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A Mixed Methodological Interrogation of the Undergraduate Student Experience, Socialisation, and Fields of Study in 21st Century New Zealand

Bertalan Zoltan Magyar

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The University of Auckland
Department of Sociology

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ABSTRACT

The undergraduate student experience (USE) in contemporary New Zealand is fraught with enormous complexities. Various dimensions of student life have received increased research attention by higher education institutions and governmental agencies. However, these studies serve mainly managerial purposes while tending to show little interest in exploring the extent to which undergraduate education prepares graduates for subsequent labour market participation.

Contesting the benchmarking-driven ‘official’ student surveys by drawing on interdisciplinary life course perspectives, this study conceptualises higher education as a transitional life stage between compulsory education and full-time employment. The research findings are derived from a mixed methods study that combines a large scale student survey (N=1882) and in-depth interviews (N=20) at The University of Auckland.

This independent, student-focused sociological investigation contributes to the burgeoning higher education research field in three ways. First, an empirically plausible model of USE is proposed through Structural Equation Modeling. This model captures some key dimensions of USE as identified by mainstream higher education research, including aspects of student satisfaction and their engagement with academic staff. Reflecting the transitory nature of the undergraduate years, ‘satisfaction with the employability-facilitating aspect’ of USE is specified as the dependent, latent construct in the main model. Second, the sociological ‘determinants’ of USE are explored by way of comparing two sets of social background characteristics of students. The first represents conventional measures of Socio-Economic Status (SES). The second one is rooted in the concept of socialisation and is labelled as ‘Propensity for Relational Diversity’ (PRD). It is demonstrated that PRD is more closely related to USE than is SES. This finding suggests that higher education research could benefit from the systematic exploration of students’ pre-university socialisation dynamics. Third, an empirically derived classification of academic fields is presented. By considering curricular requirements for practical applications in academic programmes, the research draws a distinction between ‘General’ and ‘Professional’ fields of study.

Overall, the mixed methods-delivered findings suggest that distinct student groups appear to have considerably different prospects of status attainment in the era of global expansion of higher education, credential inflation, permanent fee rises, and ballooning student loan debt.
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While it is customary to award the educational credential of a doctoral title an individual author, this practice is greatly misleading. It goes without saying that a doctoral thesis is a collective achievement. Much gratitude is due to the academic and graduate student community at Auckland who offered intellectual as well as administrative support at various stages along the way. In particular, I wish to thank my supervisors Dr. Bruce Cohen and Dr. Steve Matthewman for their encouragement and support throughout the project. Their critical insights and excellent feedback are much appreciated. I am indebted to Dr. David Mayeda, who helped much more than what his role as the third supervisor required of him.

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Abbreviations

AIC         Akaike Information Criterion
AHELO       Assessment of Higher Education Learning Outcomes
AVE         Average Variance Extracted
BIC         Bayesian Information Criterion
CFA         Confirmatory Factor Analysis
CFI         Comparative Fit Index
EFA         Exploratory Factor Analysis
ESEM        Exploratory Structural Equation Modeling
ETS         Engagement with Teaching Staff
MBIE        Ministry of Business, Innovation and Employment
MI          Modification Indices
MusDiv      Musical Diversity
OECD        Organisation for Economic Co-operation and Development
PEJV        Preference for Extrinsic Job Values
PGplans     Postgraduate study aspirations
PIJV        Preference for Intrinsic Job Values
PMF         Propensity for Making Friends
PRD         Propensity for Relational Diversity
RMSEA       Root Mean Square Error of Approximation
SatAc       Overall Academic Satisfaction
SEM         Structural Equation Modeling
SES         Socio-economic Status
SFE         Satisfaction with Facilitating Employability
SFID        Satisfaction with Facilitating Interactional-Diversity
SocDiv      Socialisation Diversity
SQT         Satisfaction with the Quality of Teaching
SRMR        Standardized Root Mean Square Residual
TLI         Tucker-Lewis Index
UAHPEC      The University of Auckland Human Participants Ethics Committee
UOA         The University of Auckland
Chapter I — Introduction

The fact has to be faced: a student’s creativity can only ever be a self-creation. Only rhetorical exuberance can lead one to forget what makes the very definition of the student’s role: to study is not to create something but to create oneself; it is not to create a culture, still less a new culture, but to create one’s capacity to be, at best, a creator of culture, or, in most cases, an informed user or transmitter of a culture created by others, that is, a teacher or specialist. More generally, to study is not to produce, but to produce a capacity to produce.

Pierre Bourdieu & Jean-Claude Passeron: The Inheritors, 1979, p. 55

1.1 General introduction

The undergraduate student years can be considered distinctive in several ways in comparison to other periods in one’s cognitive, emotional, and moral development (Astin 1993; Kuh 1999; Knox et al. 1993). In the most general sense, this period may be best summarised as a ‘buffer zone’ between the distinct worlds of the financially dependent high school years and the life of a progressively transforming young adult which is characterized by rapidly approaching yet somewhat ‘unforeseen’ responsibilities. From the life course perspective, being a university student also means being part of an intensive transitional period between compulsory education and fulltime work (Shanahan 2000; Bye 2009; Mayer 2009). One important aspect of this complex transitional process may be that ‘real time’ adjustments of study portfolios toward desired careers become increasingly difficult for students as they progress through their university studies. Such adjustments in one’s studies may include taking up external subjects, or changing one’s major area of study. These actions may arguably be triggered by students’ perceived post-university employment prospects with respect to their field of study (Stern 1966; Gerdes and Mallinckrodt 1994). Social science-oriented higher education research could therefore take into account that such adjustment-seeking is rarely an easy undertaking by any student involved in it (Feldman et al. 2004).

Based on these considerations, a student-centred approach is adopted in this investigation which examines a series of higher education-related socio-political phenomena primarily through their relevance to the undergraduate experience. Importantly, the thesis advances the idea that socialisation-related characteristics are key ‘social ingredients’ of the undergraduate experience with regard to aspects of students’ satisfaction and engagement. Through a series of empirical analyses, evidence is presented to illustrate the potential of a novel, socialisation-focused social background construct. Such a measure may be of considerable interest to higher education scholars who could arguably benefit from exploring the socially structured nature of the undergraduate student experience in new ways, thus breaking with the seemingly ubiquitous preoccupation with parental measures of socio-economic status.
This chapter is structured as follows. First, the main rationale that motivated the study is described. Second, the background of the study and the main research objectives are outlined. The study is a mixed methods empirical investigation of the undergraduate university student experience in early 21st Century New Zealand. All data are collected during 2009 and 2010 at The University of Auckland (UoA). The University of Auckland is commonly regarded as the ‘flagship’ university in the country, a position reflected in several international university rankings (carried out, for example, by Times Higher Education, The QS World University Ranking, and Shanghai Jiao Tong University). Notwithstanding the distinct position of UoA within the New Zealand tertiary educational sector, it is expected that the results from this investigation are applicable to many of the approximately 400,000 students who were enrolled in public post-secondary education institutions at the time (Ministry of Education 2011c). Third, the development of the modern university is discussed briefly, with short sections exploring the ‘purposes’ of the university and the historical specifics of the local tertiary educational sector, including that of UoA. Fourth, some of the contemporary trends within higher education are discussed, including massification, commercialization and internationalisation. The chapter concludes with the outline of the thesis.

1.2 Rationale for doing the research

A thorough sociological investigation of the undergraduate experience is more than an exploration of ‘student culture’ insofar as it is inescapably linked with the topics of social stratification and status attainment. With the historically decreasing significance of conventional channels of status attainment (for example, the military, state bureaucracy, the Church, vocational secondary education, professional political and economic institutions), tertiary education appears to emerge as a principal vehicle of social mobility in contemporary, post-industrial societies. As a result, tertiary educational institutions now enjoy a largely unchallenged monopoly of offering a virtually non-avoidable route to status attainment in a standardized setting which in essence is mass education. Although massification inevitably leads to the ongoing inflation of higher education credentials, their societal appeal will not erode beyond a certain point. This is because these credentials are perceived as having a particular socio-economic currency: they open up occupational opportunities through which one can gain advantageous social positions and ultimately, status. Given these developments, students indeed have little choice but to enter the “higher-education game [otherwise] they have even less chance of securing good work and reasonable pay” (Brown and Lauder 2009: 236). If participation in higher education can be described by the Bourdieuan metaphor of ‘playing the game’, then one is advised to take the analysis further by looking at field of study differences.
among students, along with their broader societal implications. This is of considerable sociological interest inasmuch as employment prospects and outcomes vary significantly among undergraduate degrees. Yet, to complicate matters even further, fundamental questions remain to be answered, such as what are the purposes and values of university education beyond those immediate ‘vocational outcomes’ in an increasingly globalized and multicultural world? The collective discussion of these and related questions is perhaps more important than the plethora of answers one can find in the burgeoning — and not only academic — literature on higher education. Overall, these intertwined and contentious issues make the sociology of higher education an exciting research area which needs an ongoing, critical yet a preferably dispassionate analysis, even more so than in a previous era when postsecondary learning was largely reserved for the elite.

While sociological research on higher education has grown exponentially over the last few decades, the overview of the international literature reveals a rather skewed distribution of countries and regions in which the overwhelming majority of studies have been carried out (Tight 2003; Pascarella and Terenzini 2005; Scott 2006). The dominance of North American and European institutions in the relevant literature has possible structural reasons, including the local political and economic environments in which these universities operate and the availability of substantial research funds (in comparison to New Zealand) for tertiary education-related studies. Taking these considerations into account, it is perhaps understandable that purely research interest-driven, large scale, empirical studies on students within the New Zealand’s tertiary education system have been rarely attempted, with the exception of internal studies by particular institution.

The periodically administered, sometimes internally-designed student surveys (predominantly in the United States, Europe, and Australia) have been primarily concerned with the various measures of the learning experience and ‘learning outcomes’. Some of the most influential student surveys are introduced in Chapter Three. However, students’ experience regarding their social life at the university, and their future plans appear to be of limited importance from the ‘managerial point of view’ that permeates such surveys. Moreover, there seems to be a lack of empirical studies in the New Zealand context that would thoroughly investigate what social factors (and to what extent) impacts upon the undergraduate educational experience, including satisfaction with some of the core aspects of academic learning and the level of engagement with the teaching staff. It is also important to differentiate among academic fields insofar as they endow students with distinct sets of skills that are valued differently in the labour market. Since earning stratification — arguably the key driver of social stratification — can be attributed to differential income returns to field of study, it follows that different educational credential-holders have variable chances to achieve upward social mobility. The asymmetric ‘earning premiums’ of the different study areas have been

By recognizing the limitations of the various existing student surveys, while simultaneously drawing on their strengths, this research aims to advance the sociological understanding of the undergraduate student experience. In particular, the project explores the following main areas of student life: socio-economic status, socialisation diversity, musical taste, friendship network, ethnic background, age, seniority (in terms of programme advancement), satisfaction with academic learning, engagement with the teaching staff, academic performance, reasons for underperformance, working status, time use, departmental student-instructor relationship, academic field of study, postgraduate study aspirations, and career preferences.

1.3 Study background and research objectives

This thesis is concerned with various social aspects of the contemporary undergraduate student life in New Zealand. Given the increased participation in higher education, it is assumed that by gaining a better sociological understanding of the student experience, we could unveil important patterns of social stratification dynamics as they unfold in ‘real time’.

Based on this consideration, the primary focus of the research is to assess undergraduate students at The University of Auckland with respect to satisfaction, engagement with the teaching staff, work experience, postgraduation study plans, and career expectations. Moreover, students will be studied with the aim of comparing two sets of social background characteristics that are expected to affect their satisfaction with the university experience as well as the degree of their integration to the institution in both academic and social dimensions. The first set is comprised of conventional social background measures, including subjective social class, family income, paternal and maternal educational qualification and occupation, financial aid and the ‘frequency of financial problems’. The underlying assumption in higher education studies that draw on the aforementioned measures (these scholarly works are discussed in Chapter Two) is that socio-economic characteristics can sufficiently explain students’ satisfaction with, and integration to the university, which in turn shape their career expectations and future plans regarding life after graduation. What is common in these measures is that they are expected to reveal important aspects of the socio-economic status (SES) of students. However, the majority of the aforementioned indicators are more closely related to ‘parental’ SES and therefore this line of research carries the unspoken assumption that the ‘student SES’ is merely a linear derivative of the SES of their families. In the context of higher education,
such an assumption is untenable insofar as undergraduate students are likely be independent or semi-independent young adults, with a considerable proportion of them being mature or ‘non-traditional age’ learners as opposed to dependent children.

Arguably, the operationalization of the student background measures through the predominantly family-focused constructs poses a severe limitation on the interpretations of research findings even from the most thoughtfully designed and carefully executed studies. A second set of social background student characteristics is therefore proposed in the thesis which is expected to fit well for the purposes of this study. This alternative set of social background indicators is grounded in the concept of student socialisation. In particular, it is argued that students’ diversity of socialisation is a viable social background measure in this research context insofar as it can be considered as a reasonably observable manifestation of an ongoing exposure to multi-faceted influences throughout the life course. The result of the process, during which diverse social experience accumulates, is that students are endowed with complex interpersonal skills. These skills can be advantageous in a variety of situations as they would enable students to connect with dissimilar others comfortably. In this respect, the large and culturally very diverse university campus provides students with a truly unique academic learning environment. It is expected that students with a diverse socialisation can navigate the new environment more successfully, and as a result they would find it more enjoyable in comparison to students with a less diverse socialisation. Based on these considerations, the alternative social background measure proposed in the thesis is labelled as ‘Propensity for Relational Diversity’ (PRD hereafter). It is expected that PRD is a distinct background measure which is empirically separable from SES. The academic literature on PRD is explored in Chapter Two while its conceptual origin is introduced in Chapter Three.

A related objective in the study is to specify a model of the undergraduate student experience which captures some of its fundamental aspects and presents it in a way that allows the empirical assessment of its plausibility through statistical analyses. This basic, limited model of the student experience is referred to as the ‘Base model’ throughout the thesis and it is discussed in depth in Chapter Three. A series of statistical analyses are carried out in the study in order to explore the connection between the student experience and a wide range of phenomena that are expected to shape students’ lives in profound ways. Some of these influences can be classified as ‘predictors’ of the student experience while others can more appropriately be seen as indicatives of various ‘outcomes’. For example, both SES and PRD are important pre-university background measures that are expected to have an impact on the student experience. Conversely, post-university plans
with respect to career expectations and the consideration of doing further (postgraduate) studies are expected to be influenced by the student experience.¹

The investigation of the aforementioned factors is carried out in a mixed methods study, where findings derived from a large scale student survey are complemented with detail-rich interview data. This research design aims to ensure that our understanding of some of the important issues affecting contemporary undergraduate students of The University of Auckland is advanced and to this end it is based on robust and multi method-delivered data. While extensive efforts are made to cover a broad range of factors that can affect undergraduate students in the two major phases of the research, there are several other issues that are explored mainly through engagement with the interdisciplinary higher education research literature. These issues are predominantly macro phenomena that affect undergraduate students from afar, including broader global trends in higher education and the historical specificities of the development of the tertiary sector in New Zealand.

1.4 Discourses on the ‘purposes’ of higher education

Approaching the research topic from an angle that is not overly context-dependent, one could argue that the general trajectory of university student years may be fairly comparable in Western societies around the world. This trajectory may be summed-up as follows: after a few years spent in the classrooms, in most cases, there ought to be a profession, or at least some sort of job that students consider, or hope to take on. Beyond this generic scheme, however, there is an almost infinitely complex variety in the practice of how an individual student’s personal and social background, motivations, and plans are being shaped throughout the student years. Moreover, the ‘college outcome’ for any student inescapably depends on factors that may be external to the higher education institution, such as social capital of students, economic climate, or plain luck.

A common view of one of the main purposes of tertiary education is that it is to prepare students to be future employees who could integrate well into the labour market (Goldberg and Traiman 2001). Looking into the specific aspects of this question reveals, however, that ‘the purpose’ of higher education is a highly contested issue (Barnett 1992, 2000; Coady 2000; Shapiro 2005; Keohane 2006). While all major parties involved in discussions on the purposes of tertiary education, such as the university, scholars, students, business leaders, and so forth, have their own opinion on the issue, they appear to share the view that a striving educational sector benefits society as a whole. However,

¹ Several analyses are performed throughout the thesis in which references are made to ‘outcomes’ and ‘outcome measures’. In the absence of experimental or longitudinal design, however, the meaning of outcome is not to be taken literally in this study. Instead, ‘outcome measures’ are to be understood mainly in a descriptive sense inasmuch as they refer to the outcomes in the research process, or to results that emerge from particular analyses.
there is no consensus among the key parties regarding the ‘best ways’ to achieve quality improvement within higher education, despite the intensive academic interest on the subject (Marginson 2000, 2009; Marginson and Considine 2000; McInnes 2000; Nixon et al. 2001; Mohrman et al. 2007; Palfreyman and Tapper 2009). Before discussing current debates on higher education, it is worth overviewing, briefly, the historical development of the modern university, including its manifestation in the New Zealand context.

1.5 The modern university: the idea and its historical development

The word ‘university’ originally comes from the Latin ‘universitas magistrorum et scholarium’ which means ‘community of teachers and scholars’ (Verger 2003: 37-38). While the university is generally considered a medieval European invention, educational institutions with specialized profiles (for example, medical or religious orientations) have existed outside of Europe, and well before the foundation of the University of Bologna (in 1088) which is typically regarded as the first continuously operating degree-granting higher education institution (Rüeg 2003: 6). The seemingly little resemblance between contemporary universities and their predecessors, however, immediately begs the question: what has survived from the original ‘spirit’ of the university? What may be the overarching similarities that make it still reasonable to call these educational institutions universities, despite the 900 years and, consequently, the tremendous social, cultural, and economical changes that separate them?

One of the first modern arguments regarding the idea of the university was put forward by John Henry Newman. In 1852, during the time that later led to the foundation of the Catholic University of Dublin (which Newman became the first rector of) he gave a series of lectures on the subject. These lectures were published in England in a book titled The Idea of a University (Newman 1859). In this book, Newman argues that the ultimate function of the university is the broadening and enlightenment of the mind by a liberal education, regardless of the specific academic disciplines that provide the frames by which this process is to be carried out. Newman further proposed that the aim of a university education is more than transferring a specific knowledge set to a new generation of students, as he identifies the transformation of the mindset of students as the ultimate goal of the university. This transformation is the positive result of both a collective effort on the part of the teachers and students, and the environment in which it takes place.

Several elements in his account are echoed by contemporary theorists of higher education. In his landmark, classic study on college students Astin (1993) emphasized the importance of peers on students’ multidimensional development. Moreover, the idea that finding the truth in itself is a goal
for scholars is often in the centre of discussions on academic freedom. For example, Russell (1993: 23) argues that scholars should be able to do “research without fear” and he adds that if academic research is driven by motivations other than finding the truth, it is a “form of propaganda, and not necessarily to be preferred to other forms, much cheaper, and perhaps more persuasive”. In a similar vein, Hamlyn (1996: 218) argues that, above all, advancing knowledge ought to be “the overriding consideration” within academia.

Contemplation on the question of ‘academic freedom’ in modern academia is hardly a new phenomenon. Its complexity alone seems to make it suitable to generate detailed, and at times passionate discussions around questions that are intertwined, yet can be analytically separated into the following areas: freedom of the researcher to investigate a topic, academic free speech, the role of an intellectual, and the funding of academic research (Hussey and Smith 2009; Ballantine and Hammack 2012; Shore and Taitz 2012). Undoubtedly, research is an inherent part of modern academia, as it is one of the three pillars of scholarly work, the other parts being teaching and service. Advancing knowledge is simply not possible without research which always represents the added value to the ‘overall knowledge’ that is available for any academic discipline at a given time. The more important question may be, therefore, what is the function of research? That is to say, who shall be the target and the beneficiaries of academic research? While the obligation for a researcher to be able to outline the potential benefits of his or her research is universally accepted in the modern academy, one could question whether this has always been the case.

In their thorough investigation of such questions, Malcolm and Tarling (2007) argue that the concept of research entered into academia only around the 16th century, following the enormous development of the natural sciences, and it was not formalised until the 18th and 19th centuries when universities in Germany made research an integral part of teaching. At that time, however, the utilitarian element was not attached to the purpose of research, since scholarly activities were primarily focused on how to extend ‘general knowledge’. Hamlyn (1996) argues that German universities emphasised ‘furthering knowledge’ as the main purpose of research activity in an act of resistance to the very utilitarian and positivistic profile of universities that spread following the Scientific Revolution in the 16th century onwards. The statement from 1862 made by Hermann von Helmholtz, a renowned German scientist, may represent the ‘Zeitgeist’ of the academy during his time: “[w]hoever, in the pursuit of science, seeks after immediate practical utility, may generally rest assured that he will seek in vain. All that science can achieve is a perfect knowledge and a perfect understanding of the action of natural and moral forces” (cited in Ashby 1958: 25-26).
Malcolm and Tarling further point out that it was with the foundation of universities in the United States in the late 19th century, that the research element increasingly got attached to the ‘public service’ function, thus completing the teaching-research-service trio that characterises the mission of most universities in the 21st century. Re-emerging debates around ‘academic freedom’ primarily orbited around the question of funding. If the public’s contribution to the universities’ budget is substantial, it is easy to see how this evokes the obligation of ‘giving back to the community’ in the form of making the crafted knowledge not only accessible, but even beneficial to the public. The arguments of both sides are well-known and explored extensively in discussions on academic freedom (Parker and Jary 1995; Allen and Allen 2003; Brown and Hesketh 2004; Bok 2003; Geiger 2004; Shapiro 2005; Scott 2006; Ginsberg 2011). The opposing arguments may be summarised here briefly as follows: what on the one hand can be perceived by some scholars as governmental as well as commercial intrusion to the academy can be looked at, on the other hand, as an attempt to prevent academic inertia by ensuring that the scholarly investigations do have clear public benefits.

1.6 The higher education sector in New Zealand

To comprehend the emergence of tertiary educational institutions in the New Zealand context one cannot disregard the significance of the colonial past. It has been a long time since Lord Lyttelton — British aristocrat, member of the Canterbury Club, who played a significant role in the establishment of the new colonies in the South Island of New Zealand — argued in 1869 (Star, 27 February 1869: 3) that there are more pressing issues to be dealt with for new colonies than establishing a university: “[t]he great effort of young colonies ought to be that of self-reliance, possession within themselves, of the essentials of social life. A young colony could not have a university - yet even for that a group of colonies such as the Australian might suffice”.

In an excellent and colourful historical account of the events and the context that led to the establishment of universities in New Zealand, Tarling (1999) stresses the importance of the fact that the first post-secondary institution was founded in Otago province in 1869. Morrell notes (1969: 1) the significance of the fact that it was the Scottish settlers of the area who “brought with them the enthusiasm for education that characterised their homeland, where the universities were attended by a higher proportion of the population than in any other European country”.

It is hardly a surprise, then, that the rather elitist and exclusive university model in England was to be contrasted with the idea that university education should be available to the broader public. Hence the origin of how ‘open entry’ became a fundamental principle in the entire tertiary
educational sector in New Zealand. The commitment to the idea of ‘open entry’ is evident in the speech given by Governor Jervois in 1883 at the opening of Auckland University College, the predecessor to The University of Auckland. He declared (New Zealand Herald 1883: 5) that:

[n]o greater mistake can be made than to suppose that universities are intended only for people of private means and learned desire. The true function of a modern university I take to be, to give to all – men and women alike – who wish to avail themselves of it every facility for higher education in whatever branch they choose for themselves.  

Throughout the years, ‘open entry’ continued to be a characteristic of the admission system and it grew into a suggestive metaphor that universities could use in various discussions with politicians. As Tarling (1999: 109) explains:

‘[o]pen entry’ was the phrase that encapsulated the liberal admission policies of the universities. It was in fact the strongest source of popular support and their strongest argument with politicians. It was defensible both on academic grounds and on grounds of equity, and was to remain entrenched in New Zealand’s political and educational life.

While the commitment to ‘open entry’ can be seen as a testimony of liberal values in the new democracy, it also created its own problems in terms of raising questions on funding and control which ultimately (re)generated discussions around ‘academic freedom’, ‘institutional independence’, and so forth. ‘Open entry’ thus gave the wrong idea to certain politicians that tertiary education is merely an extension of the secondary education sector in New Zealand. The fact that in the early years, the overwhelming majority of funding of the tertiary education system was government-based may have played into the hands of those who wished for a ‘tighter’ control over issues that may be better discussed within the university (or at least within the broader academic community). For example, these issues include what programmes to be taught, how much it is the universities’ duty to ‘serve the community’, to what extent, and so on.  

