5.2 TYS Data Aggregate and Individual Variables

Table 5.18 TYS Data Aggregate

Model Summary			
TYS Aggregate Totals			
-2 Log likelihood	Cox & Snell R ²	Nagelkerke R ²	
264.98	0.373	0.498	

Logistics Regression TYS Aggregate Data						
Variables in the Equation						
	D	B	S.E.	Sig.		Exp(B)
CC1	?	0.871	0.411	0.034	**	2.389
LSH	?	1.078	0.381	0.005	***	2.938
PB	+	0.079	0.023	0.000	***	1.082
REF	+	0.064	0.012	0.000	***	1.066
SE	?	-0.061	0.037	0.097	*	0.941
Constant		0.770	1.199	0.521		2.160

Table 5.19 TYS Data Individual Variables

Model Summary TYS Individual Information					
	-2 Log Likelihood	Cox & Snell R ²	Nagelkerke R ²		
	241.742	0.421	0.563		

Logistics Regression TYS Individual Data Variables in the Equation						
	D	B	S.E.	Sig.		Exp(B)
CC1	?	1.023	0.457	0.025	**	2.781
LSH	?	1.334	0.411	0.001	***	3.798
PBd	+	0.420	0.132	0.001	***	1.522
PBh	+	-0.412	0.211	0.975		0.662
PBj	+	0.238	0.116	0.020	**	1.268
REFa	+	0.093	0.039	0.009	***	1.097
REFd	+	0.239	0.059	0.000	***	1.270
PBCe	+	0.387	0.144	0.003	***	1.473
SEh	?	-0.497	0.225	0.027	**	0.608
Constant		0.614	0.968	0.526		1.847

*** Statistically significant at 1%, ** statistically significant at 5%, *statistically significant at 10%

Table 5.18 summarises the TYS aggregate data and presents strong significance at the 1% level with the LSH, PB and REF constructs. CC1 was found to be statistically significant at the 5% level. On further investigation into the TYS individual variables in Table 5.19, a significance is evident with item SEh, however, the SE construct did not emerge as something of interest when looking at the aggregate data for TYS in Table 5.18. This is similar to PBC which did not appear in the aggregate model although item PBCe appeared in the individual data as statistically significant. It should also be pointed out that the results of the TYS R² are higher in the individual variable model (0.421) when compared to the aggregate model (0.373).

5.5.3 Combined Data Aggregate and Individual Variables

Table 5.20 Combined Data Aggregate

Model Summary Combined Data Aggregate Information				
	-2 Log Likelihood	Cox & Snell R ²	Nagelkerke R ²	
	713.749	0.378	0.514	

Logistic Regression Combined Aggregate Data Variables in the Equation					
	D	B	S.E.	Sig.	Exp(B)
FFS	?	-1.062	0.296	0.000 ***	0.346
PB	+	0.079	0.013	0.000 ***	1.082
REF	+	0.072	0.008	0.000 ***	1.074
Δ CC(1)	?	1.090	0.479	0.023 **	2.974
Δ FFS	?	1.386	0.553	0.012 **	4.001
Δ LSH	?	1.198	0.387	0.002 ***	3.312
Δ SE	?	-0.053	0.019	0.007 ***	0.949
Constant		0.200	0.268	0.454	1.222
FFS TYS *Note 1		0.324	0.483	0.502	

*** Statistically significant at 1%, ** statistically significant at 5%, *statistically significant at 10%

Note 1: This represents the FFS coefficient of TY students

Table 5.21 Combined Data Individual Information

Model Summary Combined Data Individual Information					
-2 Log likelihood		Cox & Snell R ²		Nagelkerke R ²	
662.283		0.415		0.564	

Logistic Regression Combined Individual Data Variables in the Equation					
	D	B	S.E.	Sig.	Exp(B)
FFS	?	-0.745	0.255	0.003 ***	0.475
AGEa	?	0.753	0.346	0.029 **	2.124
AGEb	+	0.653	0.365	0.037 **	1.921
PBa	+	0.256	0.072	0.000 ***	1.291
PBf	+	0.104	0.047	0.013 **	1.110
PBj	+	0.258	0.066	0.000 ***	1.294
REFa	+	0.212	0.034	0.000 ***	1.236
REFe	+	0.070	0.034	0.021 **	1.073
PBCe	+	0.389	0.088	0.000 **	1.476
SEb	?	0.340	0.170	0.046 **	1.406
SE e	?	-0.295	0.177	0.095 *	0.744
SEg	?	-0.394	0.155	0.011 **	0.674
Δ LSH	?	1.117	0.286	0.000 ***	3.056
Δ PBd	?	0.410	0.129	0.001 ***	1.506
Δ PBh	?	-0.499	0.211	0.018 **	0.607
Δ REFa	?	-0.128	0.052	0.014 **	0.880
Δ REF d	?	0.203	0.061	0.001 ***	1.225
Δ PBCb	?	-0.260	0.139	0.061 *	0.771
Constant		0.604	0.696	0.385	1.830
REFa TY	+	0.0841	0.039	0.031	

*** Statistically significant at 1%, ** statistically significant at 5%, *statistically significant at 10%
Note: The shaded area represents the REF coefficient for TYS

A positive coefficient means the effect is bigger on TY than FY. A negative coefficient means TY is smaller than FY. The Δ represents and is used to measure if there was a change between FY and TY (measures the difference). When examining the combined aggregate data for FY and TY in Table 5.20, it is clear that the statistically significant constructs at the 1% level are FFS, PB, REF, Δ LSH and Δ SE. Additionally Δ CC(1) and FFS are found to be significant at the 5% level. Further examination into what makes up the significant aggregate constructs shows in Table 5.21 that of the 10 individual variables that make up the PB construct, the ones that are of significance at the 1% level are PBa and PBj, whilst PBf is found to be significant at the 5% level. Additionally, REF as a whole construct is found to be significant at 0.000 (Table 5.20). In Table 5.21, the individual variables of REFa (what my parents think) stands significant at 0.000 and REFe (what my career advisors think) is significant at 0.021. The remaining items of the REF construct were absent.

The variables whose impact alters between FY and TY are those found at the end of Table 5.21 with the Δ symbol at the start of the abbreviated variable name. If the variable itself is significant then that should mean it's significant at FY and if there is no Δ symbol variable matching, it means it should also be significant at TY with the same coefficient. This is the only variable that appears twice (in both sections) with a high significance level is the estimated coefficient for FYS but the Δ informs us that there is a significant change in that estimated coefficient between FY and TY. The estimated Δ coefficient for TY is the sum of the original coefficient and the Δ coefficient.

Table 5.21 indicates that the variable FFS is highly significant at 0.003, however given there is no matching Δ variable for FFS it is suggested that the coefficient of -0.745 is estimated to be the effect at both FY and TY. It should also be noted the backward stepwise method was deployed in the Combined data FY and TY model (Table 5.20 and Table 5.21) because the model had shown some very high VIFs. This in turn is due to some highly correlated variables being present. The benefit of starting with a full model has the advantage of considering all variables simultaneously and then at each step gradually eliminating variables to find a reduced model that best explains the data. This is seen as important in the case of collinearity.

5.6 Conclusion

As pointed out in Chapter 4, the study demonstrates that as long as multicollinearity that an individual model creates can be dealt with, one can still proceed with an individual model and obtain better results. It is observed that in all three models the R^2 results for the individual variable models are found to be higher than that of the aggregate models. Johnson, Rosen and Chang (2011) contend that using individual models and individual analysis alongside aggregate models gives better credibility to the study. However, it should be noted that in some cases (inconsistent) results may be found that differentiate between the single cohort models and the combined cohort models. This is because the study is not assuming the same distribution for the residuals.

The following chapter will summarise the research results, outlines the research limitations, presents the research implications and put forward suggestions for further research.

Chapter 6: Conclusion

6.1 Introduction

The literature discussed in Chapter 2 pointed out the need to understand how students select their career choice. Chapter 3 explains how and why the Theory of Planned Behaviour (TPB) was used to help identify what influences a student's choice of major/career. Chapter 4 proceeds to discuss the model which was built for this study and lists the hypotheses to be addressed. Chapter 5 reported the results of the data analysis and following on from that discussion, this chapter provides an overview of the thesis and its main findings. This chapter will also present the practical and theoretical implications of the study, the limitations to the study followed by suggestions for further research.