1.6.1 The University of Auckland

A detailed and comprehensive overview of the historical development of the higher education sector in New Zealand, with particular attention devoted to The University of Auckland can be

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2 This, however changed in 2009 when the university removed open entry, and it now requires domestic students to meet the minimum requirements for University Entrance set by the New Zealand Qualifications Authority (NZQA).
3 The idea of ‘open entry’, with its inherent commitment to the admission of women may well fit with the broader context of the late 19th century where there was strong public support of efforts to lessen the gender inequalities in the young country. Moreover, New Zealand was the first country to give women the right to vote in 1893.
4 John Gould, historian, a member of a committee that audited the New Zealand tertiary education system noted the difficulty of disentangling principles of academic freedom and financial dependence on public funding: “scholarship can only flourish in an environment of detachment, and universities need to enjoy positions of special and privileged isolation in which they can receive public money without accepting the detailed state scrutiny and supervision which such funding normally implies” (cited in Tarling 1999: 111).
found in a number of excellent sources (Spoonley 1997, Tarling 1999, Malcolm and Tarling 2007). A brief overview, however, seems warranted in order to illustrate the pace of growth of The University of Auckland. The institution was founded in 1883 and became an independent establishment in 1961, with around 4000 students at that time. By 2010, the student enrolment had grown to 40,977 — a tenfold increase in less than 50 years (The University of Auckland 2012a: 8). These numbers place The University of Auckland among the five largest universities in Australasia.

The University of Auckland is truly a city-university: the main campuses are all located in the heart of Auckland. Remaining a city-university had not always been the only option for UoA at the time of student growth in the 1970s and 1980s. With increasing student enrolments, expansion became a pressing issue for university management. After long discussions the institution decided to keep its core units in the city centre and expand into the suburbs, hence the building of the Tamaki campus in Saint Johns. This was a reasonable compromise between the alternatives: growing within the city or moving out completely. The University of Otago in Dunedin exemplifies the first option, while Waikato University in Hamilton represents the second choice.

The growth in student enrolments in recent decades has been partly attributed to the increase in the number of international students at the university. In 1982 the university started to charge full-cost fees to international students with the exception of those coming from the South Pacific (including Australia). The city’s multicultural character has arguably affected the student composition (Statistics New Zealand 2008, 2009; The University of Auckland 2010). In the 1990s (in part after major changes in immigration policy, for example, the Immigration Act 1987 and the Immigration Amendment Act 1991) the Asian student population grew rapidly as Chinese (particularly from Hong Kong and Taiwan) and South Korean communities settled in various Auckland suburbs. Most of these students became permanent residents, thus becoming eligible to pay only domestic tuition fees, as opposed to international tuition fees that are now four to five times higher on average. Out of the mix of students with Asian backgrounds, Chinese students comprise the single biggest ethnic group which makes them a significant contributor not only to the New Zealand tertiary education sector, but to the economy as a whole. For example, the number of Chinese (international) students alone could impact upon university funding nationwide. After the peak of 2004, when $521 million (NZD) was paid in tuition fees by all Chinese students in the country, the number of these students started to decline. According to Ministry of Education figures, for example, after 2006, the number

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5 For precise figures, see the annually released ‘Undergraduate Prospectus’ of the university; for example The University of Auckland (2013a).
of Chinese students dropped from 22,265 to 12,177 in 2008. The University of Auckland currently enrols over 5300 international students while there are more than 100 educational exchange partner institutions in 25 countries that offer one or two semester-long programmes (The University of Auckland 2013b: 31). Undoubtedly, the UoA’s multicultural student body results from conscious managerial and budgetary efforts, along with the city of Auckland’s diverse socio-cultural environment. It comes as no surprise then that the diverse student body is always mentioned in the annual reports of UoA; for example, see The University of Auckland 2009 Annual Report.

1.7 Emerging trends in contemporary higher education

There are a variety of reasons for pursuing tertiary educational credentials, including the desire for paid employment, familial expectations, conformity, desire to change one’s career, intellectual curiosity, or simply ‘waiting out’ for a better labour market climate, to name a few (van de Werfhorst 2002; Goyette and Mullen 2006). Accordingly, the expanding higher education market gave rise to a global and highly stratified service sector in which institutions compete for talents (academic staff and students alike) as well as for favourable reputation. The transition from a production-based society toward a service as well as knowledge-based one in the Western world brought the proliferation of highly specialised jobs. Knowledge itself was increasingly recognised as a prominent source of economic capital (Burton-Jones 1999; Peters and Besley 2006) while the concept of life-long learning gained prominence in academic research around the same time (Fischer 2000; Field 2005, 2006). These changes led to the multi-faceted transformation of the higher education sector (World Bank 2002; Carnevale and Desrochers 2003; George 2006). The rapid specialisation of academic fields and the growth in student numbers are important aspects of this transformation (Brown 1995; Bauman 1997). Overall, the aforementioned developments explain how ‘higher education research’ could become a specialised and rapidly expanding subfield within the social sciences, with its own journals, book series, and annual circulars. Recent sociological literature identifies three trends that permeate modern universities around the world: massification, commercialization, and internationalisation. These are briefly discussed in the following sections.

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6 In 2002, New Zealand was the first country to remove limits on Chinese students admitted to the tertiary education sector which resulted in an explosion of their numbers “virtually overnight”, as Robert Stevens, chief executive for Education New Zealand put it (Stevens cited in New Zealand Education Review 2009: 2).

7 For example, journals such as Research in Higher Education, The Journal of Higher Education, The Review of Higher Education, Journal of College Student Development, Review of Educational Research; annual circulars, such as Higher Education: Handbook of Theory and Research; book series, such as International Studies in Higher Education (the first volume was published in 2009).
1.7.1 Massification

In their introduction to a collection of essays by various authors, Smith and Webster (1997: X) distinguish between two main models of tertiary education which appear to be converging: “[a]rguably the Anglo-Saxon model of the university (elitist, residential, cloistered) is giving way to a more North American and European model which is more open and connected to the wider society”. The authors take massification and commercialization to be central to the change which has been unfolding since the 1960s within higher education in the West.

Massification of higher education resulted in a number of negative consequences, which arguably represent a form of ‘devaluation’ in comparison to earlier times when universities were simply smaller in size. As Smith and Webster note, “[w]here it was once thought exceptional to win a place at university, was a guaranteed sign of academic and social advance and a just occasion for celebration, today it merely marks a stage in life, requiring no special academic merit, signalling in itself no great likelihood of later worldly success” (ibid. 2). The loss of intimacy between students and the institution is another negative consequence of massification. Indeed, large classes tend to correlate with lower individual participation. This is understandable, since this kind of learning environment generally provides fewer opportunities for meaningful dialogues between instructors and students. In addition, some students may find large classes somewhat alienating. Finally, the rapid academic specialization could also result in the ‘losing sight’ of the purpose of a liberal tertiary education which was referred to in an earlier period as the ‘broadening the mind’.

Tapper and Palfreyman (2009a: 1) emphasise that even though mass higher education is a global phenomenon, they immediately add that: “[i]t is a critical consideration that national and regional systems of higher education will not only have followed different patterns of development, but also be at contrasting stages in moving towards the mass model of higher education”. Indeed, attaching ‘mass’ as a qualifier to higher education in itself cannot capture the full range of dynamics that have characterized universities in recent decades. In his classic work, Trow (1973, 2006) classifies higher education systems based on the degree of participation of a given cohort in them. He proposes that historically, higher education systems have been going through a linear transformation with the following three phases: elite, mass, and universal. According to this typology, a higher education system is no longer ‘elite’ if it enrols more than 15 percent of the eligible population, and it becomes ‘universal’ when such intake exceeds 40 percent. This categorisation, however, is not ‘quality-ordered’ insofar as “there is no contradiction between the concepts of elite and mass; the model is composed of mutually reinforcing segments. The elite institutions are supposedly only viable if there is also a thriving mass” (Tapper and Palfreyman 2009b: 324).
1.7.2 Commercialization

Smith and Webster (1997) stress that higher education could not escape from commercialization. This trend increasingly affects the student-teacher relationship. Students are not only being treated as consumers, but in return they may develop attitudes that resemble ones of a consumer. For example, upon being dissatisfied with the quality of the ‘purchased service’, some students may sue the ‘service provider’ or engage in assertive ‘negotiations’ for a better grade.

In order to understand the commercialization of tertiary education, external factors such as the state and the market need to be taken into consideration inasmuch as universities do not operate in isolation. At the most general level, the state exerts its influence through funding policies and regulating strategies, for example, by encouraging greater accountability, or implementing quality-improvement measures. Tapper and Palfreyman (2009a: 4-5) argue that governments increasingly act as ‘steering states’ in that they develop a system of rewards and incentives to ‘assist’ the academy to improve its ‘performance’. Capturing the ‘impact of the market’ on higher education institutions requires a highly complex analytical approach; nonetheless the main questions seem to revolve around graduates’ ‘employability’.

As the state exercises its power to regulate both the market and the higher education sector, it appears as a sensible approach to examine these three parties in one framework. Olssen and Peters (2005) do this when they conceptualise the increasing convergence of state, market and higher education in a way that considers the shift in ‘accountability models’ within the academy. They argue that ongoing conflicts between neoliberal-managerial and liberal-professional cultures led to a shift from ‘bureaucratic–professional’ forms of accountability to ‘consumer–managerial’ accountability models. Under consumer–managerial forms of accountability, academics must demonstrate their utility to society by placing themselves in an open market and accordingly competing for students who provide the bulk of core funding through tuition fees. If academic research has value, it can stand up to the rigors of competition for limited funds (ibid. 328).

As this passage illustrates, understanding the influence of government policies on the transformation of higher education in recent decades would be a difficult analytical undertaking without taking neoliberalism into account. Underpinning the interconnected network of neoliberal reforms is the advocates’ belief in the progressive-regulative power of the market. In the context of higher education, neoliberalism sees the market as an ultimate tool to ‘ensure’ performance enhancement of the institutions through the implementation of complex ‘auditing’ techniques that are adapted from the corporate sector. While neoliberalism is derived from classic liberalism, there are important differences between the two. As Olssen and Peters point out:
[w]hereas classical liberalism represents a negative conception of state power in that the individual was taken as an object to be freed from the interventions of the state, neoliberalism has come to represent a positive conception of the state’s role in creating the appropriate market by providing the conditions, laws and institutions necessary for its operation. In classical liberalism the individual is characterized as having an autonomous human nature and can practise freedom. In neoliberalism the state seeks to create an individual that is an enterprising and competitive entrepreneur (ibid. 315).

Neoliberalism also assumes a causal and linear connection between competition and quality, meaning the stronger the competition among universities is, the better they will perform as a result (Marginson 1997). In their study of neoliberal transformations of seventeen Australian universities, Marginson and Considine (2000) provide a long list of changes such reforms brought about. They conclude that universities in Australia have changed “more in the 1990s than in the previous 40 years” (ibid. 39). Among the changes is academics’ shrinking freedom to express criticism toward their institution which unmistakably resembles the ethos of ‘corporate loyalty’. Another example of the corporativization of universities is the management’s effort to hierarchise internal governance levels with academic standards on performance indicators dictated in a top-down fashion. Such centralisation may result in a weakening sense of collegiality among teaching staff and in the eroded ethos of ‘professional autonomy’ that once characterised academic work. As a consequence, academics appear to respond to these changes by restructuring and adjusting their professional identity to make it fit with the new, managerial environment (Nixon et al. 2001).

1.7.3 Internationalisation

While universities have had ‘foreign students’ for a long time, the internationalisation of higher education, as a specialized topic, started to attract systematic research attention only recently. Early studies of internationalisation were carried out primarily from a ‘damage-control’ perspective. According to this view, the growing number of international students in a higher education institution was a somewhat ‘problematic’ phenomenon which ‘required’ careful considerations and the allocation of extra resources to handle the potential ‘problems’ that were expected to arise from having a mixed student population. These ‘problems’ were expected to appear in areas of cross-cultural student interactions, student-staff relations, and conceptions of assessment (Ryan 2000, Carroll 2005, Ryan and Carroll 2005).

However, more recent approaches recognise the positive contributions of international students to the wider community. In their introduction to a volume titled *Internationalising Higher Education*, Brown and Jones (2007) promote the need for change in attitudes towards international students. They argue that
To date, recruitment of international students has been seen by many primarily as a source of income generation, a ‘cash cow’, and often diverse students, once recruited, were problematised by the academy and seen as needy of support in a kind of deficit model. Our approach conversely situates the international student at the heart of the university as a source of cultural capital and intentional diversity, enriching the learning experience both for home students and for one another, expanding staff horizons, building a more powerful learning community and thus deepening the HE [higher education] experience as a whole (ibid. 2).

The undoubtedly progressive, yet somewhat overzealous approach outlined above does not mean, however, that potential areas of misunderstandings either between students and staff, or between the students themselves, would disappear. Moreover, emphasizing even a wide range of non-economic, positively-phrased benefits of the ‘internationalising’ campus environment arguably can at most mask, but not change the fundamentally economic nature of the phenomenon whereby international students are valued for their role of being revenue-generating contributors to the institution as well as to the economy of the host society.

The transformative power of internationalisation has long been recognised and well researched in the academic area of international business relationships, well before it received similar attention in higher education studies. Hofstede (1991), for example, identified four broad areas in which cultures may differ: the acceptance of power inequalities within an organisation, the individualistic or collectivistic orientation in social relations and institutions, the extent to which masculine and feminine roles are crystallised, and finally, ‘uncertainty avoidance’ which refers to coping with anxiety. Hofstede’s work has been extended and adapted to a number of academic fields. It also received critical attention in higher education research which contributed greatly to guideline-crafting managerial efforts (Ryan 2000).

Guidelines and pedagogical considerations, however, can barely capture the extent to which the perhaps genuine managerial intentions to ‘internationalise’ are converted into curricular realities within an institution. This is why Jones and Killick (2007) call for a holistic approach to curriculum by emphasizing that “[c]ourse content, teaching methodologies, learning strategies and assessment mechanisms are important, but so too are the extended curriculum activities enabled and encouraged (or disabled and discouraged) through a course” (ibid. 109). Knight (1994: 6) agrees by declaring that curriculum is “the backbone of the internationalization process”. Several experts concur with this assessment (Lemasson 1999, Leask 2001, Schuerholz-Lehr 2007).

The process of internationalising the curriculum always involves a number of academic units and certain key individuals in any tertiary educational institution (for example, the ‘international office’). Webb (2005) proposes that the internalisation of the curriculum is a transformative process with the following four phases: (1), international students study alongside domestic ones; (2), the systematic
development toward an internationalised curriculum; (3), internationalising the curriculum across universities nationwide; (4), systematic efforts to turn individual enthusiasm into practice that permeates the university at all levels so that internalisation becomes a norm, moreover, a requirement for any institution with a significant proportion of international students.

While a number of typologies of internationalisation of curriculum have emerged in recent years, Jones and Killick (2007: 111) argue that most of the classification efforts emphasise either a pragmatically-based or a value-based rationale. The former is most concerned with the skills and gains students achieve as a result of an internationalised curriculum that would ultimately make it easier for students to work and live in an increasingly globalized world. In contrast to the instrumental orientation of the pragmatically-based rationale, value-driven approaches go beyond skill-development as they recognise broader outcomes of the curriculum, such as ‘increased individual responsibility’, ‘developing a general sense for ethics’, including a commitment to human rights, and reducing global poverty. In the core of this approach is the desire towards attitude-transformation of students, aiming to have the following traits internalized by them as a result of their ‘internationalised’ tertiary education: openness, tolerance, broadmindedness, inclusiveness, and a willingness to connect with dissimilar others.

Massification, commercialization and internationalisation are arguably among the key trends that led to the thoroughgoing transformation of the higher education sector in the last few decades. Although the discussion of these factors needs to be kept brief in this introduction, these important trends will be revisited in various parts of the thesis.

1.8 Thesis outline

An extensive review of the higher education-related, interdisciplinary academic literature is carried out in Chapter Two. The research context and the orientation of the study are discussed further in the literature review by way of interrogating the interdisciplinary scholarly works on higher education. In doing so, the literary overview is a foundational, preparatory work toward the conceptualisation of the research problems. In Chapter Three therefore a conceptual framework is proposed, including a formal model of the undergraduate student experience. Moreover, detailed rationales are given for each of the research hypotheses in that part of the thesis. In order to approach the complex research questions, a mixed method study design is employed in the project. This design draws on the strengths of quantitative and qualitative techniques, assuming that their respective limitations can be compensated for by integrating them into one methodological framework. The various methodological considerations are discussed in depth in Chapter Four. The
results from the quantitative and qualitative phases of the investigation are reported in Chapter Five and Chapter Six, respectively, while the more technical aspects of the findings are included in the Appendix. As most of the research questions and hypotheses are approached quantitatively in the study, Chapter Five exceeds Chapter Six in length. However, the qualitative results presented in Chapter Six are invaluable for a more complete understanding of the student experience insofar as they uncover a range of student-related social phenomena that are very difficult if not impossible to explore through purely quantitative techniques. Next, the multi-method derived robust findings are interpreted jointly in Chapter Seven where their relevance is discussed with reference to influential works from several social science disciplines. Finally, the concluding Chapter Eight provides an overview of the doctoral research as whole.
Chapter II — Review of the literature

2.1 General overview

The following sections contain a review of relevant literature and an overview of theoretical frameworks that informed the development of the project. By doing so it draws on interdisciplinary literature from the fields of sociology, social network theory and social psychology. The influence of these intellectual efforts is acknowledged as they benefited the thesis in important ways. The vast majority of higher education studies reviewed here, too, apply multiple elements from these different disciplines in a variety of combinations and therefore their analytical separation in the current chapter serves only organizational purposes.

2.2 Multidisciplinary origin of the relevant academic literature

Higher education research has long been trying to advance the systematic understanding of undergraduate student life and university’s net effect on students. That has not been a trivial task as a thorough review needs to take a variety of factors into account. These factors affect student socialisation which ultimately has impacts on a variety of university outcomes. A thoughtful research strategy requires the adaptation of a multidisciplinary approach that builds upon theoretical frameworks developed in various fields, such as sociology, social network theory and social psychology. It is unlikely that any one discipline (and research technique) would be capable of offering a sufficiently complete account of the multidimensional driving factors of the student experience without a certain degree of penetration into related social scientific fields. Admittedly, one of the main purposes of the interdisciplinary orientation in this project is to ‘domesticate’ concepts that may appear ‘foreign’ to sociology, although a closer scrutiny could reveal their considerable potential to enrich the sociological study of higher education. In particular, insights from social network theory and social psychology were drawn upon in the project, although it is assumed that the borrowing of concepts from what Bourdieu would call “sister fields” (Bourdieu in Wacquant 1989: 54) has not diluted the sociological focus of the study insofar as interrogating the socially constructed nature of the student experience remained at its centre. This way the merit of a sociological analysis — for example, by placing a particular emphasis on the importance of social background characteristics to understand the student experience — can be further strengthened by adapting concepts from social network theory and social psychology in order to capture the complex ways of network formation and social interaction of students. The latter is assumed to
depend partly on patterns of cultural consumption among students. In particular, the preferences for, and the dislikes of musical genres can influence the dynamics of student networks. As explained later in the chapter, an important recognition in the sociology of music is that musical taste can function as a marker of symbolic boundaries and therefore it can be accepted as a proxy for cultural taste. In order to highlight the socially constructed nature of cultural boundary-making, a brief outline of the sociology of art is included in this chapter.

Though not an exhaustive list, the aforementioned disciplines may offer a sufficient background for conceptualization efforts that aim to grasp influential factors of the undergraduate student experience. However, the systematic interrogation of these factors is a challenging research endeavour inasmuch as separating ‘institutional’ influences on student socialisation from natural maturation effects is fraught with enormous methodological complexities. Nevertheless, it is assumed that by integrating findings from the interdisciplinary higher education literature into a coherent analytical framework one could reveal much from the complex nature of undergraduate socialisation. These considerations have guided the review of the literature.

Academic interest in higher education research has been growing at an increasing pace, with the number of publications expanding in each decade. There are several reasons contributing to the proliferation of studies on the subject matter. First, the increasing number of students enrolled in higher education after World War II in developed countries resulted in a greater focus on the student population, not least because they provided researchers with readily available subjects for research. Second, the student protest movements in the United States and Western Europe in the late 1960s affected higher education research in a way that academics wanted to develop a comprehensive understanding of the ‘student culture’. Finally, the proportion of international and exchange student growth within large universities in a globalized and relatively open higher education market after the fall of state-socialist political systems in the 1990s provided scholars with a ‘new’ research territory: international students. The increasing diversification of the student body in higher education, however, cannot be explained solely by the growing number of international students. The proliferation of studies in higher education can be partly attributed to the increasingly competitive professional climate at the universities in which quantifiable research output (number of academic publications) is a decisive factor in promotional decisions.

8 While Feldman and Newcomb’s classic review (Feldman and Newcomb 1969) encompassed 1500 studies from a 40 year period, Pascarella and Terenzini’s first review (Pascarella and Terenzini 1991) reported on 2600 studies from the preceding two decades, their latest — and to date the most comprehensive — synthesis included 1300 studies from the 1990s alone (Pascarella and Terenzini 2005). There is no reason to believe this trend will change.
2.3 Sociological approaches

The first branch of the reviewed literature draws on various sociological approaches. A common theme in these works is that they are primarily concerned with the wide-ranging social impacts of higher education. For example, an influential line of research explores the ways in which the unique learning environment of the university socialises students (as well as other participating parties) in significant ways. In contrast, other perspectives are primarily concerned with the ways through which broader stratification patterns are generated through higher education. Correlatively, these patterns depend on the academic field of study insofar as the student experience is shaped differently by the distinct organizational environments in which the learning takes place (for example, schools, departments and other academic units) within the university.

2.3.1 Student socialisation

Measuring either the academic or social net effect of university may not be done effectively without reconstructing what factors constitute student life. As important as descriptive institutional statistics, such as GPA, attrition rate, length of study, chosen major, and so forth are, they are incapable of revealing more latent dimensions of undergraduate socialisation that ultimately affect employment outcomes and post-university life in general.9

While by the 1980s many aspects of student life had been explored by higher education researchers, topical dispersion across studies and difficulties in generalizing results prevented systematic theory development of student socialisation. One of the earlier models of student development was proposed by Pascarella (1985). Focusing on the sources of the learning and cognitive development of students, he identified five broad factors that have direct and indirect effects on this student outcome. The five sets of independent variables are arranged in his model so that they reflect a particular order in influencing the dependent construct. The five sets of predictors of the dependent variable are (1) institutional characteristics, (2) pre-university student traits, (3) institutional environment, (4) interaction with teaching staff and peers and (5) quality of student effort. This list reflects the undeniable complexity of cognitive developments of students. However, his model can be mainly understood as a plausible theoretical description of the influencing factors of the chosen outcome construct rather than as an empirically derived one. Arguably, the compellingly labelled independent constructs are not sufficiently precise for empirical investigation, and this limitation

9 Some of the most consistent evidence of the positive effects of higher education on ‘exstudent’ life relate to various dimensions of direct and indirect health-benefit (Leigh 1998; Ross and Mirowsky 1999; Silles 2009; Braveman et al. 2011) and to the material and non-material domains of the ‘quality of life’ (Edgerton et al. 2012).
can severely hinder operationalization efforts. For example, within the broader set of student backgrounds (“pre-university student traits”), Pascarella proposed several complex factors, such as “aptitude”, “personality”, “aspiration”, and the like that could arguably be subjects to separate studies in their own right. Other, mediators in his model, such as “institutional environment” and “quality of student effort” are also intricately complex. The development of valid and comprehensive measures for each of the components in the model would be a challenging task in separate studies. However, researchers could face even more difficulties in trying to gather reliable data in each of the six factors simultaneously. On the other hand, the pioneering work of Pascarella is among the first modeling efforts to combine student background characteristics with institutional ones to capture an undoubtedly important ‘developmental outcome’ of tertiary education.

A different model of the student experience was formulated by Weidman (1989) who developed the first comprehensive framework of undergraduate socialisation. Although the focus of his model is firmly sociological insofar it incorporates a broad set of social background characteristics into an explanatory model, it also takes psychological factors into account in a balanced manner. His addition of sociological factors to a model of student socialisation was a novel and progressive step, as previous conceptual frameworks tended to focus on the ‘developmental nature’ of the student experience, drawing on the work of Erikson (1950, 1968) and Chickering (1969). Although psychosocial models have been criticized by sociologists before Weidman, he was the first who managed to integrate a very broad set of variables into a coherent theoretical model.

Weidman argues that developmental theorists tend to focus on the following four sets of variables to capture the ‘college impact’: student background characteristics, college environment, student integration to college, and college effects. He argues that the vast majority of higher education studies that examine these four, analytically distinct areas of student life suffer from a serious limitation. In his view, researchers often register the occurrence of certain changes between two time points (for example, based on a pre-test — post-test study design), they rarely offer a conceptually thoughtful explanation of them. As Weidman (1989: 293) notes:

> [a]uthors seldom develop and adequately operationalize a conceptual framework to explain the relationships among variables. (...) If knowledge of how college influence their students is to be extended, researchers on college impact should begin to pay closer attention to identifying and operationalizing the specific social and interpersonal mechanisms that transmit and mediate the influences of the college environment.