6.2 Discussion of Hypothesis Findings Relating to TPB Constructs

The constructs were built to generate a positive result for the accounting students and a negative result for the non-accounting students, therefore each part of every hypothesis should be positive. Given the study focuses on accounting and non-accounting students, this is why the constructs were built to favour accounting. Where discussions refer to standalone, this means the model(s) is using a single year as opposed to combined which means the model(s) are using more than one year.

6.2.1 H1. Personal Beliefs have a Positive Influence on Students Choosing Between an Accounting Major or Non-accounting Major.

This hypothesis was examined for each of the following scenarios:

1. Aggregate
2. Individual
 - a. Dealing with lots of numbers
 - b. Initial salary
 - c. Broad exposure to business
 - d. Opportunities for private practice
 - e. Challenging
 - f. Boring

- g. Future salary
- h. Heavy workload
- i. Social status
- j. Job opportunities

Overall this hypothesis can be accepted as the personal beliefs (PB) construct was found to have a strong positive influence on students' career choice. This is also supported by Cohen and Hanno (1983) and Tan and Laswad (2006, 2009).

Aggregate Analysis

Results presented the construct as a whole (aggregate) to be a significant factor across all three models and four tests. The study results presented two lots of evidence that PB was significant for FY students and two lots of evidence that it was significant for TY students. When the two separate cohorts (FY and TY) were combined in one group and analysed on an aggregate level as another form of test, what was found was no statistically significant change in the effect of PB from FY to TY cohort. Results inform us that we have estimated the same significant coefficient in FY and TY, i.e. a positive effect in FY and the exact same positive effect in TY.

Individual Analysis

The PB construct consists of 10 individual items and when these items were analysed individually across the three models, the following variables, PBc (broad exposure to business), PBe (challenging career), PBg (high future earnings) and PBi (high social status) revealed no significance towards students selecting an accounting major. It should be noted that there are two items assessing income under this construct; one refers to initial salary and the other refers to future earnings. Even though PBg (high future earnings) indicated no significance, PBb (high initial salary) discussed further below did show some significance. Further analysis into the remaining six individual items that form the PB construct present a mix of results. For instance, the individual variable of PBj (pursuing a career with more job opportunities) was accepted as influential in the choice of students selecting an accounting major across all four tests (FY standalone and FY combined and TY standalone and TY combined). These results support what Tan

and Laswad (2009) reported. The individual variable results for PBh (heavy workload) suggest that pursuing a career which has a heavy workload was not found significant to students at FY (in either the standalone or combined model) and only seemed to matter in the TY combined cohort. However, it was not in the TY standalone and therefore indicated inconsistent results between the two tests.

PBb (high initial salary) presented some significance in the FY standalone model but when the data was recalculated using the FY combined cohort the results showed they were no longer significant. This individual variable (PBb) also presented no significance with the TY standalone and TY combined cohort, suggesting that whilst students leaving high school thought the initial salary of a profession was important in their choice of major it became less significant as they progressed through their course. The PBd (possibility of private business) variable was not found to be significant in the FY standalone model or the FY combined model, yet for the TY cohort the results were significant both ways in the standalone and the combined model. Suggested here is that as students got closer to graduating they began to be much more interested in aspects of private business. Meanwhile, individual variable PBa (many numbers) presents two lots of evidence that working with lots of numbers is significant for FY students. When focusing on TY students as standalone results, some significance was evident but when examined as combined there was no significance. The same argument is present for variable PBf (boring).

How do Results of this Study Compare to Those in Other Literature?

In contrast to the findings in this study, Tan and Laswad (2006, 2009) found both PBb (high initial salary) and PBg (future earnings) to be significant to accounting students, while Lowe and Simons (1997) found PBg (future earnings) the most important influence on accounting students. This is in contrast to Tan and Laswad (2009) who reported a significant impact of the following variables, challenging career, broad exposure to business and high social status. This study found no relevance of these items. Of the personal beliefs examined, only dealing with lots of numbers had the same result as Tan and Laswad (2006). It supports the findings of this study where the FY cohort in particular shared this thought. Mladenovic (2000) found that students tend to perceive accounting as primarily

numerical and Jackling (2001) also confirmed that the perceived emphasis on 'number crunching' fails to attract students to accounting.

6.2.2 H2. Referents' Attitudes Have a Positive Influence on Students Choosing Between an Accounting Major or Non-accounting Major.

This hypothesis was examined for each of the following cases:

1. Aggregate
2. Individual
 - a. Parents
 - b. Relatives
 - c. Close friends
 - d. Teachers
 - e. Career counsellors

This hypothesis can be accepted as conclusive evidence was found that referents exert a strong positive influence on students' career choice.

Aggregate Analysis

As an aggregate construct, referents were found to be significant for FY and TY calculated in two different ways.

Individual Analysis

Examining the individual variables within the REF construct presented mix results on the level of significance across the five REF groups. Strong evidence was present that parents (REFa) opinions really matter to students as significant results found across all four ways of testing results (FY and TY standalone and FY and TY combined). In contrast relatives (REFb) were only deemed to be significant in the FY standalone model which perhaps suggests that as students proceed through their degree and get closer to graduating they thought less of the opinions provided by relatives. Another individual referent which showed some relevance to mattering with students' choice of career was teachers (REFd). Whilst teachers were not shown to be significant at FY (in either the standalone or combined model) they did matter to TY students in both the standalone and combined model. This could suggest that it could not be high

school teachers that were influential but rather the first year university teachers. The variable Career advisors (REFe) suggests significance in two of the four tests. The FY and TY standalone models presented no significance but FY and TY combined models suggest significance.

How do Results of This Study Compare to Those in Other Literature?

The results of this study support empirical findings that referents do have a positive influence on career choice (Paolillo and Estes, 1982; Cohen and Hanno, 1993; Tan and Laswad, 2006 and 2009) but there has been mixed findings on which referents are most influential. Running tests on individual variables has allowed this study to pinpoint some of the most prominent influencing referents whilst also identifying the least influential referents.

Cangelosi, Condi and Luthy (1985) recorded results similar to this study where close friends were found not to have any influence on career choice in particular students selecting an accounting major. Even though this study did not find teachers to be a significant factor in FY, Paolillo and Estes (1982) who looked at FY students found that teacher influence had a great impact on accounting students in making their career choice. Mauldin, Crain and Mounce (2010) further surveyed students across what seems to be first year (first accounting principle course), second year (second accounting principle course) and third year units (first intermediate accounting course). They found that accounting principle instructors exerted the most influence on students selecting an accounting major. Hermanson, Hermanson, and Ivancevick (1995) asked about the individuals who most influenced their major selection decision and accounting majors reported that college instructors did this.

Tan and Laswad (2006) who surveyed FY students identified that parents were the only referent group with a significant difference between accounting and non-accounting majors supporting the results of this study. Likewise in 2009, Tan and Laswad surveyed the same students again when they were in their TY of study, and found that students viewed all four referent groups (parents, other relatives, friends, career advisors) as important. Specifically, parents were ranked as most important followed by career advisors. The results documented by Cohen and

Hannon (1993) revealed a strong weighting placed on the influence of referents in predicting choice of major. The accounting majors believed that each referent thought they should choose accounting, while non-accounting majors believed that each referent was of the opinion they should choose another business major.

Overall literature has supported that the concept of REF does shape a student's choice of major. Which of the REF categories has a greater influence various across the literature was discussed above and in Chapter 2. In examining the five REF groups there appears to be a consistent outcome that parents are the most influential (Tan and Laswad, 2006; Byrne, Willis and Burke, 2012) in the decision making process. Furthermore, Byrne, Willis and Burke (2012) and Djatej, Chen, Eriksen and Zhou (2015) concur with the findings of this study that relatives and friends have no or very little influence on choice of major. Interestingly, Awadallah and Elgharbawy (2020) found that almost all respondents ranked the accounting instructor as number one when it came to influence on choice. It may also be concluded that results from this construct were guided by cultural factors given the majority of the sample were international students (Djatej, Chen, Eriksen and Zhou, 2015).

6.2.3 H3. Perceived Behavioural Controls Beliefs Have a Positive Influence on Students Choosing Between an Accounting Major or Non-accounting Major

This hypothesis was examined for each of the following factors:

1. Aggregate
2. Individual
 - a. Workload in chosen major
 - b. Skills and background in maths
 - c. Success in previous courses
 - d. Job opportunities
 - e. Interest in the discipline
 - f. Less time for extra curriculum activities

In examining the results of the Perceived behavioural control (PBC) construct it was found that the hypothesis does not hold true under any of the three models.

Aggregate Analysis

PBC was not a construct found to wield any influence on students' choice of accounting major. The coefficients were negative and the variables were insignificant. At the aggregate level it was never significant and there was also no significant change.

Individual Analysis

There was only one item (PBCe – interest in the discipline) out of six individual variables making up the PBC construct, which presented a significance across all three models and all four tests. The only item under this construct that influences student choice of a major is whether they have an interest in the discipline. This inconsistency enables the study to posit a strong conclusion that the results offer little support for the PBC hypothesis.

How do Results of This Study Compare to Those in Other Literature?

When interpreting results it should be kept in mind that the PBC construct was an extension of the original TPB model added by Ajzen (2006). The aim was to incorporate some of the feedback received on the model not fulfilling aspects such as SE. Having said that it should also be noted that the results found in this construct are not because the additional SE construct added to this research was picking up what otherwise would be captured by the PBC construct (Ajzen, 2006). This is because even the SE construct did not hold much of a significance as discussed later in this chapter. Unlike the other constructs that make up the TPB, the variables that make up the PBC construct are not driven by motivation but rather a measure of how much control a student has over behaviours such as “workload in chosen major” (Ajzen, 1988).

Tan and Laswad (2006) found that five out of the six variables examined under the PBC construct were perceived to be statistically different by the two groups in question (accounting major vs Non-accounting major). On the surface Tan and Laswad's (2006) results supported those found in this study where PBCa (workload in accounting), PBCb (skills and background in mathematics), and PBCc (performing well in accounting courses), did not facilitate students' choice of accounting as their intended major. Further analysis by Tan and Laswad (2006)

noted that the PBC items mentioned above did facilitate the decision made by domestic students but not international students.

In their 2009 study Tan and Laswad discovered that variables, mathematical skills, academic performance, and employment opportunities were the distinguishing factors between the students who had intentions to major in accounting and non-accounting. Overall they concluded that there was very little change found in the PBC construct between their first study in 2006 and the follow up study in 2009. PBCe (Interest in discipline) was the only item as a standalone which reflected some importance in this study. This result was found to be in line with Adams, Pryor and Adams (1994) who showed that “genuine interest in the field” is an important factor in students’ choice of the accounting profession. Other literature which supports these findings included Kidd (1991), Kidd and Naylor (1991) and Jackling and Calero (2006), who highlighted that enjoyment of accounting topics predicted the intention to select an accounting major.

Alongside Stice, Swain and Worsham (1997), this study found PBCc (success in introductory accounting courses) having no significance for student choice in major. To the contrary, many other studies did find this item to be a positive indicator. Cohen and Hanno (1993) found that students perceived success in the introductory course as a signal to choose accounting as a major. Geiger and Ogilby (2000) concluded that performance in the first course was instrumental in determining the choice of an accounting major as did Turner, Holmes, and Wiggins. They found that contrary to prior research, better classroom performance did not have much influence in the decision to major in accounting.

6.3 Discussion of Hypothesis Findings Relating to Self-Efficacy Construct

6.3.1 H4. Self-efficacy has an Influence on Students Choosing Between an Accounting Major or Non-accounting Major

This hypothesis was examined for each of the following cases:

1. Aggregate
2. Individual

- a. Achieving academic goals set by the individual
- b. The accomplishment of difficult academic tasks
- c. Obtaining outcomes that are important to the individual
- d. Succeeding at any career the individual puts their mind to
- e. Overcoming many academic challenges
- f. Confidence in performing effectively on academic tasks
- g. Can complete academic task well when compared to others
- h. Even during difficult periods can still perform well academically

Overall the Self-Efficacy (SE) hypothesis is accepted to have some positive influence on students choosing an accounting major.

Aggregate analysis

When examining the SE results as a whole it was evident that SE was not found to be important to FY students. There are three lots of evidence (FY standalone, FY combined and TY standalone) which show SE as an aggregate/whole not to be significant. There was some conflicting evidence that when TY students were estimated in a combined model they represented a significant outcome.

Individual analysis

When narrowing down on the individual analysis of the SE variables it was evident that five of the eight items which make up the SE construct showed no significance towards students selecting an accounting major. The five individual variables which were not found to be significant across all four tests were: SEa (Achieving academic goals set by the individual), SEc (obtaining important outcomes), SEd (Succeeding at any career the individual puts their mind to), SEe (Overcoming academic challenges) and SEf (achievements on academic tasks).

Individually SEb (accomplishment of difficult academic tasks) and SEg (can complete academic task well when compared to others) presented contradictory outcomes as both items showed significance both ways for the FY cohort. However, when focusing on the TY cohort they were found to have no significance in the TY standalone model but nonetheless did prove to be significant in the TY combined model. Conversely, item SEh (even during difficult

periods can still perform well academically) presented no significance in the FY cohort (standalone or combined) or the TY cohort for the combined model, yet but there was significance in the TY standalone model.

How do Results of This Study Compare to Those in Other Literature?

It should be noted that this study is the first of its kind to run the TPB model with an extra construct relating to SE to examine choice of major. The SE construct was created using Bandura's work (2006). Whilst some literature has paired the TPB with a SE construct in disciplines other than choice of major for instance, eating five portions of fruit and vegetables (Povey, Conner, Sparks, James and Sheperd, 2000), alcohol use (Armitage, Conner, Loach and Willets, 1999), the intention of women to have a mammogram (Tolma, Reininger, Evans and Ureda, 2006) and exercising (Terry and O'Leary, 1995). Studies such as Betz and Hackett (1981) have looked at career choices and SE as an isolated construct but no research was found to put this concept together with the TPB.

If we were to assess Ajzen's concept that SE has been built into the PBC construct then questions should be raised as to why this research found the PBC construct to be of no support. Yet the results of the SE construct do have some influence. Comparing the results of the two constructs highlights that SE has not been included within the PBC construct and it serves to be tested in a separate construct. Overall SE has enhanced the predictability of the TPB model and has contributed to the findings. Eccles (1987) highlighted that a student's choice of major is largely dependent on their belief that they will be successful in that major.

6.4 Discussion of Hypothesis Findings Relating to Student Demographics

Students enter university from a diverse range of cultural and socio-economic backgrounds, varying education backgrounds, different age groups and life experiences, etc. It was important in this study to see if there was any potential that characteristics or demographics have any influence on students' choice of major. The seven hypotheses examined in this section explore the role of specific demographic variables that are not included in Ajzen's (2006) TPB and hence have been analysed separately to determine if they influence students choosing between an accounting major or non-accounting major.

The study data sample comprised a total of 837 respondents (students) and as illustrated in Chapter 5 approximately 38% (520) of respondents indicated they were majoring in accounting while the remaining 62% (317). This indicated they were majoring in something other than accounting. When examining domestic students to international students this study as shown in Table 5.10 of the previous chapter had an overall stronger presence of domestic students (Non-Full Fee-Paying) 65.35% (547) as compared to international students (Full Fee-paying) who represented 34.65% (290) of the data. Unlike Tan and Laswad (2006) who had almost half and half, domestic to international students. Reasons for this non-balance of domestic versus international students in this study is likely to be due to the timing of the courses in which people were solicited to take part in the survey. Those universities taking part and with international twinning programs were most likely to see their international students arrive in the second year of their course to finish off their degree in Australia. Further analysis of Table 5.10 reveals a higher percentage of international students in the TY of study. Just over 46% were between the ages of 18-25, 44.2% between the ages of 21-25 and not surprisingly age groups between 26-29 and 30 plus were the smallest at 3.70% and 5.85%, respectively. The majority of surveyed students (89.73%) were enrolled as full-time students at the time of data collection.

6.4.1 H5a: Gender has an Influence on Students Choosing Between an Accounting Major or Non-accounting Major.

This hypothesis of whether gender has an influence on students choosing between an accounting major or non-accounting major under the demographic section of the study was not found to be supported by the data.