Based on these considerations, he suggests that a fruitful research strategy to understand undergraduate socialisation begins with identifying the norms of salient groups that affect student

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10 One such critique of developmental theories was provided by Dannefer (1984) who argued that environmental factors greatly influence all levels of development, such as on the macro, organizational, and micro levels.
life on one hand, and then systematically exploring the extent to which individuals are integrated into those groups on the other. This approach allows the interpretation of a set of ‘university effects’ as ‘socialisation outcomes’. Weidman proposes four socialisation outcomes of the student experience: career choices, lifestyle preferences, aspirations, and values. Although the tracing of psychosocial changes is evidently important in his model, Weidman also places a strong emphasis on material dimensions (for example, career choices and lifestyle preferences) of student life which are undoubtedly important in sociological investigations. Another novel aspect of his model is that it conceptualises occupational outcomes as one of the explicit aims of tertiary education.

Weidman acknowledges the influence of Thornton and Nardi (1975) who proposed that the process of role fulfilment is comprised of four analytical stages: anticipatory, formal, informal, and personal. Weidman goes further by distinguishing between interpersonal and intrapersonal aspects of the socialisation process. The former can be understood by taking the intensity of sentiments between group members as well as the frequency of the interaction into account. Intrapersonal aspects of student socialisation relates to the attitude students hold towards the university: favourable opinion (satisfaction) contributes to successful integration into university life, and therefore higher likelihood of persistence, while the opposite may lead to attrition or even early departure.

At the core of Weidman’s concept are variables of ‘normative context’ that he divides into academic and social dimensions, drawing on the distinction by Tinto (1975). These two dimensions then are further subdivided by Weidman into formal and informal parts in the following way: the formal academic dimension contains “institutional quality”, “institutional mission”, “major department”; “hidden curriculum” constitutes the informal academic element; formal social dimension encompasses “institutional size”, “residences”, and “organizations”; finally peer groups belong to the informal social dimension (Weidman 1989: 299). Weidman could draw on several theoretical advances that were unfolding around the time he proposed the model of student socialisation. His comprehensive framework attempts to bring divergent research traditions embedded in psychological and sociological backgrounds together. Understanding undergraduate socialisation is important not only from a ‘student culture’ perspective, but it also has implications on what can nurture students’ successful academic and social integration into the university which ultimately impacts persistence and employment outcomes.

2.3.2 Credentialing theory

It is not a recent recognition in sociology that schools have a fundamental sorting (‘sieve’) function to facilitate social opportunity (Sorokin 1927). With the ending of the Cold War era and the
‘triumph’ of capitalism, the trends of globalisation have further advanced in line with neoliberal ideology that has dominated political economy in the West since the 1970s (Centeno and Cohen 2012). A parallel phenomenon is the sequential expansion of the tertiary education sector which can be celebrated on the grounds that it made a wealth of socio-cultural opportunities available to a growing segment of the population. On the other hand, this development brought with it the devaluing of non-tertiary educational credentials.

These trends are evident in a recent OECD report (Organisation for Economic Co-operation and Development 2011: 36-42) that reveals that the average, annual growth rate of those with tertiary education among the 25-65 year-olds in the OECD countries was about 3.7 percent between 1999 and 2009. During the same period, the rate of those with only “below upper secondary” educational qualifications dropped annually by 3.4 percent. The expansion of higher education shows similar patterns in New Zealand: the proportion of those with tertiary education grew annually by 3.5 percent with a simultaneous drop of 3.1 percent for those without an upper-secondary education among the aforementioned age group. As a result of this expansion, about 40 percent of the 25-64 year age group had a tertiary degree in 2009 in New Zealand in contrast to just 27 percent in 1999. This compares to a more modest growth in the OECD average with respect to the proportion of those with tertiary credentials, increasing from 21 percent in 1999 to 30 percent by 2010. Moreover, recent governmental data (Ministry of Education 2011c) reveals that 399,076 students were enrolled in the public higher education sector in 2010, compared to 51,613 in 1965 (the first year available in the report), representing a nearly 8-fold increase.11 The international student participation in the public tertiary educational sector has also increased, from 6,827 in 1994 (the first available year) to 35,119 in 2010 while it reached its peak in 2004 with a record number of 41,550 overseas students.

It is clear that the pursuit of higher education credentials plays a central role in broader status attainment processes. However, higher educational credentials are valued unevenly in the different status groups within the social strata. For example, among the elite, holding a university diploma may be an automatically assumed necessity, without being a particular marker of distinction. In contrast, a tertiary degree can arguably become a valuable currency that marks achievement in less endowed social groups in which holding such educational credentials is less common.

At its core, credentialing theory interrogates the complex dynamics between bureaucratized higher education and occupational placement. Educational expansion is interpreted by credentialing theorists as “the growth of culturally based, stratifying entry barriers to occupations and

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11 During the same period, the population of New Zealand has grown from 2,628,400 in 1965 to 4,367,800 by 2010, corresponding to only a 1.7-fold increase (Statistics New Zealand 2012: 20-21).
organizations” (Brown 2001: 19-20). In doing so, they draw on the Weberian theory of educational credentialism which posits that pursuit of credentials is a key driver of educational expansion which ultimately impacts the way in which society is stratified. Although credentialing theory concerns status attainment, its initial argumentation can be found in Weber’s seminal work on bureaucratization. The origin of the theory can be traced back to a particular passage in *Economy and Society*, in a section titled “Educational specialization, degree hunting and status seeking” which itself is located in a chapter titled “Bureaucracy and Education”. In this section Weber (1922/1978: 999-1000) argues that

> [t]he bureaucratization of capitalism, with its demand for expertly trained technicians, clerks, etc., carries (...) examinations all over the world. This development is, above all, greatly furthered by the social prestige of the “patent of education” acquired through such specialized examinations, the more so since this prestige can again be turned to economic advantage. The role played in former days by the "proof of ancestry", as prerequisite for equality of birth, access to noble pre-bends and endowments and, wherever the nobility retained social power, for the qualification to state offices, is nowadays taken by the patent of education. The elaboration of the diplomas from universities (...), and the universal clamor for the creation of, further educational certificates in all fields serve the formation of a privileged stratum in bureaus and in offices. Such certificates support their holders' claims (...) to be admitted into the circles that adhere to "codes of honor" claims for a "status-appropriate" salary instead of a wage according to performance, claims for assured advancement and old-age insurance, and, above all, claims to the monopolization of socially and economically advantageous positions.

These original insights of Weber gave rise to an entire new wave of critical analysis in sociology that focuses on the conflicts arising out of the interest-differential between groups, institutions and organizations. Social stratification, is, then not based only on interclass struggle as suggested by Marx, but rather it emerges out of conflict interest between status groups which are the fundamental locations of social action (Kalberg 2011). Analyses in this vein are “concerned with the dynamics of organizational forms (...) [since] organizations are the way in which social action takes place; struggles of organizations determine what happens historically” (Collins 2007: 385).

As the interlinked trends of bureaucratization and rationalization has been accepted as a starting point of critical analysis in the neo-Weberian branches of sociological thought, sociologists of tertiary education, too, begun to focus on the implications of the massified bureaucratic organizations that universities have become. Much of the critical account of the rapid expansion of bureaucratized higher education was given by credentialing theory. Although many credential theorists have written predominantly, yet not exclusively in the context of the higher education in the United States, the historical development of that system has undoubtedly influenced university managements in other English-speaking countries that later embarked on ‘export education’.
In exploring the theoretical origins as well as future trajectories of credentialing theory, Brown (2001) suggests that there is a tension between the Marxian and Weberian interpretations within the sociology of education. While the Marxian analysis may be adequate to capture the ways in which the dominant capitalist ideology uses the lower level (compulsory) sectors of education in order to conserve class inequalities, a more complete analysis of the complex driving forces of higher education can be articulated in a Weberian framework. The ‘division of labour’ between the two critical traditions is by no means to suggest that Marxian perspectives are inherently invalid in sociological analyses of tertiary education. Brown argues that one of the distinct features of credentialing theory, and one that makes it superior to Marxian analyses lies in the recognition whereby “educational degrees (particularly higher degrees) are indeed power phenomena, but that they are manipulated by a variety of occupational groups and educators, often to the detriment of capitalists’ desires” (ibid. 21). Not only is the relative autonomy between higher education and its host society a central assumption in credentialing theory, but the immense heterogeneity in the various groups and agencies trying to influence the content as well as the outcomes of education in a contested social space is also acknowledged in it.

The historical-political origins of educational expansion are given considerable attention in credential theory. In the era of the Cold War competition between the two superpowers, the expansion of the tertiary education sector in the United States was fuelled by the desire of the political elite to overcome the perceived economic and scientific deficiencies in comparison to the Soviet Union. In one of the first comprehensive accounts given on credential theory, Berg (1970) documented how the debates around educational reforms intensified after the launch of the Sputnik (the first satellite) in 1957, resulting in the National Defense Education Act in the following year which increased funding to all educational institutions. This was also the period during which economic growth was presented as a direct result of educational investments, a central tenet to what later became known as the theory of human capital (Schultz 1961, 1963; Becker 1964). Its main argument, whereby “improvements in the quality of human resources are one of the major sources of economic growth” rapidly gained political support since “[t]he idea fell on willing ears in a society that accepted a mechanistic interpretation of the relationship between education and employment” (Berg 1970: 9).

12 The Marxian interpretation of reasons behind educational expansion is not unprecedented, however. In this account (for example, Bowles and Gintis 1976), the causes of ‘overeducating’ are reduced to the interests of the manipulative capitalists who are “cleverly usurping otherwise benign educational action in order to gain cheap training” (Brown and Bills 2011: 136). The highly flexible student workforce is one that is also easily exploitable by employers, as evident in the New Zealand context (Casey and Williamson 2007).
The systematic dismantling of the unreflexive, nearly utopian belief in a direct, linear relationship between education and employment has been a central feature of credential theory. In particular, it was argued that work performance (productivity) is not related to educational credentials, an argument that was articulated in depth as well as tested empirically first in Berg (1970), although the declining relationship between educational levels and occupational prestige (Folger and Nam 1964) or the negative effects of ‘overeducation’ — whereby students are “doomed to disappointment after graduation, as the number of coveted openings will be substantially less than the numbers seeking them” (Harris 1949: 64) — have been discussed prior to the fame of The Great Training Robbery, and not necessarily in a Weberian framework.\(^\text{13}\) For example, an early critique of excessive credentialing was given by Sorokin (1927), who was concerned, that by increasing the rapidity of production of university graduates; by making graduation comparatively easy; by singing hymns to the great significance of university graduation; by paying little attention to moral education; and by failure to place graduates in proper positions; our universities are preparing dissatisfied elements out of these graduates. (…) [I]nstead of a social benefit, a further increase of graduates, B.A.’s, Masters, Ph.D’s, and so on, may lead to social harm (ibid. 201).

Despite the moralizing language behind these concerns, it is evident from this passage that the looming problems of educational credentialing were difficult to ignore by the 1920s. This is not surprising, given that educational expansion of higher education has been well underway by the time this phenomenon was noted by Weber or by Sorokin. Drawing on Randall Collins’ influential The Credentialing Society, Brown (1995) identifies the 1890s as an approximate period during which the expansion of undergraduate education began to accelerate. Brown argues that the two-tier nature of higher education (an undergraduate degree is a prerequisite for postgraduate enrolment) had been established by 1920s, and the “fundamental structural and cultural features of educational expansion and credentialism crystallized by the 1930s” (ibid. 163).

The development of a nearly autonomous higher education sector in the context of the United States has its roots in the historical specificities of the educational expansion throughout the process of nation building in the 19th century (Collins 1979). This is in stark contrast to the European context in which the influence of the autocratic governments and the Church on university governance has

\(^{13}\) The bureaucratic expansion of education received criticism outside the educational profession as well. For example, it was heavily criticized by Illich (1971) on the ground that excessive institutionalization has an adverse (and ultimately dehumanizing) effect on the otherwise positive organizational goals of education. He argues that the socially positive educational intentions are destroyed when transplanted into an institutionalized setting. In a now well known passage he notes that “[e]qual educational opportunity is, indeed, both a desirable and a feasible goal, but to equate this with obligatory schooling is to confuse salvation with the Church. School has become the world religion of a modernized proletariat, and makes futile promises of salvation to the poor of the technological age. The nation-state has adopted it, drafting all citizens into a graded curriculum leading to sequential diplomas not unlike the initiation rituals and hieratic promotions of former times” (ibid. 15). Illich’s initial argument called for the deschooling of society, although the central, anti-institutional argument was applied to other institutions in his later works, for example, health care (Illich 1975) or psychiatry and social work (Illich et al. 1977).
prevented the development of an autonomous tertiary educational sector. From the early stages of
the educational expansion in the United States, commercialism has been a central feature of the
universities, even in areas that otherwise projected an altruistic self-image to the public, for example
medicine. Collins pointed out that the professionalization of academic teaching has progressed
historically under the pressure of conflicting interest groups, each masking their self-interest with
appealing rhetoric. He warns that

[one should not be deceived by the rhetoric of laissez faire used by many conservatives and the
rhetoric of regulation in the "public interest" by many liberals. Both sides fight for government support
of particular monopolies and privileges, with the conservatives seeking these for business groups, the
liberals for particular (…) labor groups, government employees, and professions. (…) [T]he rhetoric
of "protecting the public interest" (…) is mainly a dissimulative ideology, and that the activity serves
the economic interests of the groups involved (ibid. 179-180).

Utilizing the rhetoric of ‘public benefit’ while framing the activity of a given status group as
altruistic, however, is not entirely unfounded. Collins argues that the professional work ethos is
indeed rooted in altruism insofar as it is manifested in the in-group suppression of excessive striving
for individual self-interest. The moral underpinning of the pro-public rhetoric points to the general
superiority of the interests of the community over the ones of the individual. One can then expect
that professions “define themselves in altruistic terms, and that at least a certain aspect of this
should be convincing. For moral categories refer to the pre-eminence of the community over the
individual” (ibid. 180). Altruism therefore may be a genuine motivational driver of individuals
within the professional occupation group, but not outside of it, at the broader societal level, in
which it becomes a rhetorical tool that group members employ in public appearances. When the
distinction between the private community of the occupational group and the society at large is not
realized, it can happen that “the rhetoric of altruistic dedication to the former [will] slide over into
an appearance of altruism toward the latter” (ibid. 180).

According to Collins, an even more problematic aspect of educational expansion is that it “had no
effects at all for increasing opportunities for social mobility. There is no alleged shift from
‘ascription’ to ‘achievement’” (ibid. 182). Although higher education has been the subject of
incessant quality-improving proposals by various parties, including education scholars and
governmental agencies, these attempts cannot alter its fundamental operational logic which is based
on students’ pursuit of status. Collins argues that it is essential to realize that

education is part of a system of cultural stratification and that the reason most students are in school is
that they (or their parents on their behalf) want a decent job. This means that the reasons for going to
school are extraneous to whatever goes on in the classroom. Reformers expecting that intellectual
curiosity can be rearoused by curricular reforms or by changes in the school authority structure were
projecting their own intellectual interests onto a mass of students for whom education is merely a
means to a nonintellectual end (ibid. 192).
It has been mentioned that the intellectual origin of credentialing theory is Weberian in that it recognises a certain degree of autonomy of the higher education system which is assumed to be operating under the pressure of competing socio-political and economic forces. For this reason, credentialing is indeed connected to political and economic dynamics in the society, not least because of the institutions of higher learning can help maintain a low unemployment rate by warehousing of students. Hence the economic importance of the educational system can be recognised not only as a provider of technical skills for the knowledge economy, but also “as a counterbalance to excess industrial capacity” (ibid. 194). This is why credentialing tendencies appear to have no upper limits, since any drastic political action to stop, let alone reverse them would predictively result in disastrous social and economic consequences, a point Collins reiterated more recently (Collins 2002).

2.3.2.1 Detrimental effects of credentialing

From a critical-historical perspective, Labaree (1997) notes that the expanding credentialing tendencies in higher education have damaged the historically developed, fine networks of institutionalised knowledge acquisition that characterised academia in earlier times. This latter function of higher education is overshadowed by extensive credentialing which “reshaped education into a commodity for the purposes of status attainment and has elevated the pursuit of credentials over the acquisition of knowledge” (ibid. 39).

According to Labaree, the debates around the role of universities in society originate mainly in two competing ideological positions that have markedly different expectations from higher education. These are social mobility and social efficacy. The social mobility approach stems from classic political liberalism which emphasises the ideology of meritocracy while it also promotes democratic equity. Labaree argues that the “compromise between democratic and liberal politics and between egalitarian and meritocratic social ideologies” (ibid. 61) brought a series of remarkable social achievements through the democratic expansion of higher education. In contrast, the social efficacy approach emphasises a neoconservative ideology that sees the structural function of education as an ‘effective’ sorting mechanism of students toward the diverse set of occupational positions in society. Understandably, this view is endorsed by business leaders whose interest is generally represented in neoliberal policies. However, the social outcome of a higher education system that exclusively operates under the spell of ‘vocational efficiency’ is ultimately the reproduction of social and cultural inequalities. In other words, by reproducing the existing occupational structure (with perhaps minor adjustments, based on perceived ‘market needs’), the university may arguably
cement social inequalities rather than mute them. While the socially progressive ‘mobility advocates’ raise students’ occupational expectations by emphasising individual opportunity, the conservative ‘efficacy advocates’ try to counterbalance such optimism by pointing to the limited employment possibilities of certain programmes. The struggle between these two, complex coalitions “has often been fought (…) over the issues of tracking, guidance, and vocationalism” (ibid. 63). To complicate matters further, the demand for effective education can also be approached from a pragmatic ‘taxpayer perspective’ whereby “the primary goal of education is to produce the work force that is required by the occupational structure in its current form and that will provide measurable economic benefits to society as a whole” (ibid. 63).

The aforementioned two conflicting approaches have played central roles in political debates around tertiary education and their recurrent clashes advanced the credentialing tendencies even further. Under such circumstances the university became a target of criticism in which ideological and pragmatic concerns were entangled in a complex mix. These developments have resulted in an ideological stalemate that essentially ensured the reproduction of social inequalities, an effect in direct opposition to what is encapsulated in the social attainment thesis.14

Rampant credentialing is counterproductive on multiple levels. Students may be among the first victims. This is because they — after being surrounded by the socio-economic promise of education throughout their educational lifetime — may experience the harsh economic realities upon entering the increasingly competitive labour market with devalued credentials. As Labaree puts it: “[t]he credentials market (…) becomes the place where the aspirations raised by education meet the cold reality of socioeconomic limits, where high educational attainment confronts the modest possibilities for status attainment” (ibid. 72). In addition, excessive credentialing negatively affects the institutions, too, as they become filled with students who would forgo time consuming and mentally demanding learning in exchange for the acquisition of credentials obtained through “surrogate learning” (ibid. 72). Finally, the negative impact of credentialing is also evident at the broader societal level since the collective pursuit of higher credentials has high social and economic costs. These developments make credentialism “astonishingly inefficient (…) In short, education becomes little but a vast public subsidy for private ambition. The practical effect of this subsidy is the production of a glut of graduates” (Labaree 1995: XIV). The inefficient and wasteful nature of credentialism has been repeatedly emphasized by Collins (1979, 2000a, 2002) as well.

14 Although the thesis of social and cultural reproduction is most commonly associated with Bourdieu (this is going to be discussed later in this chapter), the role Labaree (1997) attributes to higher education in the reproduction of social inequalities is rather passive and it emerges as merely a ‘side effect’ of conflicting ideologies. He notes that “[c]ountering the pessimism inherent in the goal of social efficiency, the credentials market offers unlimited possibilities for status enhancement; countering the optimism embodied in the goal of democratic equality, this market provides for only one certainty, and that is the persistence of stratified outcomes” (ibid. 72).
Educational expansion is a fundamental aspect of credentialing theory; however, it is also important to investigate what roles credentials play in the actual hiring decisions of employers. A series of empirical investigation of the relationship between educational credentials and job performance led Bills (1988a; 1988b) to conclude that educational credentials have a limited effect on job productivity insofar as “credentials serve primarily to get people in the door (…) Managers who promote from within have ready access to information that makes reliance on credentials unnecessary” (Bills 1988b: 58). In his early studies on the same topic, Collins (1971; 1974) also noted the relatively weak relationship between educational level and job performance, but he also cautioned that the strength of that link varies between different types of jobs thus providing evidence for “the relative importance of education in different contexts” (Collins 1971: 1016).

2.3.2.2 Credentialing in New Zealand

The growing global influence of social network research as well as of the theory of weak ties (Granovetter 1973, 1983) allowed social scientists to investigate the roles educational credentials play in the hiring decisions of employers in new ways. By interviewing 32 human resource managers from the screen production and the biotechnology industries in New Zealand, Strathdee (2008) demonstrates that educational qualifications alone do not signal workers’ capacity for productivity. The sociological study of these industries has particular policy relevance in New Zealand as they — along with ‘information communications technology’ — are among the three officially recognised “future growth areas” that are projected to contribute significantly to the country’s economic growth (Immigration New Zealand 2012).

In the case of the screen production industry, higher education qualifications are largely ignored in hiring considerations insofar as schools become merely a convenient place to look for workers, when needed. In contrast, employers place considerable emphasis on extracurricular as well as previous work experiences of students in the recruiting process while the employment prospects are minimal to those who went straight to university, followed by perhaps a couple of years of traveling. There are a variety of skills (some of which have little to do with ‘creativity’) needed in the screen production industry, and there is no evidence that these skills could be acquired through formal training. On the contrary, the collapse of a former industry training organization, Film and Electronic Media in 2000 “suggests that employers in the field either see no need for a systematic approach to training or had no faith in the ability of the Film and Electronic Media Industry training organization to deliver it” (Strathdee 2008: 94). The underlying driver of educational expansion stems from a naïve adherence to what Strathdee calls the ‘training gospel’ which is essentially a
parallel argument to the simplistic and mechanistic view of the education-to-job link, previously criticized by Berg (1970). The unfortunate outcome of educational expansion in the creative industry sector is the reproduction of social inequalities. This is not necessarily due to certain higher education entry barriers (financial, aptitude-based, or otherwise), as students “from all social backgrounds” can still gain admission to elite universities in New Zealand, depending on their academic success in the compulsory educational sectors (Strathdee 2011: 45). Instead, inequalities are reproduced because of the inadequate training within the institution that appears to neglect the need of students to be endowed with crucial social networking skills. Without the “quality advice about the rules of advancement in the field” (Strathdee 2008: 109) becoming an integral part of formal training, students have little prospects of converting educational qualifications into desirable employment outcomes. In contrast to screen production, the formal educational credential is an indispensable part of recruiting decisions in the biotechnology industry but by no means is it the final word in them. Social networking skills remain highly valued as employers seek new ways to assess the ‘suitability’ of candidates to each position. Holding (usually) a doctoral degree is merely a prerequisite to the jobs in biotechnology, but it may not be particularly revealing about the complex skills that are demanded by employers in this field. In order to get the information about the candidates’ suitability to the jobs, managers still heavily rely on conventional networking skills in making hiring decisions.

In general, Strathdee argues that the effects of educational expansion can only be assessed with respect to particular fields, since educational qualifications are valued to different degrees in them. Moreover, labour market growth can occur in sectors in which formal qualifications “are poor measures of the skills and qualities demanded” (Strathdee 2005: 445). This distinction is important insofar as encouraging further expansion of participation in degrees that have little or no employment prospects in the labour market will unlikely to have socially desirable consequences. Both the political elite and the higher education sector (an industry indeed) can be blamed for the acceleration of credential inflation which virtually compels employers to devise ever new techniques to assess the candidate’s suitability to particular positions. As Strathdee explains,

[encouraged by their political masters, providers of tertiary education have further compounded the problem by producing many more graduates than can reasonably be absorbed by the labour market. As a result, employers are seeking out new ways of distinguishing between graduates while maintaining their use of traditional methods, including employing network recruitment methods and using psychometric tests (ibid. 167-168).]
2.3.2.3 Methodological challenges and the future of credentialing theory

The macrosociological orientation in credentialing theory is evident in its focus on offering a sociohistorical explanation to collective mobility. The principal methodology commonly employed in this framework is historical sociology. Although far from being inherently ‘hostile’ toward empirical approaches, historical sociology, as a method puts considerably more emphasis on the logical validity of arguments than techniques that rely heavily on the statistical power and testing. This recognition led Collins (1984) to declare the superiority of historical method over others that adopted statistics as an exclusive validating device of arguments. He adds, however, that statistics ought not be expelled from social scientific investigations altogether. Rather, a realistic compromise for its role in advancing theories lies between the extremes of anti-positivist rejection on the one hand and statistical dogmatism on the other. Based on the above, Collins proclaims that statistics cannot work as an “intellectual straitjacket” in sociology, rather, its role is to “boost (…) our theoretical imagination” (ibid. 331).

The dominance of the historical approach in credentialing theory is fairly unsurprising, given the complexity of all the factors that are included in its analytical framework. A comprehensive empirical, longitudinal, and large scale investigation of the socio-historical drivers of credentialing processes is virtually unfeasible as the data collecting difficulties of such a research endeavour would be formidable. However, according to a recent survey of the current state of credentialing theory by two of its prominent practitioners, it is stated that the theory would benefit from interdisciplinary collaborations, perhaps more so than was the case in its previous prime period (Brown and Bills 2011). This would arguably bring not only new perspectives on data-collecting strategies but also fresh theoretical insights from neighbouring social science disciplines. The thoughtful matching of applicable theories with the compiling of comprehensive data is what is needed for credentialing theory to remain viable. One cannot disagree with the concluding remark of Brown and Bills regarding the future of the theory whereby “[i]t seems that the well is not dry, but it may need priming” (ibid. 138).

2.3.3 Institutional stratification and fields of study

The undergraduate student experience is shaped not only through the socialisation effects of student peer groups, but it is influenced by the institutional stratification of the higher education sector. Moreover, the major field of study, too, can be assumed to make a significant impact on the
learning experience of students insofar as academic learning is affected by the goals (formal and informal) set by the administration.

In a classic study, Vreeland and Bidwell (1966) distinguished between technical and moral goals of an academic department. Technical goals involve intellectual structure and practical preparation to field-related occupations, while moral goals concern the implicit and broader ‘humanizing’ effects of higher education. Another theoretical approach in this line stems from the vocational choice theory of Holland (1959, 1997). Holland classified the normative pressure within academic majors and matched them with corresponding personality types (realistic, investigative, artistic, social, enterprising and conventional) of occupants of that major. For example, studying in the social sciences may be recommended for those with an ‘investigative’ orientation, whereas those with an ‘enterprising’ character would likely succeed in business and management fields. Congruence between personality types and academic major characteristics supports student persistence, while mismatch may result in dissatisfaction and early departure. Though the list of personality types employed in this model is not exhaustive, there is some evidence suggesting the cross-cultural validity of vocational choice theory (Richards 1974).

The difference in the student experience can be captured between different fields of study within an institution. Indeed, student experience is generated in an academic environment that is field-specific to a considerable degree. Intuitively, the classification of the undergraduate experience could follow ‘conventional’ typologies of academic fields, such as the one corresponding to the ‘social’ versus ‘natural’ sciences distinction. However, there are no unambiguous ways of deciding on the exact number of higher level units (corresponding to those distinct fields) that a researcher would need to use in a given research context.

There have been multiple ways of classifying academic fields in higher education research, most of which draw on the paradigm concept of Kuhn (1970). These include the classification of ‘soft’ versus ‘hard’ academic fields proposed by Lodahl and Gordon (1972) that largely corresponds to the ‘social’ versus ‘natural’ science distinction (Brint et al. 2008), or the one that considers the criterion of “requirements for practical application”, articulated by Biglan (1973: 196). Another line of classification scheme is based on the typology proposed by Holland (1959; 1997) which inspired a large body of scholarly work in higher education research (Huang and Healy 1997; Spokane et al. 2000; Feldman et al. 2004, 2008; Pike 2006). The Holland-typology is, however, firmly anchored in the fields of vocational counselling and psychology and therefore it is arguably less suitable for a sociological investigation of the undergraduate experience.
2.3.4 Human Ecology theory

Human ecology theory inspired higher education research since it recognised that student persistence and success have socialisation-related as well as institutional determinants. Students’ peer-effects are created in a particular organizational environment in which individuals are constrained by instructional and departmental norms. However, these norms are also affected by the ways in which students interact with one another. Based on this consideration, Renn and Arnold (2003) argue that the interactional nature of the peer influence and the student environment needs to be taken into account in higher education research. They outline a new conceptual framework by drawing on Kuh’s definition of student peer group which offers a synthesis of previous efforts whereby: “[a]n undergraduate student peer group is any group with which individual members identify, affiliate, and seek acceptance and approval over a prolonged period” (Kuh 1995: 564).

The aforementioned authors drew on the human developmental-ecological framework which was developed by Bronfenbrenner (1974, 1993, 1999) who offered a novel interpretation on how undergraduate peer culture affects student development. In order to appreciate the contribution of the model of Bronfenbrenner (1993) to higher education research, a brief introduction of ecology system theory will follow, starting with his definition of human ecology theory:

>[t]he ecology of human development is the scientific study of the progressive, mutual accommodation, throughout the life course, between an active, growing, highly complex biopsychological organism — characterized by a distinctive complex of evolving interrelated, dynamic capacities for thought, feeling, and action — and the changing properties of the immediate settings in which the developing person lives, as this process is affected by the relations between these settings, and by the larger contexts in which the settings are embedded (ibid. 7).

In this model each individual’s ecology system consists of four dynamic networks that mark the person’s social place, starting from the face-to-face relations in the centre to the broadest social contexts of culture and class at the periphery. These systems are: microsystems (face-to-face and intimate relations), mesosystems (flatmates, friendship groups, colleagues), exosystems (immigration policy, curriculum, parental or spousal work settings, national financial aid policy) and macrosystems (cultural expectations, historical trends, political environment). A crucial assumption in the model is that individuals actively respond to stimuli and therefore affect the environment in distinct ways, based on their personal characteristics. Bronfennbrenner refers to these predispositions as developmental instigative characteristics. They can be divided into four types, with the following labels: ‘selective perceptibility’ (students elicit different kinds of responses from peers, faculty members), ‘selective responsivity’ (students react to their environment differently), ‘structuring proclivities’ (preference in engaging activities with different
levels of complexity), and ‘directive beliefs’ (motivational drivers of academic excellence). It follows from the theory that the actual settings of students’ interactive mesosystems (for example, the family, education, and work) have strong developmental effects on students. Some environments, however, are more favourable than others to induce (or hinder) student development, based on the composition of individuals’ personality traits. In short, congruence between the institutional setting and personality traits is expected to affect students’ development favourably, while their discrepancy can delay it.

2.4 Theory of Capitals and Social Network Theory

A distinct line of research tradition from the ones that have been discussed so far stems from various capital theories. These approaches tend to focus on social, cultural, and human capitals. Notwithstanding the differences between them, all capital metaphors refer to a particular advantage in a specific network, considering that some participate in social interactions with a larger share of resources than others. The resulting capital-advantage then can be used for various purposes. In the following section a brief overview of social capital and social network theory, cultural and human capital theories, and lastly, cultural theory is carried out.15

2.4.1 Social capital

In his critically acclaimed monograph on the subject, Lin (2001) defines social capital as “investment in social relations with expected returns in the marketplace” (ibid.19). He allows ‘marketplace’ to be conceptualized in the context of the actual research. In this regard the social capital of university students may relate to, and can be measured by, the composition of their social networks, while benefits (which are mediated through successful social and academic integration to the university) may affect various domains of student life, such as mental and emotional well-being and occupational outcomes.

Lin identifies four reasons why embeddedness in a network may benefit a person. These are: easier access to information, bigger influence exertion on others, possessing social credentials derived from membership, and identity reinforcement provided by members. On the other hand, social closure caused by the ‘plethora’ of social capital may have numerous disadvantages, as has been pointed out by others (Portes 1998; Thomas 2000b). As resources are embedded in networks, they

15 Thorough literature reviews on the historical development of the capital theories have been done elsewhere (Coleman 1990; Portes 1998; Lin 2001; Berry et al. 2004), so aspects of the literature that are less relevant to higher education research will be excluded from this overview.
become capital only when actors mobilize them for either expressive or purposive actions. While expressive action is the primary characteristic of homophilious networks and it is associated with securing existing resources, purposive action drives actors in heterophilious networks, and it is exerted for gaining new resources. The resource-action perspective allows Lin to assess the dynamic aspects of social capital insofar as both structural and individual dimensions are considered simultaneously in his framework. In his words: “action is important and is given equal significance relative to structure. Motivated action guides interaction. Instrumental action, in particular, motivates investing — seeking out and mobilizing — in relations and connections that may provide access to social resources” (Lin 2001: 53). It is also worth noting that Lin’s concept of social capital could inspire scholars since it was not based on a tautological definition.

2.4.2 Human capital

Social capital is closely related to human capital, as both play important roles in the status attainment process. Human capital is associated with acquired knowledge and skills, and it is typically measured by years of education and experience as opposed to level of educational credentials which is common among credentialing theorists. The roots of human capital theory originate in economics, going back to Adam Smith. In its more recent manifestations the theory argues that educational investment leads to favourable occupational placement thus compensating for the prolonged training with prospective premiums in earning (Mincer 1958; Becker 1964). The proximity of human capital theory to economics is demonstrated by the fact that the primary interest in human capital research is to explore the link between education and wages; that is to say in studies of this kind the net outcome of the university is measured by the salary (for example, median wage) of exstudents, largely neglecting effects in other, more subtle, and therefore harder-to-operationalize sociological and psychological dimensions.

There is little agreement in the academic community regarding the relationship between social and human capitals, and their relative weight in accounting for status attainment. Some scholars argue that social capital leads to human capital. Examples may include better educational opportunities provided for students by their parents’ extensive networks (Bourdieu 1986), or achievement gains generated by parental network closure in private school settings (Coleman 1990). Other researchers, however, were sceptical about the assumed positive correlation between social and human capitals.

16 Following this logic one may recognise the assumption that expressive actions dominate networks with strong ties (for example, within family members or among close friends), while weak ties are particularly useful when the aim is to obtain resources the actor does not possess (for example getting a job through acquaintances and other ‘distant’ friends).

17 In one of the most-cited articles on social capital theory, Coleman (1988: 98) proposed the following, rather loose, and later widely criticized definition: “[s]ocial capital is defined by its function”.
In their study of Dutch managers, Boxman et al. (1991) conclude that the return on human capital decreases as social capital increases, that is, when social capital is high, human capital has no significant effect on attainment, and human capital’s influence on high attained status increases only when social capital is lower. Moreover, human and social capital approaches differ also in their perspectives on accumulation insofar as human capital is expected to be mainly linear and additive in nature, while social capital may be accumulated exponentially, yet it can also decrease over time when valuable social connections are not ‘maintained’ (Burt 2000, 2002).

2.4.3 Cultural capital

Human capital may appear as an outcome of individual effort in educational attainment, but the result arguably depends on exterior factors that cannot be attributed to an actor alone. The cultural capital theory articulated by Bourdieu (1973) examines how distribution of available cultural resources in someone’s family affects educational opportunities and outcomes (Bourdieu and Passeron 1977). Based on Bourdieu’s definition of cultural capital whereby it is a collection of “instruments for the appropriation of symbolic wealth socially designated as worthy of being sought and possessed” (Bourdieu 1973: 73), but also considering his later works, it can be delineated that cultural capital refers to the command of, and familiarity with dominant cultural codes and practices which can be utilized via purposive (to reap benefits) or expressive (to mark social status) actions. Bourdieu classified cultural capital’s three types as embodied, objectified, and institutionalized (Bourdieu 1986: 243).18

The theory originates in Bourdieu’s research of educational outcomes in the 1960s in France. He found that schools are not equalizers in the sense that they do not diminish inequalities between students, but rather they reinforce them by favouring dominant class values and practices, consequently resulting in cultural, and ultimately social reproduction of the elite (Bourdieu 1973). In Bourdieu’s sociology the concept of cultural capital is connected to other distinguished concepts of the habitus and fields. In Distinction, Bourdieu (1984) suggests that in order to understand social action in a given context, all three interconnected elements (capital, habitus, field) be included in the relevant analyses. Habitus refers to dispositions and orientation of how to use valued resources; this knowledge is internalized partly unconsciously and it is heavily influenced — but by no means

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18 The embodied type of cultural capital is knowledge that is acquired, or inherited though socialisation; the objectified type refers to resources that can be owned and sold; institutionalized cultural capital is presented as the academic credentials one holds that make conversion of educational achievements to monetary benefits possible. Other capitals are: economic, social, and symbolic.
determined — by one’s social background as it is transmitted through the socialisation process.\textsuperscript{19} Because of the symbiotic relation between agents’ cultural capital and habitus (cultural capital influences development of habitus, and habitus orients how cultural capital can be used) they should be included in higher education research, whenever possible. Yet, systematic analysis of habitus of students’ and other parties in the educational field is rarely included in educational research, not least because of the considerable difficulties in its operationalization (Dumais 2002).

The theory of fields, on the other hand, is a widely used concept in the sociology of education. On a general level, fields are relatively autonomous social territories with fluid boundaries where ‘players’ engage in ‘games’, that is to say, struggle over field-specific as well as generic capitals.\textsuperscript{20} Fields cannot be understood without the corresponding capitals that are at stake, or taking into account the inner hierarchy of agents, based on the different volume of their capital. As boundaries are not firmly set in any fields, not only relevant capitals, but boundaries and dominant rules within the field are often contested.\textsuperscript{21} Based on these theoretical implications, the university can be conceived as a field, comprised of several subfields with loose boundaries, and with dominant, but not distinct rules that orient students and other parties.

2.4.3.1 Cultural reproduction

Taking the concepts of cultural capital, habitus, and field together in an educational and status attainment framework, Bourdieu coins the term cultural reproduction to describe how parental cultural capital — as part of the broader social capital — is being transmitted to their children through habitus, resulting in relatively easy progress for them in school. Elite children’s educational attainment is less problematic for an additional reason, namely, that the whole school environment is designed by the dominant class in a way to secure its own reproduction.

\textsuperscript{19} Habitus-formation may reflect dynamics in one’s socialisation process and therefore it may be best understood as a dynamic rather than static organizing tool that guides behaviour in social interactions. Opposing views in relevant literature emphasizing the static and deterministic nature of habitus that renders individuals as “prisoners” of social structure do exist (King 2000: 427). Lizardo, however demonstrates the fundamentally dynamic characteristic of habitus, and he conceptualizes it as a “sociologized” version of Piaget’s views of practical cognition” (Lizardo 2004: 395).

\textsuperscript{20} Bourdieu uses the words “rules”, “game”, and “players” referring to the practices and subjects that are elements in the process of capital-accumulation in a field. One may notice, however, that Bourdieu only uses the words “game” and “players” when describing prestigious, elite class habitus; he refrains from such wording when describing working class habitus. This most likely reflect his critical attitude towards (or even dismissal of) the artificial, sham-like practices that dominate the world of the elite.

\textsuperscript{21} Pokol (2002) suggests an interesting comparison of Bourdieu’s field concept with Luhmann’s professional system theory (as it can be found, for example, in Luhmann 1995).
2.4.3.2 Cultural mobility

In contrast to cultural reproduction, in the model of cultural mobility as described by DiMaggio (1982), culture is not universally and perfectly transferred from parents to children, nor is it beneficial equally for students across different academic fields. He argues that cultural resources can more directly be converted into cultural capital in the social sciences in comparison to the natural sciences where its prospects may be limited. In particular, he notes that

Social Studies are subjects in which cultural capital can be expected to make a difference; standards are diffuse and evaluation is likely to be relatively subjective. By contrast, Mathematics requires the acquisition of specific skills in the classroom setting, and students are evaluated primarily on the basis of their success in generating correct answers to sets of problems (ibid. 194).

He found empirical evidence for his hypothesis that cultural capital can exert a significant effect on students’ grades even when parental social status was controlled for. Further differences between Bourdieu’s cultural reproduction and DiMaggios’s cultural mobility theories can be seen in that, while for Bourdieu, cultural reproduction considerably depends on the habitus which itself is anchored in early-childhood socialisation; in the model of cultural mobility articulated by DiMaggio, cultural capital accumulation is rather a continuous process throughout one’s life course.

2.4.4 Cultural theory

Bourdieu and DiMaggio are influential theorists not only in the field of sociology of education, but their contribution to the sociology of culture is also widely acknowledged (Lamont and Lareau 1988; Bryson 1996; Erickson 1996; Lizardo 2004). Bourdieu’s works on disclosing upper class habitus in the process of ‘aesthetic distancing’ made a great impact on cultural theory. DiMaggio contributed to the sociology of culture by elaborating a novel classification system which incorporates both the consumption and production aspects of cultural goods. Cultural theory, and especially its cultural distance marking aspect is important for sociological studies of student culture insofar as the consumption of different cultural goods and familiarity with different musical genres are often the basis of voluntary group formation among students.

2.4.4.1 Art Classification System

In classical sociology, society and culture were understood as somewhat entangled entities. This view was reflected in the belief that cultural changes were merely representations of social changes (Weber 1958). According to DiMaggio (1987), it was mass-culture theory that broke with the
monolithic view of culture as it approached culture from a consumption-perspective, resulting in a three fold classification of folk, class, and mass culture. Though its simplistic classification did not survive theoretical and empirical challenges, mass-culture theory opened up a way to further cultural studies by taking into account both the production and consumption aspects of cultural goods. Yet the emerging new research orientations in cultural studies (surveys mapping cultural consumption patterns, and ethnographic-historical studies of culture productions) were not integrated into a coherent framework. That is what ultimately led DiMaggio to propose a new theory, labelled as the Art Classification System (ACS, hereafter) which describes the development and differentiation of genres. In this theory, perceived similarities are at the core of the process of genre formation which can be captured in a sociological analysis. He argues that

[t]he challenge for the sociology of art is to understand the processes by which similarities are perceived and genres enacted. I suggest that genres represent socially constructed organizing principles that imbue artworks with significance beyond their thematic content and are, in turn, responsive to structurally generated demand for cultural information and affiliation (ibid. 2).

The ACS elaborated by DiMaggio therefore encompasses taste structure of a population, and the production and distribution of cultural goods at the same time. ACS has four analytically distinct dimensions, each with both cognitive (because genres are perceived) and organizational (because genres are being continuously reproduced) aspects. The dimensions are: differentiation, which refers to the number of identifiable genres; hierarchy, which represents the prestige-ranked structure of genres, where genres placed higher in the hierarchy are often associated with conveying moral content; universality refers to the social horizon within which individuals understand and accept a particular classification of genres; ritual strength stands for the possibility and degree of freedom of moving between genres for art producers.

Moreover, the flexibility of genres makes them responsive to emerging popular demands for cultural affiliation of social groups. In that regard tastes serve as indicators of group boundaries and they can be part of the sense-making strategies of group members (DeNora 2000; Roy 2002; Mark 2003; Roy and Dowd 2010). Shared cultural interests can also be a conversation starter among strangers, during which partners have the opportunity to evaluate one another in various cultural dimensions. This is possible because “[t]aste is a form of ritual identification and a means of constructing social relations (and knowing what relationships need not be constructed)” (DiMaggio 1987: 443). DiMaggio traces the emergence of taste, and artistic taste as an identification tool back to the modernization process. He posits that symbols (goods or tastes) grew increasingly important

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22 In the context of higher education research, the taste differentiation and formation aspects are of more importance than the organizational aspect that focuses on the production of cultural goods.
as the division of labour and technical advances led to the expansion of individual social networks. As people left the initial setting of kin-relations where cultural orientation was largely unproblematic, there was an emerging need to find tools that could be used to detect differences in new relationships efficiently. This is how arts could become a “common cultural currency” (ibid. 443).

Artistic taste is especially suitable for identification check and status marking, as possessing the ‘skills’ of high-art appreciation assumes time consuming training and high-volume resources. As Peterson (1997) demonstrates, high-art appreciation became an ultimate tool of status marking at the end of a long search for effective means by the elite to demonstrate their superiority. Peterson suggests that while early settlers of North America denounced all forms of title discrimination, the idea of aristocracy was not erased, but only got transmitted into new forms. As with the elimination of ranks it was not easily possible to associate someone with a ‘good family’, other forms of differentiations needed to be invented. These forms include — in the order of their emergence — etiquette, social registers, box ownership in the opera, and general art appreciation. For various reasons, all these forms turned out to be insufficient in marking high social status. Finally, high-art appreciation became the tool that pleased the elite as it proved to be a challenge-resistant means in their social distance-marking. Arguably, the lack of easy opportunities for its mastery by the laity prevents high-art appreciation from losing value through inflation. Similar reasons prevented photography from gaining high-brow status among art forms as its accessibility to the masses predestined it to remain a middle-brow art (Bourdieu 1990b).

2.4.5 Network formation and cultural preferences

Similar to DiMaggio, Lizardo (2006) also endorses recent theoretical and conceptual developments in the sociology of culture whereby culture is a distinct domain in society. This opened up a way of studying, on the one hand, concrete practices and relations that are being employed for strategic purposes (Bourdieu), and the dynamics of network relations that shape individual and collective tastes and preferences (DiMaggio) on the other hand. Lizardo refers to the latter perspective as a “traditional network model of taste formation” (ibid. 779) and challenges it on the ground that networks do not function as mere channels of cultural tastes insofar as cultural preferences have an autonomous effect on network formation.

By using particular modules from the 2002 GSS (General Social Survey) data, Lizardo aimed to use Bourdieu’s original concept of capital transformation, but from a perspective that received little attention previously, namely: converting cultural capital to social capital. Lizardo is particularly
interested in how ‘informal’ cultural knowledge (the one that is associated with tastes) influences social relations. His point of departure is the original observation of DiMaggio whereby popular culture consumption often serves as a base for maintaining connections between actors of socially and/or geographically distant positions in contemporary societies. Manifestations of cultural taste work as a “form of ritual identification” (DiMaggio 1987: 443) and can lead to social closure or bridging, depending on the function and context in which cultural tastes are being used.

In the literature on cultural consumption two main groups of cultural goods have been distinguished: those which are part of popular culture and those which belong to the highbrow category. Employing familiar categories from the social networking literature (strong versus weak types of ties, as outlined in Granovetter 1973), Lizardo theorises a more specific model of capital transformation: from cultural to social. In order to do so, he needs to clarify the direction of convertibility between these two types of capitals. This is not a trivial task because cultural tastes can influence network formation to a similar degree to which they can be driven by network dynamics. Since networks can be quite unstable (Burt 2002), Lizardo posits that taste formations are reasonably resistant to sudden changes. He proposes two hypotheses: “highbrow culture taste leads to a denser network of strong ties”, while “popular cultural taste leads to a denser network of weak ties” (Lizardo 2006: 786). In the analysis, highbrow culture’s main characteristic is the ‘content-independent’ specialty; this is not connected to elitism, as a steep learning curve and the knowledge of extensive sets of codes can be characteristics of alternative, underground cultural forms as well. Lizardo concluded that those with highbrow cultural tastes are able to sustain a larger network as long they remain significant consumers of popular culture as well.

2.4.5.1 Musical taste as proxy for cultural taste

A distinct stream of studies within sociology of culture employs a specialized approach to describe taste clustering within society. Studies of this kind use musical preferences as a tool to reveal broader, latent associations between taste and social background characteristics and attitudes. This assumption appears valid insofar as music has always been an integral part in different cultures throughout history. It is a suitable medium for carrying both cohesive and progressive meanings, and its symbolic power cannot be underestimated. This is because musical taste “provides a good test for questions about symbolic boundaries” (Bryson 1996: 885).

Bryson draws on the 1993 GSS data to test three hypotheses. First, she examines Bourdieu’s well-known prediction that higher education increases exclusiveness of cultural taste. Her second interest is evaluating the effects of democratic-liberal attitudes on cultural exclusiveness. Finally, she
proposes that racism may be behind the dislike of some musical genres that are disproportionately more common among Afro-Americans and Hispanics. Bryson draws an analytical distinction between social exclusion and symbolic exclusion in order to explain how social status can be converted into economic and political advantage. Social exclusion as behaviour can be characterized by the social closure of members of high socio-economic classes, while symbolic exclusion as attitude is the boundary making effort based on taste-distinctions. She argues that the concepts of social and symbolic exclusion are equivalent to more well-known notions such as discrimination and prejudice. Moreover, she operationalizes musical exclusion as dislike for various musical genres, and she refers to musical tolerance as the absence of dislike. She expects education will decrease political exclusiveness as it does the same to cultural exclusiveness. A higher level of education, however, does not automatically obliterate political intolerance. The results of her study showed that contrary to Bourdieu’s exclusiveness-thesis, education significantly reduces musical dislikes. However, demographic characteristics do have effects on musical exclusiveness: being male, Southerner, and older increase one’s musical dislikes. Out of eighteen genres, dislike of six turned out to be indicators of symbolic racism, though Bryson admits “racism does not fully explain distaste of rap, reggae, blues/rhythm and blues, jazz, gospel and Latin music” (ibid. 892).

Relish (1997) also draws on the 1993 GSS dataset and investigates whether attitudes toward eighteen musical genres could be explained by education, network complexity, and geographic mobility. He finds that the education-effect diminishes when the others are entered into the model. Relish also demonstrates that those in the elite do like popular music, a proxy for lower art forms in the study. Such boundary crossing can be explained by the considerable network complexity of those in the dominant classes. As these individuals are likely to have large and diverse social networks, they can become familiar with a wide range of musical genres which can be beneficial.

Overall, these studies suggest that education has a positive effect on the number of cultural forms people like (Erickson 1996) while it also increases tolerance towards cultural forms that are liked by the lower classes (Bryson 1996).