Aggregate Model Analysis (Results within the Aggregate Model)

When examining the variable of gender, the results in the aggregate model were found to be insignificant in all four tests (FY & TY standalone and FY & TY combined).

Individual Model Analysis

The results within the individual model were also found to be insignificant in all four methods of testing.

How do Results of This Study Compare to Those in Other Literature?

In contrast to many other studies, results for gender in this study were not found to be significant. In their Australian study, Worthington and Higgs (2003) identified that gender played a role in the choice of a finance major. Additionally, Nahar Al-Rfou (2013), who set out to address three hypotheses, one being that gender contributes significantly to the choice of a business major (accounting, finance and banking, business economy and business management). They also identified that there was a significant relationship between gender and the choice of a business major (Beta= 0.114., $p = 0.000$). Law (2010), in a Hong Kong study. It confirmed that gender had a significant influence with females more likely to proceed with a CPA career.

6.4.2 H5b: Ethnicity/Culture has an Influence on Students Choosing Between an Accounting Major or Non-accounting Major.

The hypothesis of whether culture does influence students choosing between an accounting major or non-accounting major under the demographic section of the study was supported by the data. These results warrant further research into the concept of culture and choice of major.

Aggregate Model Analysis

Results within the aggregate model demonstrated conflicting results with this variable whilst the tests for FY standalone and FY combined showed no significance, the TY standalone and TY combined did present some significance. In one regression (TY standalone model) as pointed out in Chapter 5, culture cluster group 1 (CC1) was found to be statistically significantly different to cluster

group 3 (CC3). Culture is a variable where each category of culture is compared to a base category of culture. In this instance cluster 3 was dropped and hence became the base category because it had the most negative coefficient.

Individual Model Analysis

The results within the individual model analysis for FY standalone and combined mirrored the results of the aggregate model analysis. The TY standalone showed significance but the combined model did not show any significance for this variable. Whilst the aggregate and individual FY student data tested in two different ways did not find this variable relevant to having any influence over the selection of student major, the TY student data indicated otherwise. The TY standalone model showed that culture is significant in student choice.

Culture in this study refers to the country of permanent residence of a student, the reason being significant for TY because this cohort includes many students from other cultures and who have not lived in Australia other than for a short period of time. The FY cohort on the other hand includes very few international students (as outlined in section 5.3.1) and the students with cultural differences in the FY cohort are mainly those who migrated to Australia before they started university, and did some secondary schooling in Australia. It could therefore be said that to some degree these students have already been acculturated into the Australian way of life.

How do Results of This Study Compare to Those in Other Literature?

Some literature has been presented that sociocultural, economic and political changes influence the career choices of individuals (Sullivan and Baruch, 2009; Brown and Associates, 2002; Wong and Liu, 2010). After applying Hofstede's cultural classification approach, ethnicity/culture were categorised under clusters. The study was a first to add culture to the TPB to help determine choice of major in an Australian setting. Culture was seen as an important concept for choice of major in this study as echoed in Auyeung and Sands (2008). Given studies (e.g., Lee and Green, 1991; Riemer, Shavitt, Koo, and Markus, 2014) have suggested that the TPB model works differently in different cultures it is important that culture is captured in some form. Drawing on Hofstede's framework, Hassan, Shiu and

Parry (2015) looked at possible ways in which culture at the country level could influence the TPB model. It can be concluded that culture does play a significant role in the selection of majors and disregarding cultural variations from research may have serious ramifications. This is a variable that should continue to be examined as understanding the impact of culture on students' decisions to pursue accounting will enhance the ability of universities to tailor appropriate marketing strategies for courses/programs that attract students to accounting.

6.4.3 H5c: Age has an Influence on Students Choosing Between an Accounting Major or Non-accounting Major

Limited support was found for the hypothesis on age.

Aggregate Model Analysis

Results within the aggregate model shows that age was found to be insignificant across all four tests which were run (FY & TY standalone cohorts and FY & TY combined cohorts). Results indicated no significant change between FY and TY.

Individual Model Analysis

Further analysis demonstrated that within the individual model, age was found to be significant in three of the four tests run. Age was found to be significant for both FY standalone and FY combined cohorts but results for TY were mixed. Age was not found to be significant for the TY standalone cohort but it was found to be significant for the TY combined cohort. In two of the regressions run (FY Individual and Combined Individual) as pointed out in Chapter 5, AGEa (21-25) and AGEb (21-25) were found to be statistically significantly different, to AGEc (26-29), which was the group omitted. Age is a variable where each category of age is compared to a base category of age. In this instance AGEc (26-29) was dropped and hence becomes the base category because it had the most negative coefficient.

How do Results of This Study Compare to Those in Other Literature?

Unfortunately, no previous studies were found to have used age as a variable for testing the hypothesis of choice of major so it is difficult to form any comparison. It should be noted that while this variable is almost always collected during

surveys it is not always utilised to test hypotheses but rather just as a demographic collection of data. Although this variable has not been tested in many studies, those which have attempted to establish a link between age and choice of major were not successful. For instance using Exploratory Factor Analysis (EFA) to assess the validity of constructs, Awadallah and Elgharbawy (2020) collected information on age as part of demographic data. Initially they controlled for the variable of age and using standardised discriminant coefficients found that age was significantly different at the 0.001 level between the two groups of students (accounting and non-accounting major). The study later determined that discriminant loadings less than ± 0.30 are deemed to be weak and hence age was no longer considered an influential variable. The study by Sugahara, Hiramatsu and Boland (2009) was the only other one found to have tested for the variable of age but in a different setting. Their study results showed that age presented no significance to students following a CPA career which agreed with their hypothesis.

6.4.4 H5d. The Type of Student (International vs Domestic) has an Influence on Students Choosing Between an Accounting Major or Non-accounting Major

Given the growing emphasis that Australia has placed on international students over the last two decades (Birrell, 2006; Ekanayake and Jackling, 2014; PRISMS, 2018) it only seemed fit to incorporate a hypothesis to this study to determine whether there are differences in influences between domestic and international students. Results suggest that the hypothesis related to type of student (international student referred to within study as a full fee-paying student (FFS) versus a domestic student) has some influence on students choosing between an accounting major or non-accounting major. The results show that FFS are more likely to do a major in accounting than a domestic student.

Aggregate Model Analysis

The FY aggregated model shows that both tests completed for FY students were significant whereas the two tests performed on TY students were insignificant. In the combined aggregate model FFS proved to be significant in FY but not in TY.

Individual Model Analysis

Further analysis into the individual FFS, showed that both tests run for FY students presented as significant in contrast to the results found with the TY cohort. When focusing on TY students, the standalone results were significant but when examined as a combined cohort they were non-significant.

How do Results of This Study Compare to Those in Other Literature?

Overall the results are consistent with other studies that being that FFS are more likely to do an accounting major but it should be noted that other research has not combined this variable into the TPB model as done in this thesis. The results found here agree with other research (Tan and Laswad, 2006; Sugahara, Boland and Cilloni, 2008; Jackling and Keneley, 2007) which found that international students were more likely than domestic students to select an accounting major. The study by Jackling and Keneley (2009) examined the impact that permanent residence (PR) may have on international students studying accounting in Australia. The prospect of qualifying for PR in Australia was a strong driver of student intention to major in accounting. The concept of international students versus domestic students is one that can change over the years based on government policy (e.g., skilled migration policy). These two cohorts of students should continue to be examined in the coming years as results may be different after the impact of COVID-19 on the higher education sector. For instance the impact of travel has severely impacted international students arriving on our shores and at the same time COVID-19 has caused a shift in the supply and demand of selected professions. Consequently some students may rethink their choice of major.

6.4.5 H5e. Being the First in Family to go to University has an Influence on Students Choosing Between an Accounting Major or Non-accounting Major

This hypothesis was not supported by the results. All four tests run (FY & TY standalone and FY & TY combined) had no impact on students favouring an accounting major.

How do Results of This Study Compare to Those in Other Literature?

The variable of FFU was initially used in this study as there appeared to be a gap in the literature in this area. The research which focuses on FFU does not specifically focus on choice of majors. Consequently, it is not possible to compare these results to anything of relevance.

6.4.6 H5f. Language spoken at home has an influence on students choosing between an accounting major or non-accounting major.

Results indicate that the hypothesis related to this variable was highly significant and therefore it is supported. LSH became significant at TY but was not shown to be significant at FY.

Aggregate Model Analysis

Observations of the aggregate model presented both tests for the FY cohort to have no impact on language spoken at home as influencing students' choice between an accounting or non-accounting major. Yet, both tests performed on the TY cohort did indicate some significance.

Individual Model Analysis

Analysis on an individual level mirrored the results found under the aggregate model analysis. Both tests performed on the FY cohort presented non-significant results whilst both tests done on the TY cohort presented significant results with a positive change of the coefficient between FY and TY. Given this variable (LSH) showed significance with the TY cohort under both models, it could be the result of international students arriving in Australia during their second year of study. These students would have been captured in the TY survey collections lending itself to the argument that these students most likely speak another language other than English. It is also common that the international students in the TY cohort live with other students from their home country and they continue to communicate outside of school in their home language. This unlike the FY cohort who are not classified as international students because they arrived in Australia and have already done some schooling in Australia and have since blended into the Australian culture. Whilst they may still speak another language at home with

their parents at school, they speak English because they have already completed schooling in English in Australia.

How do Results of This Study Compare to Those in Other Literature?

In this study an Asian language was the most common second language reported by those students who indicated that they speak a dual language at home. The increase in migrants entering Australia over the decades has obviously resulted in greater demand for educational attainment. Various studies done in the education sector have shown that a greater percentage of students of a dual language background do proceed to study beyond high school. For instance Galliot, Graham and Sweller (2015) documented significant results that students at high school who speak a dual languages at home are more certain of their career aspirations than those who only speak English. Additionally, Khoo and Ainley (2005) did not examine the link between LSH and choice of major, but they did identify a positive association with students whose LSH was something other than English and their intention to go to university after year 12.

Tan and Laswad (2006) had a survey question asking students to select whether their first language was English, NZ Maori, Chinese or Other. They reported in a note that language was not found to be a significant factor in their model when included as a control variable. Not many studies have tested or found significance of LSH as a possible indicator to career choice. Hence these results could play a significant role in this area and should be a variable that is added in future studies.

6.4.7 H6: Year Level Alters the Effect of Other Items (Aggregate and/or Individual) on Students Choosing Between an Accounting Major or Non-accounting Major

There was a definite change in results from FY to TY in many of the variables examined within this study and these changes can be viewed in Table 6.1 below. When looking at the combined aggregate model it was found that none of the three constructs of the TPB had changed from FY to TY but rather it was the demographic variables that altered. For instance, LSH saw a significant change from FY to TY and this was most probably due to students being acculturated to the Australian way of life. Additionally, FFS witnessed a change from FY to TY.

The extra construct of SE which was added also saw a significant move from FY to TY. Further analysis of the individual model presented changes in individual variables across only two of the three TPB constructs. In the PB construct, possibility of private business (PBd) and heavy workload (PBh) showed a significant change from FY to TY. With the REF construct we saw parents (REFa) and teachers (REFd) move significantly from FY to TY. Again, as in the aggregate mode the LSH had a significant change from FY to TY.

Table 6.1 Deltas in Aggregate and Individual Models

AGGREGATE	D	B	S.E.	Sig.		Exp(B)
Δ CC(1)	?	1.090	0.479	0.023	**	2.974
Δ FFS	?	1.386	0.553	0.012	**	4.001
Δ LSH	?	1.198	0.387	0.002	***	3.312
Δ SE	?	-0.053	0.019	0.007	***	0.949
INDIVIDUAL						
Δ LSH	?	1.117	0.286	0.000	***	3.056
Δ PBd	?	0.410	0.129	0.001	***	1.506
Δ PBh	?	-0.499	0.211	0.018	**	0.607
Δ REFa	?	-0.128	0.052	0.014	**	0.880
Δ REFd	?	0.203	0.061	0.001	***	1.225
Δ PBCb	?	-0.260	0.139	0.061	*	0.771

This study has taken a nonstandard approach by using two different year cohorts. Remembering that the dependent variable in the FY of this study was intention and the dependent variable at TY was actual and given these years were merged into one variable The reason there are differences between FY and TY students is because FY intended to choose a major and TY students considered the actual choice of major made.

6.5 Discussion of Other Hypothesis Findings

The four hypotheses below were created outside of the TPB framework as additional points of interest for this study.

6.5.1 H7a: A Student's Perception of Professional Prestige is Associated with Students Choosing Between an Accounting Major or Non-accounting Major

Based on the analysis presented in Chapter 5 this hypothesis is accepted and an association found with students choosing between an accounting major or non-accounting major. Strong evidence was presented in Tables 5.11 and 5.12 that students who majored in accounting considered accounting much more prestigious relative to other possible professions. The finding has reinforced outcomes reported in other research that the prestige of a profession does matter to students. It has been well documented that the prestige of the accounting profession is a desirable factor that draws upon students to study and pursue a career in accounting (Auyeung and Sands, 1997; Marriott and Marriott, 2003; Paolillo and Estes, 1982; Tan and Laswad, 2006). The study by Jackling, de Lange, Phillips, and Sewell (2012) went a step further and separated domestic and international students to see if there was a difference, but nonetheless still concluded that accounting students regardless of whether they are domestic or international believed that accounting was a prestigious profession. Byrne, Willis, and Burke (2012) identified that students intending to pursue an accounting career as opposed to those who would not, greatly respected the importance of prestige. Furthermore, Lowe and Simons (1997) reported a significant $p < 0.01$ difference in the importance placed on prestige by accounting students versus other business majors.

6.5.2 H7b. Studying Accounting Prior to Going to University is Associated with Students Choosing Between an Accounting Major or a Non-accounting Major

Based on the analysis presented in Chapter 5 of this study this hypothesis is accepted as an association has been found that completing accounting at year 12 is a significant predictor of students' choice of major.

How do Results of This Study Compare to Those in Other Literature?

The finding of this study has reinforced outcomes found in other studies that studying accounting prior to going to university is correlated with choice on major. Tan and Laswad (2006) made a note that prior accounting knowledge showed no significant difference in the results when a sequential regression analysis was performed or when added to the model as a control variable. Additionally in their Canadian study, Felton, Buhr and Northey (1994) identified that exposure to

accounting in secondary schools was significantly related to one's career choice in chartered accountancy. Such findings were further supported the US-based study by Chen, Jones and McIntyre (2005) who discovered that students' decision to major in accounting was strongly linked to their overall experiences and satisfaction in preliminary accounting courses. In an Australian setting Jackling (2001) reported that students who had studied accounting at high school had both a more positive perception of the profession and a greater interest in pursuing a career in accounting.

Conversely, Law (2010) rejected the hypothesis on whether high school accounting was more likely to influence students to choose a CPA career or general accounting career compared to a non-accounting career. Results were found to be not significant at the 0.05 level. It should be noted that given the literature (Nelson, Vondrzyk, Quirin and Allen, 2002; Graves, Nelson and Deines, 1993) has informed us that many students make their selection of an accounting major at high school, then maybe the concept of timing plus doing accounting at year 12 should be looked at closely together.

6.5.3 H7c: Pathway into University is Associated with Students Choosing Between an Accounting Major or Non-accounting Major

Mixed results were found for this hypothesis remembering that students had six pathway options to select from the survey. Pathway options 14a, 14b, 14e and 14f presented significant differences and strong correlations that these entry levels related to student choice of major, whereas pathway entry options 14c and 14d showed no significance towards choice of major:

- 14a Entered university directly via year 12 which means they completed their Victorian Certificate of Education (VCE),
- 14b Mature age student (MA),
- 14c partially completed university degree (PCC),
- 14d TAFE articulation program (TAFE),
- 14e Overseas qualification (OSQ) and
- 14f through an international partnership program (INTP)

How do Results of This Study Compare to Those in Other Literature?

The findings of this study stand alone as there is no known research which has attempted to examine pathway entry and choice of major in the business discipline. The fact that some university entry pathways are shown to be correlated with choice of major reinforces the reason that this variable of “pathway” should be investigated further. Given the majority of survey participants were in the 18-20 age bracket lends itself to the argument that the majority of students entered university either via year 12 (14a) or an international partnership program (14f). It is expected that (14f) the pathway through an international partnership program presents a strong association with choice of major given the students are part of a twinning program. They are also in their second year of their degree which means their choice of major has already been made. Of the universities that formed part of the survey collection, accounting is the most sought-after degree in the twinning program.