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23 As Jackman and Muha (1984) point out, mere rhetorical commitments to democratic liberalist values (for example, supporting the mixing of black and white communities) can be detected as superficial statements and quasi status markers employed by the well-educated. This does not mean indirect support of racism (for example, opposing blacks moving in to white neighbourhoods), as it can be interpreted merely as discomfort-driven refusal of giving up social privileges. In other words, rhetorical support for race-integration can co-exists with practical refusal of class-integration.

24 In the 1993 GSS musical taste was measured by a five-step Likert-scale with possible choices between “like it very much” to “dislike it very much”, on each of the 18 musical genres. Political intolerance was measured by the sum of positive answers to 15 dichotomous questions, based on Stouffer’s scale (Stouffer 1955).

25 Examples may include a CEO who can demonstrate his/her familiarity with different genres/tastes that are preferred by those working under him/her, or a campaigning politician whose demonstrated ‘knowledge’ of popular musical forms can help him/her attract voters.
2.4.6 Social network theory

Social network theory is closely related to social capital theory, as social capital can be accumulated and used only where networks exist. In the broad social network literature, there are two opposing views on what kind of network structure facilitates increase in social capital. According to the ‘network closure’ thesis, it is the strong tie-dominated network with closely connected individuals that generates a high level of social capital for the group (Coleman 1988, 1990). On the other hand, the ‘strength of weak ties’ thesis (Granovetter 1973) along with the concept of ‘structural holes’ (Burt 1992, 2001) posit that those individuals in ‘structural hole’ positions in a network can accumulate a significant amount of social capital. This is because heterogeneous weak-tie connections can enable individuals to collect a considerable amount of information which in turn can be utilized to draw on a large (and diverse) pool of resources that would not be available through strong ties alone.\(^{26}\) The following sections contain a brief overview of both the network closure model and the structural hole (weak tie) thesis. The theories discussed here have implications in higher education research on student life as complementary models in describing group formation and dynamics; moreover, they provide information about how students’ social capital may affect various university outcomes.

2.4.6.1 Network closure

In a widely cited article Coleman (1988) aimed to demonstrate how the emerging importance of social capital can add to the explanatory power of traditional variables employed in a causal effect model in an educational study comparing high school drop-out rates in a public school and a private (Catholic) school. He finds that human capital in family alone does not necessarily result in children’s successful learning accomplishment if not complemented with a high degree of social relations within the family. He regards the lower rate of dropouts in catholic schools as a positive result of social capital that resides in parental closure, that is, the strong ties between parents.

Coleman starts his explanation by stating that social structure itself serves as an environment where all social acts take place. It is important, therefore, to explore possible ways of tie-formation. Social closure is a key term in network literature, and it refers to a situation where all participants are connected directly in a way that facilitates trustworthiness, but on the negative side, it can also lead to dismissal of outside information sources resulting in network closure. In the context of his study,

\(^{26}\) Here and other places in the thesis, the definition of tie strength is based on the original one given in Granovetter (1973) whereby the “strength of a tie is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services that characterize the tie” (ibid. 1361).
parental closure implies easier monitoring of children, preventing them from developing ‘undesirable’ habits that would result in dropping out. For similar reasons, geographical mobility (measured by the times the family moved house since 5th grade) was found to have a strong — in fact, the strongest — effect on drop out. Students who never left the environment they grew up in are surrounded by and subject to continuous monitoring by the immediate adult community. On the other hand, frequent environmental change around a student could result in weakened pressure from adults thus jeopardizing achievement prospects and risking attrition. Coleman concludes that social capital is not only a tool and theoretical orientation in sociology that can bridge conflicting traditions in explaining the roots of social action, but it might have the capacity of resolving the age old discrepancy between the macro and micro research orientations in the field.

Examining Coleman’s thesis (Catholic schools benefit from larger amounts of social capital, generated partly by denser network connections of parents) on public schools, Morgan and Sørensen (1999) find that in public schools, social closure among parents is negatively associated with gains in mathematics learning, regardless of the friendship-density among students. They also found empirical support for the hypothesis stating “horizon-expanding” (public) schools support more learning than do “norm-enforcing” (private) schools (ibid. 661). They included both dimensions of social closure (that of students’ as well as of parents’) in their model and claim that in a public school setting these dimensions of social closure work in the opposite direction: a school where students are closely tied produces more learning, but where parents are closely tied produces less learning. They conclude that strong student friendship relationships foster learning in both kinds of schools, but while dense parental network relations limit learning in public schools, it does have a positive effect on learning in private schools.27

2.4.6.2 Weak ties and Structural holes

Probably the two most well-known works in the literature of social network theory are The strength of weak ties by Granovetter (1973), and Structural holes by Burt (1992). These theorists introduced key terms that became widely used, tested and extended upon in social network studies, so a short overview of their main concepts is in order.

A crucial point in the arguments of these theories is that both the location and the strength of ties can create information advantages that increase the overall competitiveness in a given network. This is because size-increase of contacts in one’s network alone does not automatically result in the

27 The authors find this consistent with results in other social network studies and note that “students benefit from structural holes in the network of parents that surrounds schools” (ibid. 675).
accumulation of more and useful information. An additional condition is nonredundancy. It is more likely that the weak ties (or bridges) endow ego with new, nonredundant information. On the other hand, nonredundancy is less likely to emerge in strong-tie relations. Burt emphasizes (1992: 23) the importance of nonredundancy over network size:

> [n]onredundant contacts ensure exposure to diverse sources of information. Each cluster of contacts is an independent source of information. One cluster, no matter how numerous its members, is only one source of information, because people connected to one another tend to know about the same things at about the same time.

Though ‘bridges’ and ‘structural holes’ both refer to the advantageous network location in the terminology of Granovetter and Burt, respectively, the distinction between them is that “[w]hether a relationship is strong or weak, it generates information benefits when it is a bridge over a structural hole” (Burt 1992: 28). Burt (1992) defines structural hole as a “relationship of nonredundancy between two contacts. The hole is a buffer, like an insulator in an electric circuit. As a result of the hole between them, the two contacts provide network benefits that are in some degree additive rather than overlapping” (ibid. 18). Moreover, the structural hole argument captures not only the information benefit, but also the ‘control benefit’ one enjoys by holding this particular kind of position in a network. By contrast, the information control aspects are less pronounced in the strength of tie argument. Granovetter’s real merit, as Lin (2001: 67-68) noted, lies in the fact that weak tie connections are now widely recognised as important contributors to information flow between groups. Previously sociometric studies — as predecessors of social network analysis — were carried out mainly from a ‘psychosocial’ perspective, with a primary focus on information flow in small, strongly bonded groups, such as reference groups, friendship groups and so on.

### 2.4.6.3 Social networking and academic persistence

Researching peer group effect on various aspects of university student life has a long history in higher education studies. Despite the extensive body of academic literature on various peer effects, the social network approach has rarely been utilized. Its usefulness, however, is demonstrated by Thomas (2000b) who investigated how variations of structural elements within an individual’s peer network may shape student persistence.

Thomas notes that out of various conceptual approaches dealing with influential factors of student persistence, two models in particular attribute heavy influence to student peer groups on persistence: the student attrition model of Bean (1990) and the model of student integration by Tinto (1993). Thomas draws largely on the latter, because it enables him to integrate social network analysis into
his exploratory research of student persistence. Moreover, the social network perspective allows him to explore how persistence is influenced by subgroup memberships as well as by the specific characteristics of members’ relations to, and within the group. Measuring the dynamic of social integration of students into campus-culture is important for the understanding of persistence, since students’ initial academic commitments may change over time, often in accordance with specific norms and characteristics of groups they belong to.

The social network measures in his study were: number of friends named by a person, number of one’s nominations as friend by others, percentage of student’s ties that fall within his/her immediate peer group, percentage of student’s ties that fall within a freshman [first year] class, and a weighted centrality score which relates to the degree to which a student is connected to other, more highly connected peers (Freeman 1979; Bonacich 1987). Other independent variables were traditional SES measures. Together, network and SES measures served as independent predictors of persistence, while endogenous components (grades, academic integration, social integration, goal commitment, and so on) were directly adapted from Tinto’s student integration model. Thomas employed the path analysis technique that allowed the “simultaneous estimation of number of hypothesized effects [thus] providing estimates of direct, indirect, and total effect of any predictor in the model” (Thomas 2000b: 600). His results show that students’ network characteristics differently affect academic persistence as they operate through satisfaction, involvement, performance, and commitment. The influential Granovetter-thesis on strength of weak ties over reliance on strong ties in getting a job proved to be valid in the student-persistence context, as well: ‘binding ties’ had direct negative effects on persistence, while a broader discussion board (wider network with weak, but reciprocal ties) had the strongest, direct positive effect on persistence.

2.5 Psychological concepts

The third major perspective that influenced the study is rooted in the field of social psychology. The various concepts that are reviewed throughout the following sections offer compelling explanations for several ‘personality effects’. For example, an influential research orientation posits that personality characteristics influence study choices as well as career preferences. A distinct approach is concerned with the causes and consequences of ethnic tolerance. Yet another line of research explores the complex ways through which personality traits affects network formation in different social situations. Taken together, these approaches provide valuable insights toward a more complete understanding of the undergraduate student socialisation.
2.5.1 Holland’s vocational choice theory

One of the most influential and widely used conceptual frameworks in recent higher education research is vocational choice theory of Holland (1959, 1997). This theory consists of three elements: individuals, their environment, and the interaction of both. Applied to the field of higher education research, each of the three elements has an underlying predisposition: individuals select academic major(s) that fit with their personality; different academic departments shape students’ socialisation differently based on internal norms of the department, and finally, the congruence between the two. Holland distinguishes among six personality types (realistic, investigative, artistic, social, enterprising, conventional) and their corresponding environmental categories. The personality types can be visualized in a form of hexagon, where each type has an opposite, and two, less-distant neighbours, consequently marking relative distance between all types. While the theory was originally developed in the area of career assistance, it has been applied extensively in various social scientific fields, including education and business. It may be argued that its wide applicability is due to its ambitious aim to capture the interaction between personality types and the social environment in a coherent framework. As Holland (1997) explains, his theory is a

structural-interactive or typological-interactive theory. It is structural or typological because it attempts to organize the vast sea of information about people and jobs. And it is interactive because it assumes that many career and social behaviours are the outcome of people and environments acting on one another. It is not a one-way street; jobs change people and people change jobs (ibid. 12).

In higher education research, Pike (2006) explored the connections between students’ personality types, intended majors, and their expectations about university by drawing on vocational choice theory. Pike provides support for Holland’s theory which he regards as a powerful framework that can link psychological and sociological factors into a model by taking selectivity of majors, student integration, and development into account. The presence of all three components makes it possible for Pike to pose his research hypotheses as: students select majors that are compatible with their personality type; academic majors reward students’ abilities and interests differently; students are most likely to advance in an environment that is congruent with their personality types.

One shortcoming of Holland’s theory relevant to the subject is that individual and group effects are not effectively separated, therefore their distinctive contribution cannot be measured. Pike tries to overcome this by comparing the explanatory strength of the connection between personality type and expectations, and academic majors and expectations, respectively. While the former would provide support for a psychological interpretation of Holland’s theory, the latter would point to the importance of sociological factors. Additionally, he tries to find out how connection between
personality types and expectations differ by academic majors. His results showed that the intended academic major is a stronger predictor of students’ expectations than personality type. Drawing on these findings, Pike suggests that university management could create programs to help students develop more realistic expectations about the university.

2.5.2 Contact theory and its extension in higher education research

Since the initial formulation of the ‘contact hypothesis’ in a seminal work by Allport in 1954, the theory of intergroup contact has gathered a large body of empirical evidence in scholarly works in over five decades. In its original form, the ‘contact hypothesis’ posited that, under specific optimal conditions, positive ‘intergroup’ ethnic encounters lead to reduction in ‘intergroup’ ethnic prejudices. These optimal conditions of the contact hypothesis are: status equality, existence of common goals and values, intimacy of interaction, and institutionalized supervision. An extensive review of the ‘contact hypothesis’ as well as an overview of its development into a complex theory of intergroup contact can be found in Pettigrew (1998), Dovidio et al. 2003; Kenworthy et al. 2005; Pettigrew and Tropp (2006) and Pettigrew et al. (2011).

The theory was originally developed in the field of social psychology. Soon however, its heuristic insights as well as its diverse policy relevance (for example, fighting ethnic discrimination) attracted researchers from other social scientific fields. The interdisciplinary potential and the flexibility of ‘contact theory’ are implicitly suggested by Pettigrew and Tropp who note (2006: 751) that “contact theory, devised originally for racial and ethnic encounters, can be extended to other groups”. Despite the potential expandability of contact theory to social interactions of non-racial origins, a considerable amount of scholarly works that drew on the theory in the context of tertiary education employed it mainly to capture ‘racial or ethnic tolerance’ (for example, Hu and Kuh 2003; Levin et al. 2003; Nagda and Zúñiga 2003; Gurin et al. 2004; Nagda 2006; Gottfredson et al. 2008; Longerbeam 2010). For example, Gurin et al. (2002) distinguish among three types of diversity that may affect the interaction of students. These are: structural, informal interactional, and finally, classroom diversity. The authors argue that structural diversity on campus (for example, the ethnic ratio within the student population) alone does not necessarily bring educational benefits when it is not supplemented by informal cross-ethnic contacts between students.

However, the immense diversity of an undergraduate student body cannot solely be described in ethnic and racial terms. Indeed, the socially and culturally diverse composition of the student population inspired a variety of academic studies in higher education research (Whitt et al. 2001; Milem and Umbach 2003; Renn and Arnold 2003; Gurin et al. 2004; Pike 2006). Four decades after
the publication of *The nature of prejudice* (Allport 1954), Pascarella et al. (1996) proposed a new measure to capture the multidimensional diversity (political, social and cultural) in student interaction which received renewed attention within higher education after the publication of Astin’s influential *What matters in college*, in 1993. Drawing on a previous study (Pascarella et al. 1994) the authors empirically validated a novel diversity scale that is comprised of eight items, all supposed to be manifestations of an underlying preference for students’ “openness to diversity/challenge” (Pascarella et al. 1996: 178-179). Explicit in this new measure is the active and conscious individual preference for experiencing encounters with dissimilar others. As such, the concept is an attempt to capture students’ “orientation toward enjoyment from being intellectually challenged by different ideas, values, and perspectives as well as an appreciation of racial, cultural, and value diversity” (ibid. 179). It is a plausible assumption in the study that openness to diversity can be conceptualized as part of the broader set of “pre-college characteristics” (ibid. 180) of students, similar to socio-economic background. Yet, when modelled in a longitudinal study, it can also be viewed as one of the outcomes of the student experience (ibid. 182). The openness to diversity scale has gained acceptance in higher education research which is evident by its routine appearance in widely used student questionnaires in the United States, Australia and New Zealand (for example, see the “Student Acquaintances” question block within “The College Student Experiences Questionnaire” [The College Student Experiences Questionnaire Assessment Program 2007] and its derivatives).

### 2.5.3 Reference group theory

Another line of important works contributing to the understanding of university student socialisation originates in reference group theory (Hyman 1942, 1960; Deutsch and Gerard 1955). Similar to the contact theory of Allport, reference group theory, too, was initially developed in the field of social psychology, but its theoretical potential and capacity to explain different social phenomena was soon realized in the neighbouring social sciences, including sociology (Shibutani 1955; Kemper 1968) and higher education research (Astin 1993; Antonio 2004). In his seminal work on the subject, Kemper (1968) suggests the reference group can be a person or group that the individual takes into account when selecting a particular action from the available possibilities. In the case of university students, therefore, it seems reasonable that friendship groups and university peers are important sources of potential influence that makes them worthwhile to involve in higher education research. Weidman’s anticipation of the importance of university peers received
substantial empirical support later from Astin (1993)\(^ {28} \), who made the following conclusion in his landmark study: “[v]iewed as a whole, the many empirical findings of this study seem to warrant the following general conclusion: *the student’s peer group is the single most potent source of influence on growth and development during the undergraduate years*” (ibid. 398).

Since the work of Astin, reference group theory has been an influential theoretical orientation in higher education research. It focuses on the individual’s self-evaluation based on his/her relative position to others within a group. More specifically, reference group theory relates to the relative effect of specific peer-group characteristics on students’ educational aspirations and competences.

University friendship groups serve as influential reference groups in any student’s life during the university years, and often well beyond that. This recognition led to Antonio’s study who notes the growing interest in the influence of university peer groups on student development since the 1960s in higher education research (Antonio 2004). He notes that many researchers consider student peer groups as a collective, institution-wide, monolithic entity. This view is reflected in the operationalizational process of some studies in which student peer culture is either one among the many independent variables that affect student performance and persistence or it is conceptualized as part of the institutional-environmental setting that varies from college to college. In order to break with this kind of research tradition, Antonio suggests that the student peer group is an autonomous and interpersonal influential factor in student life. It follows that institutional effects are ultimately mediated through the micro-level settings of interpersonal relations, such as friendship groups and cliques.

Within reference group theory Antonio distinguishes between two orientations based on what each considers motivation, revealing where acts can be derived from. The first one is known as relative deprivation which in the current context refers to the negative correlation between academic self-confidence and career aspirations in a high-achieving peer-environment, which led to Davies’ aphoristic conclusion: “it is better to be a big frog in a small pond than a small frog in a big pound” (Davies 1966: 31). The second one is labelled as normative pressure and it can be best understood as the benefit students with disadvantageous social backgrounds can draw by networking with those with relatively higher social status (for example, first generation college students benefit from studying together with high-achieving students). He finds that “membership groups may not merely mediate campus peer influence, they may serve to isolate members from more distal institutional influences as well” (Antonio 2004: 464).

\(^ {28} \) In his study Astin measured college impact by surveying over 27,000 students and faculty members from 309 tertiary educational institutions, with 146 independent and 192 environmental variables on 82 outcome measures. Freshman (first year) students in 1985 were followed up in the 1989/90 school year.
2.5.4 Propensity to Connect with Others

The perceived dominance of psychological perspectives in higher education research led to calls for bringing the structural ‘determinants’ of the student experience back to the conceptual horizon. In contrast, psychologists could regard social network analyses as dominated by sociological perspectives. This recognition drove Totterdell and colleagues (2008) to develop a new measurement (propensity to connect with others, PCO hereafter) in an effort to offer a better understanding of how individual psychological characteristics may shape location and behaviour of individuals in social networks. Their underlying assumption is that action does not solely derive from network structure, as the latter is influenced by individual differences which should be acknowledged by researchers of social networks. PCO is defined as

an individual’s orientation towards making connections with other people that is not specific to context and that incorporates three related but distinct components: making friendships, making acquaintances, and joining others. In the parlance of social network research, these three components equate, respectively, with the formation of strong ties, weak ties, and bridging ties in a network (ibid. 284).

The researchers expected that the direct effect of personality on network behaviour may be weak as this effect would likely be mediated through attitudes and norms. Totterdell et al. (2008) also attempted to verify that PCO was indeed more than a simple alternative manifestation of the ‘extrovert’ personality trait. The researchers empirically tested PCO’s applicability on an undergraduate student sample and found evidence for its distinct nature. They summarized the characteristics of PCO as being a better predictor of friends-network size than a personality trait such as extraversion; it was positively related to academic adjustment and academic attainment; finally, it was related to receiving a greater amount of emotional support.

Finally, there is a line of research focusing on how network positions can be explained by personal characteristics (Klein et al. 2004); to what extent certain personality traits (for example, extraversion) make it more likely for an actor to engage in specific networking behaviour (Tziner et al. 2004); whether connecting with others is a matter of emotional intelligence (Austin et al. 2005). These studies often draw on the concept of the ‘Big Five’ personality traits (extraversion, openness, agreeableness, conscientiousness, and neuroticism) which was proposed by McCrae and John (1992) and further explored by McCrae and Costa (2004). In a similar vein, other researchers expected that, for example, extraversion would positively affect centrality within a network, while neuroticism would have a negative impact on it (Klein et al. 2004; Tziner et al. 2004). Yet others were interested in what kind of personality traits could describe those in ‘structural hole’ positions (Burt et al. 1998).
2.6 Chapter summary

The review of the higher education literature presented here illustrates that the comprehensive understanding of the undergraduate student experience is a futile scholarly exercise without crossing disciplinary boundaries between social scientific fields. Although the administrative separation of sociology, social network theory and social psychology can be justified within an institutional setting, the infinite complexity of the research subject necessitates the consideration of a diverse set of theories in order to provide a reasonably thorough and accurate account of the sociological influences of student life. By reviewing relevant concepts and theories form sociology, social network theory and social psychology, this chapter aimed to serve as a comprehensive preparatory work toward the better understanding of the following chapter in which the research questions as well as the conceptual background of the project are outlined.
Chapter III — Research questions and conceptual background

3.1 General overview

This chapter introduces the research questions and hypotheses. These are derived from a thorough consultation with the broader higher education literature which was overviewed in the previous chapter. As evident from that review, a meaningful and thorough description of even an admittedly modest model of the student experience can barely advance the theoretical understanding of contemporary higher education without crossing disciplinary boundaries. In order to address the undoubtedly complex nature of academic learning, various concepts have been utilized in this project. In particular, insights from social network theory and social psychology were taken to enrich the primarily sociologically focused investigation of the student experience.

The research questions of the study are rooted in distinct conceptual backgrounds which are outlined in a thematic order. First, the main research questions are discussed. These concern the sociological understanding of the undergraduate student experience. Second, a higher education model is proposed which draws considerably on previous studies and several questionnaires from the broader educational research field. Third, a non-conventional classification of academic fields is offered. Forth, several plausible ‘outcome measures’ of the university learning are considered. While the more technical aspects of the quantitative analytical framework are given a thorough treatment in the following chapter, rationales are presented here for employing a particular statistical technique — structural equation modeling — for the analyses of the survey data.

3.2 Brief conceptual overview

The purpose of this study is the empirical testing of a number of hypothesised constructs that are related to different aspects of the sociology of higher education. Of particular interest is the examination of the extent to which socio-economic status (SES) characteristics influence various aspects of the undergraduate student experience. It is argued that the complex quality aspects of the student experience cannot be derived convincingly from SES characteristics of students alone. The conventional sociological wisdom regarding the ‘omnipresent’ nature of SES is therefore challenged in this study.

First, it is suggested that by drawing on broader socialisation perspectives, a set of background measures can be identified which could aid researchers in gaining a reasonably comprehensive sociological understanding of the undergraduate student experience. In order to test this assumption,
a set of constructs is proposed, namely socialisation diversity, musical diversity, and the propensity for making friends. These are regarded as distinct, yet related, measures of certain socialisation characteristics of students. Moreover, it is proposed that the ‘relationality’ element connects the three socialisation constructs. In order to capture the interrelatedness of socialisation diversity, musical diversity, and the propensity for making friends, an overall construct is proposed. This is labelled ‘Propensity for Relational Diversity’ (PRD) throughout the study. The theory of intergroup contact (Allport 1954) inspired the conceptualization of PRD. The flexibility of contact theory allowed its extension and use outside of its original context, as suggested in Pettigrew and Tropp (2006). In higher education research, Pascarella et al. (1996) proposed a new construct (‘openness to diversity/challenge’) which later emerged as a routinely deployed module in large-scale student surveys (for example, “The College Student Experiences Questionnaire” [The College Student Experiences Questionnaire Assessment Program 2007] and its modified versions). The explanatory power of each of these constructs within PRD is tested against the SES-related measures by way of investigating which aspects of the student experience can be linked to socialisation characteristics, or rather to those related to SES. It is important to note that both PRD and SES are considered primarily as parts of a set of pre-university characteristics of students in this study. With respect to PRD, this conceptualisation assumes that the main socialisation traits are developed (but by no means finalised) by the time students enter tertiary education. Similarly, students’ SES characteristics are generally crystallised before the beginning of the undergraduate study. Examples for a similar approach in higher education studies can be found in several scholarly works (Grayson 2003, 2004; Crisp et al. 2009; Martin 2009).

Second, the aforementioned pre-university characteristics are linked to distinct aspects of the undergraduate experience, such as satisfaction and engagement. These dimensions have been routinely researched in higher education (for an overview, see: Pascarella and Terenzini 2005: 50-60, 398-441). Satisfaction and engagement are arguably among the fundamental aspects of the student experience and therefore it is of theoretical importance to empirically evaluate their linkages. In order to achieve this, a limited model of the undergraduate student experience is proposed by drawing on several areas of satisfaction and engagement. These constructs and the proposed relationships between them will be discussed shortly.

Third, the study considers potential differences among academic fields of study based on the broader skill sets they facilitate. Drawing on the work of Biglan (1973), a basic distinction is made between two main sets of academic programmes by considering the extent of ‘practical requirements’ in them. This classification is of ‘sociological interest’ since students’ employment prospects considerably differ based on the skills they acquire in various undergraduate programmes.
Fourth, the last dimension examined in this study is concerned with a set of possible ‘outcomes’ of the undergraduate student experience. Of particular importance among these are students’ preferences for distinct aspects of future employment, such as preferring intrinsic or extrinsic job values. These are recognised as different facets of ‘job satisfaction’ in the organisational psychology literature (Centers and Bugental 1966; Mottaz 1985; Tang and Gilbert 1995; Travis 2006). However, in the present study they are regarded as inferred ‘post-university characteristics’. This is because even if the preference for the two distinct aspects of job values cannot be directly linked to the work experiences of students (for whom work can be assumed to be secondary to study), they can still be regarded as reasonable approximations of job aspects toward which students can be expected to gravitate.