This study found that entering university (14a) directly via year 12 (which means the student completed their VCE) had some association with the choice of major. No study as yet has used this factor and hence it is not possible to make a comparison with other results. Possible reasons for why mature age students are strongly associated with selecting an accounting major could be due to them working in accounts-type jobs but decided they want to advance themselves so they wanted another or higher qualification. They may have also returned to university because of Australian federal government initiatives to open doors to non-traditional students (Gale & Parker, 2014). Years ago people who worked in positions titled “accountant” did not earn the position because they held a qualification but rather because they worked their way up to the position. As companies began to tighten up on governance matters and for the sake of accreditation, most reputable companies required appropriate qualifications for the role of “accountant”. Consequently, this saw people return to university to get their degree. A TAFE articulation program (14d), is not the most traditional way to enrol in an accounting degree but a few students still do. A feature of TAFE courses is their applied orientation so students have a sense of their needs when they make this decision.

6.5.4 H7d. The Mode of Study (Full-time or Part-time) is Associated with Students Choosing Between an Accounting and Non-accounting Major.

The hypothesis explaining the mode of study was not associated with students choosing between an accounting and non-accounting major. Results in Chapter 5 rejected the contention that there was any relationship between FT and PT students in their choice of major. Mode of study is not a variable found to be used/tested in prior research even though it tends to be collected as part of the demographic data of a survey. Results of this study were partly supported by Nelson, Vondrzyk, Quirin and Allen (2002) who did a longitudinal study on seniors and Masters students examining characteristics of accounting students. When examining the data on mode of study no significant changes were evident at the undergraduate level whereas at the Masters level the change was significant at the 0.01 level.

6.6 Theoretical and Practical Implications

The results of this study provide some important implications for accounting higher education with regard to improving our understanding on what influences students' choice of major in the area of accounting. The findings of this study suggest that whilst the Theory of Planned Behaviour is useful for predicting students' choice of major, when added to other information its ability strengthens. Only two (PB and REF) of the three constructs in Ajzen's TPB contributed to students' choice of major. A practical finding identified, was that the PBC construct had very little impact on choice of major. This construct in particular has scope to be reviewed.

Analysis of results suggest that SE should be embedded as an additional construct. Given the SE construct in this study presented some influence towards students selecting an accounting major it is important to start examining SE of students prior to university as this may also have a bearing on future decisions about their chosen major.

The research has highlighted that the construct of REF within the TPB plays an important role in assessing a student's choice of major. The importance of parents and others in influencing this choice implies that accounting as a career needs to be marketed to more than just the potential future student. From a recruitment perspective, the outcome of H2 suggests that universities are best to target marketing at parents given the influence they have on students selecting an accounting major. This also reinforces the results showing a correlation with students attempting year 12 accounting. Another way universities could predict how many students are likely to enrol into an accounting degree would be via the number of students enrolling in year 12 accounting.

Given teachers (REFd) emerged as a positive influence (see earlier discussions on REF influence) on TY students it may be worthwhile for universities to ensure they have enthusiastic and motivated staff teaching into FY units as these teachers in conjunction with those in year 12 may have shaped student choice of major. The construct of PB also presented a positive contribution to understanding a student's preferred major. The importance of dealing with many numbers (PBa) and the idea that accounting is boring (PBf) are certainly variables that were considered by FY students. Perhaps more thought by the education sector could be put into changing people's perceptions of what accounting pertains to and that may help to attract more students to the accounting major.

It is also worth noting that Ajzen's TPB model does not include demographics as predictors. The inclusion of demographic variables would help us to understand students' choice of major. The results of this study reaffirm that some demographic variables such as age, language spoken at home, culture and international students versus domestic students did in fact present a relationship with choice of major. The role of demographic variables in general is still not clear in the choice of major given there is no one theory that captures demographic information as part of a theory. Demographic information is always added and tested separately to models available. The other problem faced with demographic variables is even where studies attempt to examine their impact on choice of major every study selecting different demographics makes a comparison difficult.

6.7 Limitations to the Study

As in any research this study did suffer some limitations, most of which suggest directions for future research which are discussed in the next section. Some of the limitations were controllable whilst others were not. The time it took to complete this research could be seen as a limitation. For instance the data which was collected (via the implementation of a survey) took place over several years. The collation of data, analysis of data and the writing up of results then also took a long time so the information presented in this research relates to what happened approximately eight years ago. In this time span abnormal events such as COVID-19 have disrupted the higher education system leading to huge changes in how things are done. For instance COVID-19 travel restrictions have meant international students are temporarily not able to travel to Australia. Even once travel is reinstated there are questions on whether students would choose to travel to Australia (Croucher and Locke, 2020). The disruption that lockdowns have put on selected industries may have affected the future stability of disciplines where we have seen an increase in automation and the use of online systems increase. For instance the world has seen a demand for workers in the logistic and medical field, therefore the level of course offerings may change <https://doi.org/10.1787/afd33a65-en>. This could well mean a reduction in some skill sets and majors such as accounting.

Another limitation to the study could be linked to the inherent weaknesses of survey research. The literature has documented the strengths and weaknesses of survey research well (Babbie, 2001), and one of these weaknesses is attached to the number of respondents one can reach at any one time. It should be noted that only students who attended class the day surveys were implemented were captured in the surveys. Yet another limitation is that the sample upon which this study is based is drawn from a limited number of Melbourne universities, therefore the results cannot be generalised to the whole country (Australia) or other countries. Results could also differ from universities that offer a wider range of business degree programs. One direction for future research could therefore

entail a sample drawn from several different universities, perhaps in different countries and perhaps across more disciplines.

6.8 Suggestions for Further Research

Integrating more demographic variables (e.g., parents' education level, and any dependants) and other related concepts such as SE and personality traits (e.g., relationship status) to the TPB framework may offer more rigorous testing of the TPB framework. It would be useful to expand the research on SE beliefs in relation to a wide variety of career choices. Based on these research results there is scope for future studies to consider SE as a construct when examining career choices. Evidence in this study has suggested that some individual components of the SE construct are good predictors but as an aggregate this particular SE construct was not found to be significant, so alternative constructs should be explored. The SE component is an important addition to the theory and has shown potential to help explain student choice of career in this study. It has been used as a key construct in other fields and settings (Schwarzer and Fuchs, 1995) and perhaps further thought should be given to the business discipline. There is potential to follow this research through into a longitudinal study and attempt to track whether students are doing their selected major. This would allow the study to determine whether the models used were appropriate. A longitudinal study is also recommended as student beliefs and personal attitudes could change over time so there may be different results to PB and PBC.

This study collected its sample from a group of universities that were alike and share similar commonalities. A more diverse national sample collection might result in different responses to either parts or all of the questions/hypothesis. Expanding the study across various countries will also further enhance our understanding on the impact that culture has on choice of major. Additionally, this study focused on comparing the choice of an accounting major to a non-accounting major which meant other business majors than accounting. Perhaps comparing a specific major within business (example, international trade) to accounting will yield a different outcome. Furthermore it may also be worth

expanding research to look at non-business majors (example, science) to accounting as this will help find differences in various disciplines.

The significance of LSH and culture as a possible indicator to career choice should definitely be further explored with choice of major. It is a variable that has shown great potential for shaping the choice of major. Pending the outcome of the pandemic on international students returning to Australia, additional testing needs to be conducted to see if culture, LSH and FFS continue to have a positive effect on students' preferred major. SE can be tested using different tools so even though this study tested SE using the variables provided by Chen, Gully and Eden (2001). It would be a worthy exercise to apply different tools to see if any difference arises.

Given research, including this one, have found the prestige of a profession to be of a significant value to students in selecting their major, it would be interesting for future research should explore what is meant by prestige from a student's point of view. Such insights might help the accounting profession look at ways in disseminating information re prestige to the public.

6.9 Research Contributions

Amongst the limitations and the implications that this study has put forward there is a great deal it could contribute to the research world. Prior to reading the research contributions it is important to reflect upon the limitations which have been pointed out by other studies on the current TPB model on its own. The TPB model does not take into account SE, personality traits and demographic variables (Tolma, Reininger, Evans and Ureda, 2006). In order to address the issues highlighted by other literature this study not only added a SE construct but also added many other variables to help assess student choice of major.

The first contribution made by this study, is that it was the first to have combined a SE construct to the TPB model to assess what influences students to choose an accounting or non-accounting major. Whilst other studies in various disciplines have applied the TPB model to career choices, this is the first study to

bring together four constructs (three which belong to the TPB and SE construct) and apply them to an Australian setting in the business discipline. As discussed earlier in this chapter, adding an additional construct certainly has reflected a positive light on students' choice of major.

In addition to the SE construct added to this study, additional demographic characteristics were added to help the study identify what influences student choice of major. The additional variables added to the model included, culture, first in family to go to university, language spoke at home, international versus domestic student, gender and age. Some of these variables have previously been examined (e.g., international versus domestic students) but others such as first in family to go to university have never been applied in conjunction with the TPB model to assess certain choice of major. Furthermore this study can be seen as unique as it is the first time an Australian study has used Hofstede's theory to represent the concept of culture when investigating variables to identify what influences students' choice of major in accounting or non-accounting. Often culture has been measured within the literature only through identifying whether a student is international or domestic.

Based on empirical research this study was found to be the first Australian study in a business discipline to use a modelling approach that examined constructs in an aggregated and an individual manner. This contribution made it difficult to compare results given it has not been found to be done previously. However, results suggest that studies would benefit in applying this model in the future. This was the first study of its kind to look at possible correlated factors instead of causation factors of what influences students to choose an accounting major. For instance, the study tested whether a correlation existed between students doing VCE accounting and students majoring in accounting when they enrol in university. Results suggested there was a correlation and this could be used as a good predictor (by universities or government bodies) to identify who is going to major in accounting. This study also examined pathways and links into accounting via correlations. It is also the first to explicitly test whether the impact of variables changed from one year (in this case from FY to TY) to another via a combined model.

6.10 Concluding Remarks

This study contributes to the ongoing discussion of what factors attract students to a choice of major and it's been identified that there is scope for more research in areas that haven't done much on selected factors. This research aimed to shed light on what factors influence students to choose an accounting or non-accounting major. By identifying or narrowing down on some of the influential factors would guide universities on how to better market their courses. Universities and other policy-makers can use these findings to help steer students in making the right decisions.

As evidenced in Chapter 2 (literature review) and other chapters, the TPB has proven to be an effective framework in many previous studies in not only predicting choice of majors but various other areas as well. Given the exponential changing platform of higher education and the impact of COVID-19 to various industries it is worth considering extensions to the TPB framework. Looking back on results and literature it was identified that various studies had supported the contention that the three constructs within the TPB were strong determinants of students major selection (Anis and Hanafi, 2015; Tan and Laswad, 2006; Cohen and Hanno, 1993). The inclusion of demographic variables and related concepts offers robust opportunities for new research. While the demographic variables of age and first in family to go to university were insignificant in predicting choice of major, other demographic variables such as culture and full fee-paying students did prove to be significant.

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APPENDIX

QUESTIONNAIRE EXAMINING THE CAREER INTENTIONS OF BUSINESS STUDENTS

Welcome

You are invited to participate in this research project entitled “**CAREER INTENTIONS OF BUSINESS STUDENTS**”. The following survey contains a series of questions about **your attitude and beliefs towards a career path you are intending to pursue**.

Your completion and return of the questionnaire implies consent to participate. However, you have the right to decline to particular question(s) and/or ask any questions about the study at any time during the study. Your privacy is protected and only aggregate statistics will be published.

As this research is longitudinal in nature there is a question at the end of the survey asking you whether you give permission to be contacted at a second and final stage of the project. If you are willing to continue to be involved at the next stage please tick the box marked ‘**YES**’ at the end of the questionnaire and supply your contact details. If at a later date you no longer wish to be part of the second stage of the research project you may withdraw your consent by either emailing or telephoning (one of the researchers) the Chief Investigator (Professor Beverley Jackling 9919 1541 or Kathy Michael 9919 4629) and your name will be removed from the second stage of the study. If you have any concerns, you may contact the Ethics and Biosafety Coordinator, Victoria University Human Research Ethics Committee, Victoria University, PO Box 14428, Melbourne, VIC, 8001 or phone (03) 9919 4148.

As a thank you for your participation, prizes (\$20 gift cards) will be drawn at the end of the session. To participate in the draw you will need to provide your student id number in Question one.

PART 1 – ABOUT YOU

Q1 1. Student Id Number: (optional – for entry to win a prize) _____

Please tick (✓) the appropriate box that best applies to you.

Q2 2. Gender: Female ☐ Male ☐

Q3 3. In which country were you born: Australia ☐ Other ☐

Q4 4. If you were born outside Australia how old were you when you came to Australia? _____

Q5 5. What is your ethnic background (e.g. Chinese, Malaysian, Greek, Italian etc.) _____

Q6 6. In which country is your permanent home residence? _____

Q7 7. Are you a full-fee paying overseas student? Yes ☐ No ☐

Q8 8. What language do you usually speak with your parents? _____

Q9 9. Enrolment Status: Full-time ☐ Part-time ☐

Q10 10. Age Range (years): 18-20 ☐ 21-25 ☐ 26-29 ☐ 30 and over ☐

Q11 11. What is the postcode at your current Australian address?

Q12 12. Are you the first in your immediate family to go to University? Yes ☐ No ☐

PART 2 – ABOUT YOUR STUDIES

Please tick (✓) the appropriate box that best applies to you.

Q13 1. Academic major(s): From the list below please indicate the area(s) in which you intend to major. Tick more than one box where appropriate

- A** ☐ Accounting
- B** ☐ Marketing
- C** ☐ Information Systems
- D** ☐ Hospitality & Tourism
- E** ☐ Banking & Finance
- F** ☐ Management
- G** ☐ Human Resource Management
- H** ☐ Other (please specify)

Q14 2. How did you qualify to enter your present course? (Tick ONE box only)

- 0** ☐ Entered University direct from Year 12
- 1** ☐ Mature age entrant
- 2** ☐ Partially completed university course
- 3** ☐ TAFE articulation program (e.g. VU TAFE, Kangan TAFE - Broadmeadows)
- 4** ☐ Overseas qualification (e.g. admitted via successful completion of another Higher Degree)
- 5** ☐ Through one of VU's International partnerships (i.e. Liaoning University)

2.

Q15 3. If you indicated in Q2 above that you “Entered University direct from Year 12 secondary school” please indicate the scale of your Australian Tertiary Admission Rank (ATAR) score below, otherwise proceed to Q4.

Below 50 ☐ 0 50 to 59 ☐ 1 60-69 ☐ 2 70-79 ☐ 3 80 and above ☐ 4

Q16 4. Did you study accounting at year 12 at Secondary School? Yes ☐ 0 No ☐ 1

Q17 5. Please indicate your perception of the prestige you place on the following professions, using a scale of very low prestige to very high prestige. For each statement please tick (✓) the box that best represents your view

	Very low prestige		Neutral		Very high prestige
A Doctor	☐	☐	☐	☐	☐
B Lawyer	☐	☐	☐	☐	☐
C Dentist	☐	☐	☐	☐	☐
D Architect	☐	☐	☐	☐	☐
E Scientist	☐	☐	☐	☐	☐
F Accountant	☐	☐	☐	☐	☐
G Engineer	☐	☐	☐	☐	☐
H Computer specialist	☐	☐	☐	☐	☐
I Teacher	☐	☐	☐	☐	☐
J Social worker	☐	☐	☐	☐	☐

PART 3 –ABOUT CAREER CHOICES

A. ATTITUDES TO VARIOUS CAREERS

Q18 1. At this stage in your studies what is your intended career? (i.e.: Accountant, Lawyer, etc.)

Q19 2. When did you decide on your proposed career?

- 0 ☐ During my final years at secondary school
- 1 ☐ Before commencing my study at VU but after completing secondary school
- 2 ☐ By the end of first semester of my first year study at VU
- 3 ☐ By the end of my first year of study at VU
- 4 ☐ By the first semester of my second year of study at Victoria University
- 5 ☐ Other times, please indicate in the box below

Q19 OPEN

PART 4 -Theory of Planned Behaviour Constructs

Q20,Q21,Q22 TPB Construct 1

Q20 (3) Please tick (✓) the box that best represents your evaluation of how good or bad you think each of the following outcomes are in terms of deciding on a career.