The extrinsic versus intrinsic job value distinction has been the subject of strong scholarly interest in empirical studies that used student data (Hyllegard and Lavin 1992; Knox et al. 1993; Stolzenberg 1994; Walpole 2003; Johnson et al. 2007b). Moreover, several additional potential ‘outcome measures’ are investigated in the study, including verbal skills, practical skills, academic performance, departmental relationship with instructors, and overall academic satisfaction. It is reasonable to assume that these aspects of the undergraduate experience are affected by students’ level of satisfaction as well as by their engagement with the teaching staff.

3.3 Research questions

The research questions are outlined in a sequential order. First, the main purpose of the study is stated. This is followed by a series of general research hypotheses that unfold the more specific aspects of the phenomena under investigation. As such, the hypotheses represent the proposed relationships between a specific set of constructs in a concrete form that allows their systematic and direct assessment. Results of the subsequent data analysis can therefore provide the empirical evidence for assessing the plausibility of the proposed hypotheses.

3.3.1 Main research questions

The main objective of the present study is to carry out a comparative analysis of the relative effects of undergraduate students’ socio-economic background and socialisation characteristics on various aspects of the learning experience. The exploration of students’ background characteristics is

29 It seems somewhat paradoxical to regard students’ preferences for intrinsic or extrinsic job values as a proxy for their ‘post-university characteristics’. The gap between present and future dimensions is reconcilable, however, by taking into account that career considerations are an inseparable part of student life, and as such they cannot be viewed as unrelated to students’ experience at university. Consequently, students’ answers to the survey questions about ‘preference for job values’ contain valuable information, regardless of their personal work experience (or lack thereof).
important from a sociological perspective insofar as it would be unreasonable to assume that advanced learning is unaffected by the ‘social origins’ of individual learners. On the other hand, the student experience may also have implications for the emerging patterns of social stratification.

More specifically, the following four aspects of the student experience are examined in depth in the study: Satisfaction with the Quality of Teaching (SQT), Satisfaction with Facilitating Interactional-Diversity (SFID), Engagement with Teaching Staff (ETS), and Satisfaction with Facilitating Employability (SFE). It is assessed how these distinct aspects of the student experience, as internal facets of academic development, are related to social background attributes that are external to it insofar as these attributes reflect social conditions that predate the beginning of postsecondary studies. The evaluation involved a series of multivariate statistical analyses in order to examine the relative dependence of the four proposed dimensions of the undergraduate experience on distinct social background factors. Among these factors, SES and PRD are of particular interest in this study. They are going to be assessed in a way that allows the comparison of their linkages to the four aforementioned internal aspects of the undergraduate experience. These comparisons are formulated in the following four hypotheses:

H1a: PRD characteristics of students have a stronger positive direct impact on Satisfaction with the Quality of Teaching than those of SES.

H1b: PRD characteristics of students have a stronger positive direct impact on Satisfaction with Facilitating Interactional-Diversity than those of SES.

H1c: PRD characteristics of students have a stronger positive direct impact on Engagement with Teaching Staff than those of SES.

H1d: PRD characteristics of students have a stronger positive direct impact on Satisfaction with Facilitating Employability than those of SES.

The linking of internal dimensions of academic learning to external social factors is vital for the sociological understanding of the undergraduate experience insofar as the latter is inescapably influenced by the broader social environment. A sociological approach to postsecondary education research thus cannot neglect the socio-contextual understanding of its subject matter. The aforementioned relationships are depicted in Figure 3.1.

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30 Arguably, the totality of the undergraduate student experience cannot be sufficiently grasped in any single empirical study. This having been said, the four aspects presented here cover important segments of the student experience.
The conceptual links between the ‘purely’ higher educational constructs and those representing social background effects are evaluated sequentially. The first group of measures are proposed to form a base higher education model (referred to as the ‘Base model’ hereafter). The specification of the ‘Base model’ as well as the related hypotheses and arguments are discussed in section 3.3.5. The specification of the ‘Base model’ allows the subsequent and systematic testing of a variety of social background effects on each of the four higher education constructs without disregarding the underlying structural relationship between these measures.

Since the main research question concerns the comparison of the impacts of a set of social background characteristics on the undergraduate student experience, it is pertinent to the present discussion to review some of the previous scholarly works that advanced the academic understanding of these effects within the broader higher education research field.

### 3.3.2 SES in higher education research

The importance of SES has been investigated extensively by higher education scholars through quantitative projects (for example, James 2001; Paulsen and John 2002; van de Werfhorst et al. 2003; Goldrick-Rab 2006; Ostrove and Long 2007; Goyette 2008; Kuh et al. 2008; Grodsky and Jackson 2009; Kim and Sax 2009; Brand and Xie 2010), and qualitative studies (Bergerson 2007; Longwell-Griece and Longwell-Griece 2007). SES has also been conceptualised in early theoretical
works within the higher education field (for example, Weidman 1989, Astin 1993) as well as more recent ones (Archer 2003; Benckendorff et al. 2009; Reason 2009). Moreover, there have been distinct research directions examining the roles SES plays in hindering the entry into higher education (Carnevale and Rose 2004; Ballinger 2007), student retention (Reason 2003), and the chosen field of study (Davies and Guppy 1997; Goyette and Mullen 2006). Other lines of research have been concerned with the influence SES has on the experiences of distinct student groups, such as first-year university students (Reason et al. 2007), first-generation students (Pike and Kuh 2005; McCarron and Inkelas 2006; Thomas and Quinn 2007), transfer-students (Dowd et al. 2008), and students who do not enter higher education institutions immediately after secondary school (Goldrick-Rab and Han 2011). These works contributed enormously to the understanding of the various ways in which the effects of SES can be operationalized within the broader tertiary education field, including the sociology of higher education. It is therefore clear that a comprehensive empirical account of the undergraduate student experience can hardly be given in a contemporary sociological study without investigating the role SES plays in higher education.

The theoretical advances regarding the understanding of ‘the SES effect’ within higher education have been accompanied by the use of increasingly sophisticated statistical methods by researchers working within distinct academic fields. Some works incorporated SES into the analysis as merely a ‘control variable’ (or sometimes as control variables) in order to better understand other variables in a given study (Hu and Kuh 2003; Milem and Umbach 2003). In yet other works the ‘SES effect’ appears to occupy a central place in academic as well as social, and institutional policy-oriented investigations. The practical relevance of SES-related research in the higher education setting has been articulated by Walpole (2003), whereby “higher education scholars often control for social class differences rather than focusing on how those differences may shape students’ experiences and outcomes. Understanding such differences will not only inform higher education research (…), but it will also inform higher education policy” (ibid. 46).

The assessment in the first part of the quote may have been valid a decade ago, but it is certainly less so today. Not only has SES become an active research area for both academic and social policy-related studies, but the expansion of the analytical arsenal has helped researchers to fine-tune hypotheses regarding the direct and indirect SES-effects on various aspects of higher education. For example, the once-dominant ordinary least square (OLS) regression technique today coexists with technical ‘upgrades’ that take the predominantly ordinal nature of the data (common in higher education studies) into account. Some of these techniques include multinomial logistic regression, loglinear regression, ordinal factor analysis, path analysis, and structural equation modeling. These techniques are now increasingly common in the various branches of higher education research.
Moreover, the diversification of analytical techniques has been accompanied by the expansion of data collection methods, resulting in the emergence of studies that go beyond the use of conventional interview and survey techniques, and utilise time series analysis, analysis of multilevel data, and longitudinal data, to name a few (Heck 2006; Zhang 2010).

These theoretical as well as methodological developments inspired research efforts in this study to thoroughly interrogate the place of SES in the undergraduate student experience in the New Zealand context. It is argued that various important aspects of the learning experience are relatively unaffected by students’ SES characteristics. This is not to suggest that the SES has no relevance in the sociology of higher education. For example, it is well-documented that SES is an important factor in predicting retention as well as performance rates of undergraduate students (Peltier et al. 1999; Hu and St. John 2001; Reason 2003, 2009; Walpole 2003). Rather, it is argued that undergraduate years represent a sociologically unique life-stage in which SES characteristics do not exert great influence on the student experience. The somewhat ‘suppressed’ presence of SES in this particular period may be contrasted with the considerably stronger SES-effects that permeate life-stages either preceding or immediately succeeding the undergraduate years. From a life course perspective (for example, Hogan and Astone 1986; Shanahan 2000; Arnett 2004, 2007; Mayer 2009), it can be argued that the higher education student experience can be considered a transitional life stage which separates pre-university periods from post-university life stages (Person et al. 2005; Ng and Feldman 2007; Brooks 2009; Jacob and Weiss 2010). While various SES-effects are arguably present throughout the entire life course, they are assumed to be less pronounced during the undergraduate years. On the other hand, SES effects can presumably be ‘felt’ more strongly again once graduates enter the labour market since incomes considerably depend on occupational placements. However, since income tends to increase with age, it could be argued that SES-effects may weaken progressively throughout subsequent life stages (see Figure 3.2).

Figure 3.2 Schematic representation of life stages with the corresponding SES-effects

<table>
<thead>
<tr>
<th>Socio-economic status (SES) effects</th>
<th>Pre-university life stages</th>
<th>Undergraduate student experience as life stage</th>
<th>Immediate Post-university life stage (career entry)</th>
<th>Subsequent Post-university life stages (career progression)</th>
<th>weakening</th>
</tr>
</thead>
<tbody>
<tr>
<td>strong</td>
<td>limited</td>
<td>strong</td>
<td>weakening</td>
<td>strong</td>
<td>weakening</td>
</tr>
</tbody>
</table>
In conclusion, one of the primary goals of the present research is to find empirical evidence for the hypothesis whereby PRD is a more successful predictor of the proposed aspects of the undergraduate student experience than is SES. The theoretical implication of this hypothesis for the sociology of higher education is that by systematically interrogating socialisation dynamics we may be able to ‘locate’ certain social background effects within the student experience that are not directly related to SES. In order to prepare the comparative assessment of the SES and PRD effects on the student experience, the conceptual origin of PRD is overviewed in the following section since it is likely less familiar to students of higher education than is SES.

3.3.3 Conceptual origin of Propensity for Relational Diversity

The conceptualization of ‘propensity for relational diversity’ (PRD) is based on a heuristic assumption whereby the ‘social bridging’ capability of students (DiMaggio 1987; Totterdell et al. 2008) can be meaningfully captured by measuring three socialisation-related constructs that are distinct yet loosely related to each other. These are ‘socialisation diversity’ (SocDiv), ‘musical diversity’ (MusDiv) and ‘propensity for making friends’ (PMF). It is argued that the common element in these constructs is that they reflect an underlying preference for diverse social encounters. It follows that a higher level of relational capability (propensity) can be assumed for those who are able to transcend socio-cultural boundaries. The three constructs introduced above are expected to capture the multidimensional nature of PRD. Once operationalized and measured, SocDiv, MusDiv, and PMF can be used for subsequent hypothesis testing. Based on these arguments, PRD is defined as a set of dispositions acquired throughout the socialisation of an individual which allows the unhindered connection with dissimilar others in interactional situations as well as through a variety of social networks. It is argued that the differences among students with respect to endowment with PRD can be reasonably captured by exploring their socialisation characteristics.

It is posited that these socialisation characteristics influence the undergraduate experience (as captured in the ‘Base model’) in positive ways inasmuch as a diverse socialisation is expected to help both the academic and the social integration of students (Gurin 1999). As mentioned earlier, the project draws on the theory of intergroup contact (Allport 1954), although with modifications so it is more suitable to the research questions of the thesis. As explained in the previous chapter, the ‘contact hypothesis’ initially posited that, under certain optimal conditions, positive ‘intergroup’ ethnic encounters lead to reductions in ‘intergroup’ ethnic prejudices, while it has been also suggested that the theory can be applied in other contexts as well (Pettigrew and Tropp 2006).
Measuring socialisation diversity is undoubtedly a challenging task. It is operationalised in this study through a set of attitudinal questions on students’ acceptance/rejection of others based on certain socio-cultural characteristics. These are: ethnicity, age, gender, sexual orientation, physical appearance, socio-economic background, socio-political views, and religious views. The evaluation of attitudinal differences in these aspects is limited to the following three interpersonal relations: making new friends, flatting with someone, and marrying or cohabiting with someone. These dimensions are selected as they represent social situations that can be assumed to be familiar to students from a variety of backgrounds. While considering certain characteristics of others when making friends is arguably a common experience for all students, decisions on choosing a flatmate or a spouse may be rather hypothetical for some. However, the lack of personal experience does not invalidate the collection of attitudinal data from students who have not considered influential factors affecting the selection of a flatmate and a spouse. Arguably, these considerations require little cognitive effort from students. It can be assumed therefore that students are able to form opinions about the relative importance of the aforementioned aspects on flatmate and spouse considerations. In other words, having no direct experience with respect to ‘living with flatmates’ and ‘being married’ is not regarded as an excluding factor in the sampling-consideration for the research.

Attitude formation with respect to the relative importance of certain socio-cultural characteristics in the three selected social situations could certainly be linked to individual personality characteristics. More importantly, however, they are also influenced by social processes in that personal views and attitudes are shaped by the various social networks an actor is embedded in (Burt 1992, 2005; Lin 2001). The sociological investigation of attitudinal differences in the present context requires that such differences are linked to sociological factors, rather than to psychological ones alone.31 As a result, socialisation-characteristics are regarded as individual properties that can explain attitudinal differences among students. Indeed, the various definitions of socialisation refer to its infinitely complex nature. This makes socialisation a valuable conceptual tool for higher education research (Tierney 1997). In the following section different definitions of socialisation are discussed briefly (for a more thorough discussion see Christensen and Prout 2005; Kuczynski and Parkin 2007).

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31 This is the reason why the role of ‘personality types’ in the social dynamics of attitude formations were not considered in this thesis. However, such links are arguably worth investigating in future research.
3.3.3.1 Evolution of the concept of socialisation

It has long been known in the social sciences that coercive mechanisms are at work in societies to ensure that new members conform to existing norms and values through various means. This adjustment is involuntary at the early stages of psycho-social development of group members. Later, however, it is presumed that individuals are able to exercise more freedom in their choices regarding the acceptance/rejection of dominant social norms (Arnett 2007). As a consequence, norms in a society are reproduced not only through uncritical adaptation by the masses, but also by those whose acceptance of this value system is voluntary. Sociology recognises that one way to strive for a reasonably ‘value-free’ (in a Weberian sense) understanding of a social phenomenon is to examine what may be the plausible reasons for different members of society choosing to accept/reject various social norms. Such an undertaking may focus on the possible functions of norms and values that are assumed to affect members both within, and outside of a group. Indeed, a line of classical sociological work is concerned with the multidimensional aspects of different social functions within society. For example, both Durkheim and Merton distinguished between ‘manifest’ and ‘latent’ functions, while similar arguments were presented by Sumner, Mead, and Parsons.

The instrumental aspects are evident in earlier definitions of socialisation. These explicitly argue that new members within a social group are expected to adjust their views, behaviours, and values to those that are predominant within the group. For example, in a frequently quoted definition on the subject, Brim (1966: 3) argues that socialisation is “the process by which persons acquire the knowledge, skills, and dispositions that make them more or less effective members of their society”. A similar definition is articulated by Dunn et al. (1994: 375) who state that socialisation is “the process by which individuals acquire the attitudes, beliefs, values and skills needed to participate effectively in organized social life”. A more recent variant of these views is presented by Maccoby (2007: 13), who argues that socialisation “refers to processes whereby naive individuals are taught the skills, behavior patterns, values, and motivations needed for competent functioning in the culture in which the child is growing up”. The reference to ‘efficacy’, and ‘functioning’ in these definitions imply an asymmetric relationship between ‘new’ and ‘old’ group members whereby the former ones are expected to comply with a set of rules of the group without being able to influence those pre-existing norms themselves. Moreover, these definitions may not be suited to capture

32 On the opening page of his influential ‘Social Psychology’, Aronson (1991: 1) reminds the reader that Aristotle had argued that humans “by nature” are “social animals”.
33 The fact that many of these theorists are commonly regarded as functionalist (or structural-functionalist) does not mean that alternative sociological paradigms are incompatible with the assumption that norms and values of a group have functional aspects for those within and outside of group boundaries.
processes of internal group dynamics, such as voluntary departures from a group, or the capacity of certain ‘exceptional’ newcomers to influence old members as well as established norms.

A departure from the instrumentalist conceptualisation of socialisation is represented by the definition given by Bragg (1976: 3), who pointed out that "the socialisation process is the learning process through which the individual acquires the knowledge and skills, the values and attitudes, and the habits and modes of thought of the society to which he belongs". Arguably, ‘belonging to’ a community has less instrumental-utilitarian connotations than the definitions above. Since individuals may have very complex reasons and motivations for joining a group, social scientists need to consider not only manifest functions (for example, benefits) of group membership, but also those less visible, ad-hoc, and subjective functions (for example, feelings) that are needed for the comprehensive understanding of social network dynamics.

A comprehensive definition of socialisation can be found in a recent work, entirely dedicated to the topic. The editors of this volume, Grusec and Hastings (2007) posit that socialisation

refers to the way in which individuals are assisted in becoming members of one or more social groups. The word ‘assist’ is important because it infers that (...) new members of the social group are active in the socialisation process and selective in what they accept from older members of the social group. In addition, new members may attempt to socialize older members as well. Socialisation involves a variety of outcomes, including the acquisition of rules, roles, standards, and values across the social, emotional, cognitive, and personal domains. Some outcomes are deliberately hoped for on the part of agents of socialisation while others may be unintended side effects of particular socialisation practices. Socialisation is ongoing throughout the life course and can be accomplished by a variety of individuals (...) as well as (...) cultural institutions. Finally, and most important, [it] cannot be adequately understood without a consideration of how biological and sociocultural factors interact in a complex and intertwined manner (ibid. 1-2).

This definition has a number of advantages. First, it does not postulate hierarchical and unidirectional relationships between old and new group members. Second, it acknowledges that both the subjects of socialisation (what is being acquired), and its outcomes (domains in which the acquisition is materialised) are multidimensional. Third, it allows the incorporation of virtual agents of socialisation, such as the internet, into various research contexts. Fourth, as opposed to a number of definitions where a specific age-range is implied (for example, early-childhood, and adolescence), this definition asserts that socialisation is indeed a life-long process.

These properties of the definition of socialisation by Grusec and Hastings make it a broadly applicable tool within the social sciences.\textsuperscript{34} Moreover, given the complexity of capturing the

\textsuperscript{34} The definition is used outside of the social sciences, too. Its interdisciplinary applicability is evident in the growing number of academic fields where socialisation-research are taking place. These fields include ecology (Bjorklund et al. 2002), genetics (Moffitt and Caspi 2007), and biology (Repetti et al. 2007), to name just a few.
characteristics as well as the wide-ranging effects of socialisation, researchers could employ a wide range of research techniques, including quantitative and qualitative ones. Indeed, the potential synergy of these methods in socialisation research may propel the accumulation of knowledge at a faster pace in comparison to research areas that are hindered by the use of a single methodology.

### 3.3.3.2 Socialisation Diversity

This research attempts to operationalise diversity, as a particular property of socialisation. As mentioned earlier, a set of socio-cultural aspects (ethnicity, age, gender, sexual orientation, physical appearance, socio-economic background, socio-political views, and religious views), and three social situations (selection of a friend, a flatmate, and a spouse) are chosen as the appropriate context in which the operationalisation of the ‘socialisation diversity’ (SocDiv) construct is carried out. The rationale for measuring SocDiv in this way is based on the assumption that the reported unimportance of these aspects may reflect a ‘non-rejecting’ attitude of students with respect to the selection of a friend, a flatmate, and a spouse. Moreover, these attitudinal differences are assumed to be linked to socialisation characteristics of students, since agents of socialisation shape individual views and values about a variety of subjects (Arnett 2007; Padget et al. 2010). It follows that socialisation diversity can be assessed based on the range of aspects students reported as unimportant in their decisions regarding selection of a friend, a flatmate, and a spouse. Accordingly, a higher proportion of unimportance with respect to the aforementioned socio-cultural aspects is assumed to be a marker of diverse socialisation. Finally, socialisation diversity is linked to the propensity for relational diversity insofar as a heterogeneous socialisation history arguably makes it easier for an individual to connect to dissimilar others through a variety of social networks.\(^{35}\)

### 3.3.3.3 Relevance of Socialisation Diversity in the project

It is posited that ‘socialisation diversity’ (SocDiv) makes a positive impact on the undergraduate student experience. This is because undergraduate learning is being undertaken in a very stimulating and socially diverse environment in which an increased capacity of social bridging is assumed to assist both academic and social integration of students into the institutional culture. In addition to SocDiv, the two other socialisation-related measures in the ‘umbrella construct’ of PRD, ‘musical diversity’ (MusDiv) and ‘propensity for making friends’ (PMF) are also assumed to reveal certain aspects of the social-networking capacity of students. These assumptions draw on the somewhat

\(^{35}\) It can be derived from this argument, that those higher in PRD are likely be connected to a broad set of networks, but without necessarily having internalised the rules and values that these groups prescribe for their members.
interrelated concepts of ‘field’, ‘capital’, and ‘habitus’, based on discussions in Bourdieu and Passeron (1977), Bourdieu (1984, 1986, 1988, 1990a, 1990c, 1993a 1993b), Wacquant (1989) and Bourdieu and Wacquant (1992). With the adaptation of these concepts to the multidimensional undergraduate experience, it can be posited that the multifaceted manifestations of diverse socialisation are currencies (for example, familiarity with musical genres) that can be used simultaneously in multiple fields in order to accumulate various field-specific capitals. Throughout this process it is the flexible as well as continuously changing student habitus that orients individual behaviour. Thus, student habitus in this conceptualization is partially based on socialisation history insofar as the ‘relational capacity’ of actors to interact with dissimilar others is generated throughout the socialisation process. This quality of the PRD construct is reflected in its label (‘propensity for relational diversity’) which expresses that it aims to measure capacity to relate to dissimilar others rather than frequency of social interaction with them. The introduction of PRD into the higher education modeling strategy is therefore deemed to be a potentially useful way of capturing the effect of socialisation on the undergraduate experience.

3.3.4 Limited comparisons of SES and Socialisation effects in previous research

Out of the three socialisation-related constructs (SocDiv, MusDiv and PMF), SocDiv has been the most influenced by the contact theory of Allport (1954). As mentioned earlier, the operationalization of SocDiv was based on three social-interactional situations (making new friends, flatting with someone, and marrying or cohabiting with someone) in which students’ attitudes have been assessed with respect to socio-cultural characteristics such as ethnicity, age, gender, sexual orientation, physical appearance, socio-economic background, socio-political views and religious views. Utilizing the contact theory of Allport through such extension therefore allows a more sociologically grounded interpretation of the student experience insofar as SocDiv is interpreted as part of a broader set of social background characteristics rather than merely attitudinal ones. Although previous academic scholarship has drawn on the ‘contact hypothesis’ considerably (for example, Hu and Kuh 2003; Gurin et al. 2004; Gottfredson et al. 2008; Longerbeam 2010), they...
often have done so to conceptualise ‘racial or ethnic tolerance’ as an educational outcome of postsecondary learning. Moreover, these studies generally lack a characteristically sociological focus which is also evident by examining the way of handling the SES-measures in them. Even when SES variables are employed in these studies, they appear to be (1) only of admittedly limited interest (typically as ‘control’ variables) to the researchers as in Gurin et al. (2002), (2) measured through a very limited number of crude ‘proxies’, such as “childhood household income” in Gottfredson et al. (2008), as “family income” in Milem et al. (2004), as “parental education” in Hu and Kuh (2003), or as “family income and parental education” in Milem and Umbach (2003); in the latter, the “parental education” variable was actually dichotomized based on ‘first-generation status’ thus reducing the information-potential of a more ‘complete’ “parental education” variable for the multivariate statistical analysis. There are also other, ‘diversity-exploring’ studies that have not explicitly included any SES measures at all (like in Whitt et al. 2001 or in Terenzini et al. 2001).