		Extremely bad	Bad	Neutral	Good	Extremely good
A	Pursuing a career that deals a lot with numbers	☐	☐	☐	☐	☐
B	Pursuing a career that allows one to earn a high initial salary	☐	☐	☐	☐	☐
C	Pursuing a career with broad exposure to business	☐	☐	☐	☐	☐
D	Pursuing a career that allows one a chance to establish a private practice (e.g. self-employed etc.)	☐	☐	☐	☐	☐
E	Pursuing a career which is challenging	☐	☐	☐	☐	☐
F	Pursuing a career which is boring	☐	☐	☐	☐	☐
G	Pursuing a career with high future earnings and advancement potential	☐	☐	☐	☐	☐
H	Pursuing a career which demands a heavy workload	☐	☐	☐	☐	☐
I	Pursuing a career that provides a high social status	☐	☐	☐	☐	☐
J	Pursuing a career with more job opportunities	☐	☐	☐	☐	☐

Please answer both Questions (4) and (5) below irrespective of your career intentions.

Q21 (4) What do you think is the likelihood of each of the following outcomes occurring if you were to pursue a career in accounting? Please tick (✓) the box that best represents your evaluation.

If I pursue a career in ACCOUNTING:

		Very unlikely	Unlikely	Neutral	Likely	Very likely
A	I will deal a lot with numbers	☐	☐	☐	☐	☐
B	It will allow me to earn a high initial salary when I work	☐	☐	☐	☐	☐
C	I will have a broad exposure in the field of business	☐	☐	☐	☐	☐
D	It will allow me a chance to establish a private practice in the future	☐	☐	☐	☐	☐
E	It will be challenging	☐	☐	☐	☐	☐
F	It will be boring	☐	☐	☐	☐	☐
G	There is a high future earnings and advancement potential	☐	☐	☐	☐	☐
H	It will demand a heavy workload	☐	☐	☐	☐	☐
I	It will provide me with a high social status in the future	☐	☐	☐	☐	☐
J	It will prepare me for a career with more job opportunities	☐	☐	☐	☐	☐

Q22(5) What do you think is the likelihood of each of the following outcomes occurring if you were to pursue a non-accounting career (i.e. marketing, management etc.)? Please tick (✓) the box that best represents your evaluation.

If I pursue a career OTHER THAN ACCOUNTING:

		Very unlikely	Unlikely	Neutral	Likely	Very likely
A	I will deal a lot with numbers	☐	☐	☐	☐	☐
B	It will allow me to earn a high initial salary when I work	☐	☐	☐	☐	☐
C	I will have a broad exposure in the field of business	☐	☐	☐	☐	☐
D	It will allow me a chance to establish a private practice in the future	☐	☐	☐	☐	☐
E	It will be challenging	☐	☐	☐	☐	☐
F	It will be boring	☐	☐	☐	☐	☐
G	There is a high future earnings and advancement potential	☐	☐	☐	☐	☐
H	It will demand a heavy workload	☐	☐	☐	☐	☐
I	It will provide me with a high social status in the future	☐	☐	☐	☐	☐
J	It will prepare me for a career with more job opportunities	☐	☐	☐	☐	☐

B. OTHERS OPINIONS ABOUT CAREER OPTIONS

Q23,Q24 Construct 2 TPB

Q23(1) Please tick (✓) the box that best represents your agreement or disagreement with each of the following statements:

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A	My parents think I should pursue a career in accounting	☐	☐	☐	☐	☐
B	My relative(s) thinks I should pursue a career in accounting	☐	☐	☐	☐	☐
C	My close friend(s) thinks I should pursue a career in accounting	☐	☐	☐	☐	☐
D	My teacher(s) thinks I should pursue a career in accounting	☐	☐	☐	☐	☐
E	My career counsellor/adviser thinks I should pursue a career in accounting	☐	☐	☐	☐	☐
F	My parents think I should pursue a career in a discipline other than accounting	☐	☐	☐	☐	☐
G	My relative(s) thinks I should pursue a career in a discipline other than accounting	☐	☐	☐	☐	☐
H	My close friend(s) thinks I should pursue a career in a discipline other than accounting	☐	☐	☐	☐	☐
I	My teacher(s) thinks I should pursue a career in a discipline other than accounting	☐	☐	☐	☐	☐
J	My career counsellor/adviser thinks I should pursue a career in a discipline other than accounting	☐	☐	☐	☐	☐

Q24 (2) Please indicate how important each of the following person's opinions is to you. Please tick (✓) the box that best represents your evaluation.

		Not at all important	Unimportant	Neutral	Important	Very important
A	Generally, my parents opinion as to what career I should pursue is	☐	☐	☐	☐	☐
B	Generally, my relative(s) opinion as to what career I should pursue is	☐	☐	☐	☐	☐
C	Generally, my close friend(s) opinion as to what career I should pursue is	☐	☐	☐	☐	☐
D	Generally, my teacher(s) opinion as to what career I should pursue is	☐	☐	☐	☐	☐
E	Generally, my career counsellor/adviser's opinion as to what career I should pursue is	☐	☐	☐	☐	☐

Q25,Q26 Construct 3 TPB

Q25 C. OTHER FACTORS

Please answer both parts (1) and (2) irrespective of your intended career. Tick (✓) the box that best represents your agreement or disagreement with each of the following statements:

(1) The following factors make it, or would make it, difficult for me to pursue an accounting career:

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A	The required workload in the accounting discipline	☐	☐	☐	☐	☐
B	The skills and background in mathematics required in accounting	☐	☐	☐	☐	☐
C	My success in non-accounting courses/units	☐	☐	☐	☐	☐
D	The availability of job opportunities in fields other than accounting	☐	☐	☐	☐	☐
E	My interest in non-accounting disciplines	☐	☐	☐	☐	☐
F	The heavy workload in accounting would mean less involvement in extracurricular activities.	☐	☐	☐	☐	☐

Q26 (2) The following factors make it, or would make it, difficult for me to pursue a career in a Non-accounting discipline:

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A	The required workload in non-accounting discipline	☐	☐	☐	☐	☐
B	The skills and background in mathematics required in business majors other than accounting	☐	☐	☐	☐	☐
C	My success in introductory accounting courses/units	☐	☐	☐	☐	☐
D	The availability of job opportunities in accounting	☐	☐	☐	☐	☐
E	My interest in the accounting discipline	☐	☐	☐	☐	☐
F	The heavy workload in a non-accounting discipline would mean less involvement in extracurricular activities	☐	☐	☐	☐	☐

6.

PART 5 - Self efficacy

Q27 (1) Please tick ONE box only for each of the statements below.

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A	I will be able to achieve most of my academic goals that I have set for myself	☐	☐	☐	☐	☐
B	When facing difficult academic tasks I am certain that I will accomplish them	☐	☐	☐	☐	☐
C	In general , I think that I can obtain outcomes that are important to me	☐	☐	☐	☐	☐
D	I believe I can succeed at most any career to which I set my mind	☐	☐	☐	☐	☐
E	I will be able to successfully overcome many academic challenges	☐	☐	☐	☐	☐
F	I am confident that I can perform effectively on many different academic tasks	☐	☐	☐	☐	☐
G	Compared to other people I can do most academic tasks very well	☐	☐	☐	☐	☐
H	Even when things are tough I can perform quite well academically	☐	☐	☐	☐	☐

Q28 (2) In the space below indicate what you expect will be the greatest difficulty in achieving your stated career:

Part 6 - Follow up stage

FOLLOW UP STAGE

Given the research focuses on the employment/career direction taken on completion of your studies, if you are prepared to be contacted at a later stage please provide your details below:

Q29 Most appropriate phone number to contact you (including area code if outside of Australia e.g. +86 China): _____

Q30 A non-university email address (if any): _____

Q31 Current Australian Residential address: _____

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS QUESTIONNAIRE

Table A1

Summary of Clusters		
Cluster Number	Number of countries	Number of respondent
1	15	403
2	6	6
3	8	206
4	7	96
5	16	132
Totals	52	843