Some of the most creative and insightful works drawing on the ‘contact theory’ have been carried out by researchers working within social scientific “sister fields” (Bourdieu in Wacquant 1989: 54) such as educational and social psychology. It is unfortunate, however, that some of these works appear to neglect measures of socio-economic background. This kind of deficiency may be interpreted as an example of the overly rigid separation of what Becher and Trowler (2001) described as ‘academic tribes’. For example, educational psychologist Longerbeam (2010) operationalises the constructs of “openness to diversity” and “precollege importance of diversity activities” with multiple items within a quantitative research framework, yet there are virtually no SES-measures in her study. Similarly, a team of venerable education scholars (Whitt et al. 2001) utilise the “openness to diversity and challenge scale” — which was developed by a nearly identical research group (Pascarella et al. 1996) — as a dependent construct in their study. Although they assess the potential effects of an arsenal of independent variables covering a broad range of areas in their multiple regression study, they do not employ any SES-relevant measures in the analysis. A different research team (Gottfredson et al. 2008) conceptualises multiple constructs that are all related directly and indirectly to contact theory, such as “contact diversity”, “classroom diversity”, “cognitive openness”, and “attitudes favoring equal opportunity” in creative ways. As noted above, however, this study only uses “childhood household income” as a proxy for SES. These examples illustrate that there appears to be a lack of scholarly work within the broader field of higher education research that would explore the effects of both kinds of background characteristics (SES and PRD) in sufficient depth in the same study.
3.3.5 Specification of a higher education ‘Base model’

In order to answer main research question as outlined in section 3.3.1, a general model is specified in which higher education latent variables are presented in a plausible causal order, as depicted in Figure 3.3. This model is referred to as the ‘Base model’ throughout the thesis. It comprises of four latent variables that are each measured with multiple observed variables (items). These latent variables are Satisfaction with the Quality of Teaching (SQT), Satisfaction with Facilitating Interactional-Diversity (SFID), Engagement with Teaching Staff (ETS), and Satisfaction with Facilitating Employability (SFE).

The rationale for the specification of a ‘Base model’ prior to the direct estimation of the effects of SES and PRD on the four educational latent variables requires elaboration. This stems from the assumption whereby the aforementioned higher education constructs are not independent from each other. Since the connection among them is not assumed to be entirely random, it follows that their relationships can be described in a plausible causal order. Consequently, it can be argued that certain constructs can be more reasonably specified as independent latent variables that predict the dependent ones than vice versa.37

Within the ‘Base model’ constructs, SQT, SFID, and ETS are conventional higher education measures that have been routinely assessed in large scale quantitative student surveys. Some of these previous works are discussed later in section 3.5.1 in this chapter. The last construct, SFE, however, represents a dimension that appears to be somewhat neglected in several higher education projects, carried out either by specialised research institutions, or higher education institutions themselves.

SFE primarily concerns the extent to which higher education institutions help their students develop skills that make them more employable. This construct is specified as the main dependent latent variable in the ‘Base model’. The rationale for this can be derived by following a life course perspective whereby it is assumed that — for most people — education is obtained prior to entering the labour force (Shanahan 2000; Arnett 2004; Konstam 2007; Mayer 2009). The pursuit of better education is understandably an important component of the process of status attainment, not least because higher education may have considerable economic returns (for example, higher income), although its non-economic benefits — many of which may materialize only over the long run — are not be underestimated (Paulsen 1998; Pascarella and Terenzini 2005).

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37 Since often there is more than one way to specify a model, it is essential that theoretical and conceptual considerations guide modeling strategies rather than purely statistical ones.
3.3.5.1 Hypotheses within the ‘Base model’

This section outlines the six research hypotheses regarding the connection between the four ‘Base model’ constructs. Supporting arguments and rationales for each hypothesis are given after each formal statement. Finally, the ‘Base model’ hypotheses are depicted in Figure 3.3.

**H2: SQT and SFID are correlated, direct, and positive predictors of ETS and SFE.**

SQT and SFID are routinely assessed dimensions of the undergraduate student experience in higher education research. While they cover aspects of student satisfaction that are related, unambiguous causal directionality may not be assumed between them. For this reason it is hypothesised that the relationship between SQT and SFID is best understood in correlational, rather than causal terms. Accordingly, the link between SQT and SFID is represented by a bidirectional arrow which commonly denotes an unanalysed relationship by conventions of graphical representation of models. Both SQT and SFID are expected to predict ETS and SFE directly and positively.

**H3: SQT has a direct positive impact on ETS.**

SQT predicts the degree to which students engage and interact with the teaching staff in a direct and positive way. SQT is one of the fundamental aspects of the undergraduate student experience. It is also ‘universal’ in that the quality of teaching represents a dimension whose importance is equally acknowledged across the diverse academic fields and programmes within the institution. In the academic learning environment, satisfaction with the quality of teaching suggests intuitively that teaching staff may become a natural orientation point for motivated students to make course-related, and broader, subject material and career-related inquires. Interactions of these kinds are crucial components of the academic and social integration of students (Astin 1993; Tinto 1998). It is therefore reasonable to assume that such students seek opportunities to engage with teaching staff and discuss a broad range of topics in both formal and informal ways.

**H4: SFID has a direct positive impact on ETS.**

This hypothesis states that satisfaction with the extent to which the university facilitates interactional diversity predicts the degree to which students engage and interact with the teaching staff. SFID is primarily concerned with the level of student satisfaction regarding the opportunities available to interact with diverse peers on campus. Consequently, it is regarded as a particular aspect of the broader ‘social integration’ dimension of the undergraduate student experience. As mentioned above, SFID is a commonly measured dimension in mainstream student survey projects.
For example, the College Student Experiences Questionnaire (CSEQ), the Australasian Survey of Student Engagement (AUSSE), and the University of California Undergraduate Experience Survey (UCUES) all have questions related to interactional diversity. Accordingly, interactional diversity has been researched extensively in the broader higher education literature (Pascarella et al. 1996; McKenzie and Schweitzer 2001; Terenzini et al. 2001; Whitt et al. 2001; Gurin et al. 2002, 2004; Longerbeam 2010; Nelson Laird 2011). While interactional diversity has been linked to a variety of student outcomes, it has not been assessed to what extent it can predict the level of student engagement with teaching staff. The need for the evaluation of this relationship is derived from the assumption whereby the satisfactory prediction of ETS depends not only on the academic and learning-related factors of the undergraduate experience (as stated above in H3) but also on aspects of student life that are related to interactional diversity. It follows that SFID is expected to predict students’ level of engagement with the teaching staff directly and positively.

**H5: SQT has a direct positive impact on SFE.**

From a life course perspective, education is commonly obtained before a profession is secured (Shanahan 2000; Arnett 2004). Arguably, one of the main rationales for undertaking tertiary level education is that it opens up vocational opportunities that would not be available otherwise. Higher education institutions therefore enjoy a nearly unchallenged monopoly in claiming to possess exclusive means to alleviate the transitional challenges of career entry. These means primarily revolve around the standardized transmission of certain skills which could assist students’ movement between the adjacent life stages of education and fulltime employment. The extent to which a programme, a degree, or a course can facilitate employability may be captured by the examination of academic curricula, guidelines, policies as well as the norms and expectations that guide academic fields. It is even more important to scrutinize, however, how practical and employable skills are facilitated by the actual teaching practices. The simultaneous assessment of SQT and SFE on the same questionnaire thus provides an opportunity to empirically evaluate the strength of their relationship. It is hypothesised that it is through the assessment of the overall quality of teaching that students can evaluate the potential practical benefits of their courses, programmes, and academic majors, rather than vice versa. This can be expressed formally as SQT predicts SFE directly and positively.
**H6: ETS has a direct positive impact on SFE.**

The extent to which students engage with the teaching staff positively relates to the level of satisfaction with the degree to which practical and employable skills are perceived as some of the results of the university education. Student engagement has been an active research area in tertiary education studies, and various positive outcomes have been associated with both the formal and informal ways of the student-teaching staff interaction (Pascarella 1985; Weidman 1989; Astin 1993; Tinto 1993; Kaufman and Feldman 2004). Student engagement with the teaching staff can take multiple forms, and a wide range of topics may be discussed during these interactions. For example, conversational topics may include not only course-related inquiries, but those related to research participation, or career advice. It is through these kinds of interactions that students may gain additional insights about direct and indirect applicability of the course materials to their future employment. Linking the taught materials to practical domains may become more apparent for students who are willing to take the ‘extra’ steps that are arguably necessary components for becoming an active and engaged learner. This assumption is expressed in the hypothesis whereby ETS predicts SFE directly and positively.

**H7: SFID has a direct positive impact on SFE.**

Satisfaction with interactional diversity opportunities is linked to students’ satisfaction with the degree to which practical and employable skills are facilitated throughout the completion of a degree. Specifying SFE as the main dependent construct in the ‘Base model’ assumes that each of the other three constructs can reasonably be considered as valid predictors of SFE. Rationales for why SQT and ETS are conceptualized as positive predictors of SFE were given in the discussions of H5 and H6, respectively. The motivation for including SFID as an additional predictor of SFE stems from the assumption that SFE cannot be sufficiently explained by students’ satisfaction with the academic dimensions (such as SQT and ETS) of the university experience alone. It makes intuitive and logical sense then to evaluate the extent to which interactional diversity — a distinctively social aspect of the student experience — contributes to the empirical explanation of SFE. The reason for this is derived by the adaptation of certain elements of the broader social capital (for example, Coleman 1988; Lin 2001), social networking (for example, Granovetter 1973, 1983; Burt 1992, 2005) literatures so that they can be applied within the context of higher education. The theories of social capital, and social networking were originally proposed to describe how patterns of social network formation (for example, connecting to others via strong or weak ties) can be utilised to achieve specific economic gains (for example, getting a job). The removal of the strictly economic underpinning from these theories greatly expands the potential of their use outside...
economic sociology thus making them accessible to various social scientific fields. For example, in the context of the present research, it can be argued that students with a broader, more diverse social network evaluate SFE differently from students whose social network is less diverse. More specifically, diversity-preferring students can envision a potentially broader applicability of the course materials to their future employment. Conversely, students with less-diverse social networks may require closer linkages between the quality of teaching and the practical applicability of the taught materials. In short, the exposure to diverse views and opinions (or the lack thereof) can influence the ways students assess the practicality of their degrees for their future employment. It is of sociological importance therefore to test the hypothesis which states that a positive, linear relationship exists between SFID and SFE.

Figure 3.3 Conceptual representation of the ‘Base model’*

* Unidirectional arrows represent the assumed causal relations; bidirectional arrows denote correlational links between constructs. Ovals represent latent variables, each of which is measured with multiple observed indicators that are represented with squares. The hypotheses are numbered according to the description above.

3.3.6 Differentiation of academic fields and the ‘Base model’

The model specification of the ‘Base model’ — whereby the main dependent construct SFE is predicted by other aspects of the student experience — reflects a fundamental assumption in this project: that achieving a desirable employment outcome is one of the main reasons for the undertaking of tertiary education (Collins 1979; Astin 1993). However, students obtain educational credentials in distinct academic fields which differ considerably in the extent to which they endow degree earners with genuinely transferable and practical skills. The successful acquisition of these
skills is important because they can arguably increase students’ chances of achieving upward social mobility (Grubb 1992; Thomas 2000a; van de Werfhorst 2002, 2004; Reimer et al. 2008; Wolniak et al. 2008). Given these considerations, a new classification of academic fields is proposed in this research based on the extent to which prospective employment-related skills are embedded in the academic curricula. It has been argued earlier (see section 2.3.3 in Chapter Two) that the paradigm concept of Kuhn (1970) has been influential in several proposals that classified academic fields based on certain criteria (Lodahl and Gordon 1972; Biglan 1973; Brint et al. 2008).

The new classification of academic fields in this project aims to capture a divide between ‘General’ and ‘Professional’ study areas in the context of The University of Auckland, drawing on the typology proposed in Biglan (1973) which considered the ‘requirements for practical application’ to distinguish between academic fields. It is argued that three of the eight faculties at The University of Auckland may be classified as ‘General’ educational fields (Arts, Creative Arts and Science) while the remaining five faculties comprise the ‘Professional’ group (Business, Education, Engineering, Law and Medicine).\(^{38}\) Moreover, it is posited that certain differences between the two groups of academic fields can be captured by evaluating the link between SQT and SFE in them. As noted above in H5, the relationship between SQT and SFE is about measuring the extent to which satisfaction with the acquisition of employable skills is driven by the satisfaction with the quality of teaching. The rationale for comparing the effect of SQT on SFE in the two academic groups is that a more practical and reflexive (with respect to job market demands) teaching practice is assumed to be present within the ‘Professional’ fields in comparison to the ‘General’ ones. In order to test this assumption, two hypotheses are proposed:

\[H8a: \text{SQT is a better predictor of SFE in the ‘Professional’ academic fields than it is in the ‘General’ ones.}\]

\[H8b: \text{SFE is the main driver of Overall Academic Satisfaction in the ‘Professional’ group whereas Overall Academic Satisfaction is generated primarily by SQT in the ‘General’ group.}\]

The first of these hypotheses (H8a) is based on the assumption that the evaluation of the strength of the relationship between SQT and SFE can be used to highlight an important difference between the two groups of students who are located in either the ‘General’ or the ‘Professional’ fields. This states that, for students studying in the ‘Professional’ fields, the relationship between SQT and SFE is believed to be stronger than in the ‘General’ group. The difference in the strength of the SQT-to-SFE paths in the two academic groups is depicted in Figure 3.4.

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\(^{38}\) The advantage of this classification over conventional ones (for example, ‘social sciences’ versus ‘natural sciences’) is empirically demonstrated in section 5.4 in Chapter Five which describes the quantitative results.
The second hypothesis (H8b) is closely related to the first one, although the corresponding assessment is carried out in a slightly modified version of the ‘Base model’ in which ‘Overall Academic Satisfaction’ (denoted as ‘SatAc’ hereafter) is specified as the ‘ultimate’ dependent construct in the model. 39 This alteration of the initial ‘Base model’ allows the testing of the assumption whereby SatAc is driven mainly by SFE in the ‘Professional’ group. In contrast, SQT can be theorized to be a more influential source of SatAc among students in the ‘General’ group, in which a relatively weaker influence is expected of SFE on SatAc (see Figure 3.5).

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39 Although not part of the proposed ‘Base model’, ‘Overall Academic Satisfaction’ is measured in the study with a single item to allow an alternative model specification so that it could be considered as one of the ‘outcomes’. 
3.3.7 Hypotheses regarding ‘outcomes’ of the ‘Base model’

The last set of hypotheses concerns the relationship between the undergraduate student experience and the various facets of post-university life stages. It is of particular interest to assess the feasibility of the assumption whereby the multidimensional undergraduate student experience is positively related to postgraduate study aspiration (denoted as ‘PGSA’ hereafter) and to the preference for two types of distinct job values: intrinsic and extrinsic (denoted hereafter as ‘PIJV’ and ‘PEJV’, respectively). The reason for focusing on PGSA and the aforementioned preferences for the two types of job values can be explained from a life course perspective. It means that in the present context, postgraduate study choices and the preference for different job values represent distinct domains that are nested in students’ broader plans concerning post-university life. More specifically, it is hypothesised that each ‘Base model’ construct relates positively to PGSA as well as to PIJV. In contrast, the comparatively lower effects of the ‘Base model’ constructs are hypothesized on PEJV with the possible exception of SFE which is believed to be related to PEJV rather than to PIJV. These relationships therefore can be formalized in two sets of hypotheses. In the first, PGSA is specified as the dependent variable that is expected to be positively influenced by the four ‘Base model’ constructs. These relationships are encoded in four hypotheses (H9a-d), discussed below. The second set contains also four, comparative hypotheses whereby three of the ‘Base model’ constructs (SQT, SFID, and ETS) are assumed to exert positive influences that are stronger on PIJV than they are on PEJV (H10a-c). However, SFE is expected to be more strongly related to PEJV as opposed to PIJV insofar as students who feel well-prepared for labour market participation may be more interested in the economic and material benefits of their prospective employment than in the ‘merely’ intrinsic rewards (H10d). The first set of hypotheses state the following:

\[
\begin{align*}
H9a: & \quad \text{SQT has a direct positive impact on PGSA.} \\
H9b: & \quad \text{SFID has a direct positive impact on PGSA.} \\
H9c: & \quad \text{ETS has a direct positive impact on PGSA.} \\
H9d: & \quad \text{SFE has a direct positive impact on PGSA.}
\end{align*}
\]

These hypotheses denote that each ‘Base model’ construct significantly contributes to students’ decisions regarding enrolment in postgraduate programmes. While a variety of factors may contribute to such a decision, the ones related to the undergraduate student experience are arguably of particular importance (Nevill and Chen 2007). Generally, it can be assumed that students who are satisfied with the overall learning experience, and are engaged with teaching staff are likely to consider enrolling in a postgraduate degree (Ethington and Smart 1986; Martin 2009). These hypothetical relationships are depicted in Figure 3.6.
The second set of hypotheses referred above contains statements about the relationships between the ‘Base model’ and the preferences for intrinsic and extrinsic job values.

*H10a:* SQT has a stronger, direct positive impact on PIJV than does on PEJV.  
*H10b:* SFID has a stronger, direct positive impact on PIJV than does on PEJV.  
*H10c:* ETS has a stronger, direct positive impact on PIJV than does on PEJV.  
*H10d:* SFE has a stronger, direct positive impact on PEJV than does on PIJV.

These hypotheses are based on the assumption that university education, in general, tends to facilitate a learning environment that favours the transmission of broader academic knowledge and related analytical skills, rather than generating a comparatively narrower set of vocational skills (Hyllegard and Lavin 1992). The pursuit of academic knowledge in the form of a university degree can be associated with the facilitation of the preference for intrinsic job values. In contrast, vocational qualifications tend to emphasize ‘job applicability’ and ‘practicality’ of a degree thus implicating closer links with the promotion of extrinsic job values (see Figure 3.7).  

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40 The latter ones may be specific to higher education institutions with a markedly vocational profile, for example polytechnics. In the New Zealand context, examples for this kind of tertiary education institution include the ‘Christchurch Polytechnic Institute of Technology’, or the ‘Waikato Institute of Technology’.

41 This categorization does not suggest that a rigid separation exists between academic and vocational institutions. Rather, it offers a crude approximation whereby intrinsic and extrinsic job aspects may be plausibly linked to one type of institution.
While unambiguous causal links between the ‘purely’ higher education-related ‘Base model’ constructs and career preferences may not be readily established, it is arguably even less reasonable to assume that participation in a higher education institution does not affect the formation of career preferences at all. Indeed, the branch of higher education studies that concerns the education-to-work transition postulates an underlying dynamics between these two adjacent life stages rather than assuming their independence (Teichler 2000; Freeman and Hirsh 2008; Hu and Wolniak 2010; Jacob and Weiss 2010).

In addition to PGSA, PIJV, PEJV, and SatAc, several plausible ‘outcome measures’ are assessed in a similar way to what has been discussed above. These ‘outcomes’ include three domains of student satisfaction (‘verbal skills’, ‘practical skills’, ‘departmental relationship’) and one that concerns academic performance (‘grades’). Each of these four constructs is measured with single indicators.

### 3.4 Rationale for choosing Structural Equation Modeling as an analytical tool

Throughout the previous section various relationships have been hypothesised that assumed directionality between the proposed constructs. Postulating causal relationships within social scientific research is, however, rarely a trivial matter, and the discussions around causality have generated a substantial amount of work by social scientists, statisticians, and methodologists alike (Morgan and Winship 2007; Mulaik 2009; Antonakis et al. 2010; Freedman 2010; Gangl 2010; Hedström and Ylikoski 2010; Jaccard and Jacoby 2010; Markus 2010; Pearl 2009, 2010, 2012; Turner 2010; Bollen and Pearl 2013). The problem of causality is even more pronounced when
inferences are drawn from a non-experimental study. Accordingly, the meaningful testing of a set of hypotheses on cross-sectional data requires the use of appropriate statistical techniques. One such technique is Structural Equation Modeling (SEM). It offers a methodologically sophisticated framework that allows for the simultaneous estimation of the hypothesised relationships within a proposed model “without randomized experimentation [which] is quite remarkable”, as Bentler (2007: 773) notes. Moreover, it is recognised that the various advantages of SEM may originate from its unique quality whereby “[i]t is meant to be a unifying methodology that can handle (...) various models as special cases, as well as generalized models that are hard or impossible to handle with earlier methods” (Hayashi et al. 2007: 396). Other prominent SEM researchers and methodologists also highlight the range of benefits SEM has over other popular statistical techniques which have been widely used in the social sciences, such as multiple regression, ANOVA/MANOVA (Bollen 1989; MacCallum and Astin 2000; Yuan and Bentler 2006). The superiority of SEM over these previously dominant research techniques is partly due to its capacity to reveal the plausibility of theorized relationships between latent constructs that are ‘purged’ from measurement errors which are “segregate[d] (...) from the true scores of attributes” (Yuan and Bentler 2006: 297). This property of SEM enables researchers to interrogate causal relationships that are encoded in the structural components of the model thus allowing the bringing of “causal assumptions to the model, whereas multiple regression, ANOVA, etc. might be applied purely for descriptive purposes without any causal assumptions” (Bollen and Noble 2011: 15639).

The overview of higher education studies from recent decades shows that SEM has become an increasingly popular research technique for analysing large scale student survey data (Nora 1987; Pike 1991; Reynolds and Walberg 1991; Beekhoven et al. 2002; Mayhew et al. 2009; Teo and Khine 2009; Camgoz-Akdag and Zaim 2012; Khine 2013). The more technical aspects of SEM are discussed further in the next chapter.

3.5 Recent institutional efforts toward exploring the student experience

In this section several influential higher education survey studies are overviewed. This doctoral research drew considerably on some of these studies in the construction of its questionnaire items and interview questions. In particular, questionnaires used by these higher education studies were examined thoroughly as they were expected to provide invaluable information for the development of this project.

42 Randomized clinical trials may offer examples for studies that are specifically designed to allow the relatively ‘unambiguous’ assessment of a cause and an effect. However, this sort of research setting can never be mimicked completely in social scientific studies.
3.5.1 Influential student surveys

Surveys have been routinely used by tertiary educational institutions around the world to collect feedback from students on various aspects of their experience related to the institution. A review of previously used undergraduate survey questionnaires at various tertiary educational institutions is therefore warranted prior to the questionnaire-developing phase of this research. The examples in this section illustrate that survey studies of the undergraduate population of educational institutions are often carried out either internally, or by adapting well documented and validated questionnaires developed by educational research centres.\(^43\) The evolution of student surveys resulted not only in the accumulation of empirical databases, but it also led to an intellectually intensive and stimulative period in educational research (Pascarella and Terenzini 2005; Kuh 2009). Questionnaires were continuously developed and refined based on conceptual and practical considerations. The expansion of survey questionnaires in breadth and depth enabled higher education researchers to gradually move beyond descriptive methods and start experimenting with novel techniques in order to recover correlational or even causal links between conceptualised constructs (Pike and Kuh 2006; Mayhew et al. 2009; Cokley et al. 2010; Meeuwisse et al. 2010). At the same time, the increasingly common use of web-based surveys in the field allowed methodologists to explore differences between the online and offline questionnaire distribution as well their relative impact on data quality (Carini et al. 2003; Sax et al. 2003).

Although survey questionnaires have become parts of the managerial repertoire in an increasing number of tertiary institutions worldwide, not all surveys are well-suited to inform higher education research. The salience of certain questionnaires is evident by the influence they exert on the relevant research literature. The frequent referencing of some of the questionnaires in the relevant higher education journals and publications\(^44\) may provide quantifiable evidence for their importance in comparison to other, less widely used questionnaires. For these reasons, there are six major undergraduate student questionnaires that are selected in the present overview. The first four of these can be considered as examples of the influential questionnaires just mentioned. All of them were developed within academic or educational research institutions. Since these surveys have been

\(^{43}\) Internally developed surveys can co-exist with those developed by specialised educational institutions. For example, The University of Auckland evaluated its undergraduate population with internally developed survey instruments in 2007 and 2009, while another survey — developed by the Australian Council for Educational Research (ACER) — was used in 2008 and in 2010.

\(^{44}\) Some of these journals include: *Journal of Diversity in Higher Education, Research in Higher Education, The Journal of Higher Education, The Review of Higher Education, Journal of College Student Development, Review of Educational Research, Sociology of Education, Educational Research Review*. An important volume within the field is the annually published *Higher Education: Handbook of Theory and Research*. In addition to periodically published volumes, there are many monographs and edited books devoted to higher education. These works have been referenced throughout this thesis.
conducted relatively frequently and on large student samples, they draw scholars from many academic fields. Consequently, they became relatively well known among higher education scholars. This is not the case for many smaller student survey projects that often represent examples of isolated efforts by a particular higher education institution.

The fifth survey study is different in that it illustrates a rather rare example of a questionnaire which was designed with the explicit purpose of measuring the degree-to-job fit among recent graduates. Additional distinguishable features of this research are that it collected data in twelve different countries (rather than just in one) and was funded by a governmental body (The European Commission) rather than an educational or research institution. The final questionnaire introduced below is the one that was developed and used by UoA.

1. The College Student Experiences Questionnaire (CSEQ)

This questionnaire was developed by C. Robert Pace at the University of California, Los Angeles (UCLA) in 1979. The most recent edition is the fourth which was finalized in 1998. It has been used extensively by over 500 institutions in the United States (Williams 2007). The project has been hosted at the ‘Center for Postsecondary Research’ at Indiana University. The research team has been led by George D. Kuh. The questionnaire, with related information and technical documents, is freely available through the website of the organisation (The College Student Experiences Questionnaire Assessment Program 2007).

2. The University of California Undergraduate Experience Survey (UCUES)

The UCUES survey has been administered to all undergraduate students at the University of California since 2002. Unlike most undergraduate surveys that are limited to cross-sectional data, this survey is designed to make longitudinal investigation of its participants possible. This questionnaire is freely available to download from the website of the university (University of California Undergraduate Experience Survey 2008).

3. National Survey of Student Engagement (NSSE)

The aim of the National Survey of Student Engagement project was to make experiences of undergraduate students at various higher education institutions across the United States comparable between institutions. It is a very large undertaking. At the time of its first administration in 2000, 276 higher education institutions participated in it. By 2010 that number had grown to 603
4. Australasian Survey of Student Engagement (AUSSE)
This survey is a derivative of the NSSE and it has been developed and administered by the Australian Council for Educational Research (ACER). Since its first run in 2007, a growing number of Australian and New Zealand universities have participated in the research coordinated by ACER: 25 institutions in 2007, 29 in 2008, and 35 in 2009. The questionnaire is freely available through the project’s own website (Australasian Survey of Student Engagement 2010).

5. Careers after graduation – a European research study (CHEERS)
This questionnaire was used only in one cross-sectional study. 36,693 students from twelve countries (eleven European countries and Japan) participated in the study. The data was collected from various higher education institutions from each participating country between 1998 and 2000. The main results, detailed information, and the questionnaire are publicly available through the project’s website (Careers After Graduation 2007).

6. The University of Auckland Teaching and Learning Surveys (UATLS)
The University of Auckland have been running surveys frequently since 2003 as part of its quality assurance programme. While the findings of the surveys are available to students and staff of the university in report form, the questionnaires are not publicly available.

A thorough analysis of the various domains in these questionnaires is not necessary for the present research. It is worth noting, however, that most of these questionnaires tend to focus on the following areas: use of, and satisfaction with student support services, satisfaction with teaching, learning experiences, skill development, workload, and the international aspects of the university. Even in cases where attention has been given to extracurricular, employment-related and non-academic aspects of student experience, these areas still appear less important in comparison to the ‘primary dimensions’ that comprise the core parts of these questionnaires.

45 Through personal communication with Dr. David Tippin, who was the former quality co-ordinator at the Planning and Quality Office at The University of Auckland, the researcher was presented with copies of all questionnaires used in previous undergraduate surveys. His contribution to this project is greatly appreciated.

46 For example, the ‘Teaching and Learning Survey’ carried out by The University of Auckland in 2009 asked only two questions (with five Likert-scale response categories) related to social aspects of student life: “I have made friends at University”, and “The University’s social atmosphere has been enjoyable for me”. The employment-relevant dimension
The overview of several important higher education studies revealed the strengths and weaknesses of the questionnaires used in these studies. This proved to be a useful undertaking to the extent that it provided invaluable insights for the development of the research design by considering the merits of previous applied educational research efforts. It is important to remember, however, that most of the aforementioned surveys were designed and used by educational institutions for benchmarking and evaluation (internal as well as comparative) purposes. Since these projects are commonly integrated into broader quality assurance programmes of university management, it follows that the topics covered in them mainly reflect institutional-managerial interests, with the unfortunate neglect of certain areas that are important to social scientists. In particular, the coverage of the multidimensional social background characteristics of students appears to be suboptimal in the ‘official surveys’ insofar as socio-economic status and socialisation characteristics are not dealt with in sufficient depth, if at all. The review of the higher education survey projects therefore was revealing not only because it located several, well-tested and continuously refined educational measures (for example, those related to satisfaction and engagement) but also because it helped identify research areas that need to be explored further in order to gain a more complete sociological understanding of the undergraduate student experience. Another result of the overview of previous scholarly works and the aforementioned large scale higher education survey projects was that it became apparent that the scope of the research would inevitably be limited were it to rely on either a quantitative or a qualitative research method. In order to overcome such shortcomings, a mixed methods research design is employed in the study.

3.6 Chapter summary

In this chapter the research questions and hypotheses have been discussed, along with their theoretical backgrounds. A series of conceptual models have been proposed, based on sociological and higher education theories. These models are related to the undergraduate student experience in different ways. As a sociological study, the present investigation goes beyond the modeling of only higher education constructs, and it explicitly aims to assess some of the contextual aspects of the undergraduate student experience. The main driving rationale of the project is to uncover the extent to which the conventional and routinely benchmarked dimensions of the undergraduate experience are affected by students’ social background characteristics. In particular, two such background measures are assessed in order to compare their respective ‘weights’ in influencing the student experience. These are: socio-economic status (SES) and ‘propensity for relational diversity’ (PRD).

is even more neglected insofar as the measurement of this arguably important aspect of the student experience is confined to just one question, worded as: “I am acquiring job-related or work-related knowledge and skills”.

83
Rationales were given for the sociological relevance of making this comparison. Furthermore, it was argued that structural equation modeling (SEM) is an appropriate statistical technique for the purposes of the quantitative analysis in this project. The chapter concluded with the overview of some well-established, large scale student surveys that influenced the construction of the questionnaire as well as the interview topic guide. As this study utilises both quantitative and qualitative techniques, some of the general aspects of the mixed methods research design are discussed in the following chapter in which the various research instruments are also introduced.
Chapter IV — Research design and methodology

4.1 General overview

In this chapter a series of methodology-related issues are reviewed, such as those related to research design, mixed methodology, survey research and semi-structured interviewing. A detailed account is given on the research procedures, including the pilot study, the main survey and the student interviews. The pilot study was conducted in a hard copy survey form in order to receive feedback from prospective survey participants regarding the clarity of the questionnaire. In the second, main phase of the research an online questionnaire was made available to all undergraduate students of The University of Auckland. The survey was designed to test hypotheses between the several constructs proposed in the previous chapter. The basic descriptive statistical properties of these research instruments are described later in the chapter. In the final phase of the research, interviews were conducted and therefore this chapter concludes with an overview of some of the characteristics of the qualitative research method, with particular attention given to the interviewing technique.

4.2 Research design

The function of the research design is to ensure that the empirical evidence obtained through the data collection phases is suitable for providing answers to the main research questions in a convincing manner in that it “provides a context in which relatively unambiguous statements can be drawn” (de Vaus 2002: 31). A similar point is made by Becker and Bryman (2004: 36) who consider a research design as a “structure or framework within which data are collected”. In the context of educational research, Johnson and Christensen (2010) distinguish between experimental and non-experimental research designs. In experimental research the independent variables are manipulated by the researcher so that their effects on the dependent variables are measurable. Experimental research design can be further divided into true experiments, and quasi-experiments, depending on the way research subjects are assigned to different treatment conditions (Keppel 1991). Whereas in ‘true’ experiments participants are placed into groups randomly, quasi-experiments utilise nonrandomised design. Non-experimental research designs include cross-sectional, correlational, longitudinal, case study, comparative, pre-post, and developmental research designs (de Vaus 2002; Becker and Bryman 2004; Creswell 2009). This distinction is echoed by Adams et al. (2007: 82-83) who also add that non-experimental designs are essentially ‘observational’ ones that can be further divided into ‘prospective’ and ‘retrospective’ subcategories.
The present research belongs to the non-experimental research design group. More specifically, neither the quantitative, nor the qualitative phase of the study involves manipulation of data by assigning participants into distinct ‘treatment’ and ‘control’ groups. As is typical in large-scale, cross-sectional survey studies, such variable-manipulation was not possible, nor desirable. Indeed, non-manipulation is a common characteristic of cross-sectional survey studies “because the variables in which the researcher is interested are not capable of being manipulated for practical or ethical reasons” (Becker and Bryman 2004: 189). In other words, while in experimental research the researcher creates the differences between the participants, cross-sectional studies are based on the assumption that by collecting empirical data on variables of research interest, researchers are able to investigate if and where differences exist within the data. Such investigation in cross-sectional research aims to examine the relationships between variables pertinent to the research hypotheses, and it is often carried out by employing various statistical techniques.

4.2.1 Phases and logical inference in social research

It is customary to argue that scientists may adapt a deductive or an inductive way of reasoning in their pursuits of new discoveries, a common dichotomy of logical inferences classified in methodology textbooks in the social sciences (Babbie 2010; Creswell 2011; Bryman 2011). However, Peirce argued over a century ago (1878a, 1878b) that deduction and induction are complementary, rather than competing paths to reasoning and together with abduction they comprise the three essential steps in any research that aspires to satisfy all criteria of the ‘scientific method’. In this line of reasoning, abduction refers to hypothesis formation in the preliminary stage of research in which the researcher contemplates the most plausible explanation(s) to a particular research problem. This phase is followed by deduction (calculating an observable consequence from a hypothesis) and induction in which inferences are made from the sample to the population. However, the ‘generalizability of the findings’ is a process simultaneous with the assessment of the plausibility that the findings do indeed refer to ‘real phenomena’ in the complex social world, even if alternatives to the researcher’s favoured interpretation can never entirely be ruled out, in accordance to the concept of logical indeterminism (Garrison 1986; Mulaik 1986). Moreover, although the three phases of scientific research discussed above may be separated analytically, in the practice of research they are intertwined and operate in a circular fashion insofar as a research is
an infinite collective endeavour in which initial ‘failures’ may lead to subsequent success, partly through the by-products of research in the forms of ‘unintended’ discoveries.\footnote{It can be argued that abduction, deduction and induction are present in all scientific practices: in social and natural sciences alike. For example, renowned theoretical physicist Richard Feynman (1965) argued about scientific method in the following way: “In general we look for a new law by the following process. First we guess it. Then we compute the consequences of the guess to see what would be implied if this law that we guessed is right. Then we compare the result of the computation to nature, with experiment or experience, compare it directly with observation, to see if it works. If it disagrees with experiment it is wrong. In that simple statement is the key to science (…) every once in a while experiment produces trouble; that is, it produces a discovery that one of the things we thought right is wrong. In this way experiment can produce unexpected results, and that starts us guessing again” (ibid 156-157).}

\subsection*{4.2.2 Paradigms in social research}

Research does not only have phases with distinct ways of reasoning; each inquiry is also rooted in paradigms that provide the general frameworks of, and the viewpoints to, a particular scientific investigation. This is because irrespective of the particular methodology employed in the specific research context, the investigations are inescapably embedded in philosophical worldviews or paradigms. The concept of ‘scientific paradigms’ is perhaps most commonly associated with Kuhn (1970) who defined them as “universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners” (ibid. XIII).

The categorisation of philosophical paradigms orienting social research is open to debate. For example, Williams (2006) argues that positivism and interpretivism are the two main research paradigms. However, Guba and Lincoln (1994: 109) propose four such paradigms: positivism, post-positivism, critical theory, and constructivism. Yet others have proposed a different typology, comprising positivist, interpretive and critical paradigms (Chua 1986; Orlikowski and Baroudi 1991). In the context of educational research, Cohen et al. (2011) argued for the same categorisation, although renaming the somewhat pejorative ‘positivist’ term to ‘normative’.

In his influential textbook on methodology, Creswell (2009) proposes four main research paradigms: postpositivism, constructivism, advocacy/participatory, and pragmatism. It is really only the latter that explicitly aims to position itself away from the conventional positivism/constructivism dichotomy that has plagued ever-recurring debates around the dualism of objectivism/subjectivism which is rightly characterised by Wacquant (2013: 275) as the “deadly opposition between two antithetical and equally truncating stances”. Although not explicitly stated, the strive for a pragmatic approach to research is evident in the works of Bourdieu, too. Well before the meticulously documented ‘paradigm war’ in the academic educational field in the 1980s (Guba 1990; Denzin 2010) that gave rise to mixed methods research, Bourdieu’s proposal of the habitus aimed to provide researchers with a flexible conceptual tool to capture the interplay between
structure and agency. In his words: “habitus, an old Aristotelian and Thomist concept that I completely rethought, can be understood as a way of escaping from the choice between a structuralism without subject and the philosophy of the subject” (Bourdieu 1990a: 10). Though Bourdieu has been largely ignored (or, rarely referenced) by prominent ‘professional methodologists’ throughout the ‘paradigm war’, Fries (2009) points out that the reflexive sociology advocated by Bourdieu can indeed be interpreted as a platform to provide “a theoretical basis for mixed methods research” (ibid. 326). The line between quantitative and qualitative approaches can be further blurred by recognizing that quantification, as Espeland and Stevens (2008: 403) compellingly argue, itself is essentially a social process, with the following five, non-ignorable dimensions to consider in any context in which numbers are used: “the work it requires; its reactivity; its tendency to discipline human behavior; its polyvalent authority, and its aesthetics”.

Given the theoretical developments outlined above, it can be concluded that the pragmatic research paradigm — rooted in the early work of Peirce — offers the philosophical legitimisation to research strategies for mixed methods investigators who embraced it and integrated it into their research practices (Morgan 2007). This adaptation is arguably due to one of the attractive features of the pragmatic paradigm whereby it “is not committed to any one system of philosophy and reality. This applies to mixed methods research in that inquirers draw liberally from both quantitative and qualitative assumptions when they engage in their research” (Creswell 2009: 10).

4.3 Mixed methods research design

Quantitative and qualitative research methods can both be seen as viable perspectives from which social scientific investigations have long been carried out. While the weaknesses associated with either methods have been established within the social scientific communities, this recognition does not postulate that researchers need to box themselves into methodological corners. Rather than being forced into the quantitative or qualitative dilemma, since the emergence of mixed methods design researchers can incorporate both quantitative and qualitative methods into a coherent framework. Indeed, it has been reported that mixed methods research has been gaining increasing popularity in the last three decades (Cameron 2009; Creswell 2009; Creswell and Plano Clark 2011). It is even argued by a number of scholars that mixed methods research is a separate, third paradigm with its own distinct characteristics rather than merely a mix of quantitative and qualitative techniques (Johnson and Onwuegbuzie 2004; Hanson et al. 2005; Mayring 2007). As the popularity of mixed methods design has grown, its definition has become more fluid as the advocates and critics tend to customize it to fit to their particular topical interest. The proliferation of definitions is
barely a surprising phenomenon in the social sciences. The more serious concern is that it can potentially make communication between researchers and policy makers ineffective. In order to preserve the integrity of mixed methods research, Johnson et al. (2007c) surveyed a group of leading scholars of the field, extracting definitions of ‘mixed methods research’ from nineteen sources. Seeking to establish an overarching, generic definition, they conclude that:

[mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration (ibid. 123).

This definition allows scholars to exercise considerable freedom in the way they carry out mixed methods research insofar as there are no sequential restrictions with respect to a particular ‘preferred order’ between the quantitative and qualitative phases in the investigation. Consequently, perceptual concerns over the alleged ‘over-dominance’ of either form of inquiry within the mixed methods framework are unwarranted.

The mixed methods research paradigm has, however, its own limitations, as various critics have pointed out. For example, it has been argued that since quantitative and qualitative techniques represent very distinct approaches to research, they should not be combined into one framework (Greene 2007). From a different perspective, Giddings (2006: 195) argues that “ideologically, mixed methods covers for the continuing hegemony of positivism, albeit in its more moderate, postpositivist form”. Additional concerns over the marginalisation of the qualitative aspects within mixed methods research are discussed in other sources as well (Freshwater 2007; Creswell and Plano Clark 2011). Despite the criticism, it is reasonable to argue that the future of mixed methods research is promising as long as the field remains reflexive, and is able to integrate novel techniques as well as enter new areas. In this way mixed methods research can preserve its critical potential to inform social scientists in practically meaningful ways. The recent expansion of mixed methods research into new areas of social inquiry includes the adaptation of “an advocacy stance”, with “the goal of social justice and a concern for the human condition” (Sweetman et al. 2010: 441). This illustrates that mixed methods research has been able to respond well to criticism and managed to hold its position to offer a viable research perspective available to all scholars.\textsuperscript{48}

\textsuperscript{48} The launch of The Journal of Mixed Methods Research in 2007 as the field’s first journal marked a milestone in the history of the institutionalisation of mixed methods research.
4.3.1 Classification of mixed methods research design

Reviewing the then-brief history of mixed methods design in the social sciences, Jick (1979) identified the study of Campbell and Fiske (1959) as the first example of it. While in the original article the authors described the validation of “multitrait-multimethod matrix” (Campbell and Fiske 1959: 81), the approach has been labelled as ‘triangulation’ since and it became a commonly employed type of mixed methods design in the social sciences. However, the increasing popularity of mixed method studies in recent decades has diversified the wide-ranging research techniques that contemporary scholars can now utilise.

A basic differentiation of mixed methods research designs is offered by Creswell (2009: 14-16, 206-216). Based on differences in data collection scenarios with respect to ‘timing’, ‘weighting’ and ‘mixing’ the quantitative and qualitative components within the research context, he identifies two main branches of mixed methods designs: sequential and concurrent. The former refers to research designs in which data are collected in a clear temporal sequence. In contrast, the researcher in a concurrent design “converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem” (ibid. 14). The two main groups can be subdivided further, considering the nature of embeddedness of the quantitative and qualitative phases within the overall design. For example, in a concurrent embedded approach, a primary and a secondary method can be clearly distinguished whereby the latter is nested in the former and has a supporting role in providing the study with findings that may be inaccessible by using the first approach alone. Furthermore, in this type of mixed methods research design, the two types of data do not need to be compared insofar as they “reside side by side as two different pictures that provide an overall composite assessment of the problem” (ibid. 214).

Following this classification scheme, this project seemingly employs a ‘concurrent embedded mixed methods’ research design, with certain reservations. For example, interviewees were recruited from the survey participants, and therefore the data collection phases can be considered as sequential in a technical sense. On the other hand, the survey and the interview questions were designed to complement each other rather than compare the results against each other, as would be the case for the sequential designs. However, in the latest, fourth edition of his textbook, Creswell slightly reworked his typology of mixed methods research design. The revised classification now includes “embedded mixed methods” design, without the “concurrent” qualifier (Creswell 2013: 219-228). Based on this recent development, this project is best described as employing an embedded mixed methods research design.
4.4 Research ethics and Human Participants Ethics Committee approval

Regardless of the methodology used in a social scientific study that draws on information obtained from human participants, it has become a standard practice to seek a priori ethical approval from a designated regulatory body. The origins of the requirement whereby medical and social scientific studies need to satisfy ethical standards go back to the post World War II period. A series of declarations (for example, Declaration of Geneva [1948], Declaration of Helsinki [1964]) by The World Medical Association marked the increasing importance of ethical considerations in studies that involved human participants, driven by the efforts of the ‘global’ professional medical occupational group to restore its reputation after its partial involvement in the Nazi war crimes. The periodic scandals and mistreatments of research participants in medical research transformed ethical considerations from being merely recommendatory guidelines into legally binding requirements.49

In the New Zealand context, the “Cervical Cancer Inquiry” (commonly referred to as the ‘Cartwright inquiry’) accelerated the integration of ethical considerations into research plans in the medical and social sciences insofar as the recommendations outlined by the investigation “comprehensively altered the administration and practice of research in New Zealand” (Tolich 2001: 5). The standardized integration of ethical norms into the routine of everyday research is overviewed by The University of Auckland Human Participants Ethics Committee (UAHPEC). The UAHPEC effectively ensures that all possible ethical aspects of a given research are considered carefully by the researchers, a priori. The regulations on ethical aspects of research are available through a university website (UAHPEC 2009).

4.4.1 Human Participants Ethics Committee approval

Prior to conducting the study, the research proposal was submitted to UAHPEC which approved all three phases of this doctoral research. The approval letter from UAHPEC was received 10 June 2009 and it is included in Appendix A1, along with the Participant Information Sheet (PIS, included in Appendix A3) and Consent Form (CF, included in Appendix A7) that were made available to the online survey and student interview participants. Overall, ten documents were sent to UAHPEC, including the main application form. Six documents were concerned with the survey part of the research, while three documents covered ethical implications of the interviewing process.

49 Smith (1996) gives a historical account of the perhaps most widely known ethical ‘code of conduct’ of any occupational group, the Hippocratic Oath. From a sociological perspective, however, the sometimes allegorized Hippocratic Oath is less an altruistic expression of ethical standards ‘rediscovered’ by members of the medical occupational group undergoing professionalization in the 19th century, but rather, a social product which grew out of a “tradition which ailing human beings had imposed upon their healers” (Zilboorg 1941: 22).
4.5 Population in the study

A paramount consideration in a quantitative study is identifying the population that is going to be investigated to obtain answers to the research questions and hypotheses. At the most general level, a population can be defined as “a collection of statistical units of the same nature whose quantifiable information we are interested in. The population constitutes the reference universe during the study of a given statistical problem” (Dodge 2008: 428). However, researchers are generally unable to study the whole population due to time and resource constraints (Dattalo 2008). It is therefore a common practice in the survey methodological literature to distinguish between different types of populations, such as the population of interest, the population of inference and the target population (Lee 2008; Lepkowski et al. 2008). Following this classification, the population of interest is the overall population of undergraduate students of The University of Auckland; the population of inference consists of those enrolled in an undergraduate course in the second semester of the 2009 academic year.50 Another consideration that needs to be taken into account is that surveys “are seldom designed to yield information only for the total population” and therefore they generally include sub-classes which are “subpopulations within the target population for which separate estimates are prepared” (Lepkowski 2008: 591). In this research several subpopulations are considered at various stages, based on: primary faculty affiliation, working status, socio-economic background, ethnic background, academic performance, degree of programme advancement, and age. It is assumed that the university experience is somewhat different for students who are part of these distinct groups. These assumptions will be examined more closely via statistical comparisons.

4.6 Sampling

As mentioned above, survey studies rarely aim (or manage) to study the entire population. As a consequence, certain sampling methods are generally employed in social scientific survey research. This involves the selection of groups and individuals from the population of interest that is available to the researcher (Trobia 2008; Johnson and Christensen 2010). A formal definition of sampling is given by Adams et al. (2007: 87) as “the process or technique of selecting a suitable sample for the purpose of determining parameters or characteristics of the whole population”.

The importance of sampling has been acknowledged since the beginning of survey research in both academia and the applied research world (Converse 1987; Lavrakas and Traugott 2000; Babbie

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50 Due to sampling specification, however, in this research project the target population does not refer to a narrower population category in comparison to the population of inference. For this reason the term ‘target population’ is going to be used throughout the thesis as its meaning is perhaps more straightforward than the ‘population of inference’. 
While a series of specialised and sophisticated sampling techniques have been developed over the previous decades, probabilistic and non-probabilistic methods remain the two distinct types of sampling (Sudman and Blair 1999; Trobia 2008; Lohr 2010). The aim of probability sampling is to obtain a sample that is representative of the population of interest which would enable researchers to draw generalisations from the sample to the target population (Creswell 2009). Some of the commonly used probabilistic sampling methods include simplified random sampling, systematic sampling, stratified random sampling, and cluster sampling (Lohr 2010). By contrast, the unifying characteristic of non-probabilistic sampling approaches is that they do not employ randomisation when drawing a sample from the target population. Non-probabilistic samples may also be labelled as convenient samples (Creswell 2009). As convenience samples are not representative of the target population, results from these samples cannot be generalised to the target population directly. However, as Blaikie (2003) notes, generalizability-concerns may affect any sampling method since “it is usually impossible to achieve a perfectly representative sample (…) If all probability samples were accurate replicas of the population from which they were drawn, we would not need to use inferential analysis” (ibid. 162). This problem is referred to as the ‘sampling paradox’ in the general methodological literature. The sobering impact of this on survey researchers is that they “cannot say whether a sample is indeed representative or not, because they generally sample precisely to find out something about an unknown reality” (Trobia 2008: 784). While probabilistic samples are more likely to be representative of the target population than non-probabilistic ones, the gap between them may be diminished by increasing the sample size, since “nonprobability samples may be representative by chance” (ibid. 784). Regardless of the limitations of convenience sampling, it is still one of the most frequently used in exploratory social research in which the main rationale for the research is that its findings could be used as a “springboard for further research” (Bryman 2011: 202). It is in this sense that even a convenience sample “can provide useful information for answering questions and hypotheses” (Creswell 2011: 146). It is reasonable therefore to argue that researchers who are confined to convenience sampling are recommended to collect as large a sample as is practically possible under the specific circumstances of the investigation.

Given the considerations outlined above, it can be concluded that the sample of the survey is obtained via convenience sampling, while in the qualitative phase efforts have been made to match sample characteristics to the ones of the target population as closely as possible.
4.7 Pilot study: a hard copy survey

In the first empirical stage of the research, a pilot survey was conducted over a period of one week in May 2009. With the help of the teaching staff of the Department of Sociology at The University of Auckland, hard copy questionnaires were distributed on a volunteer basis to students in classes of various sizes, at all three levels of the undergraduate programme to maximise the sample pool. Incentives were not offered to students for participation in the pilot survey. One hundred and twenty questionnaires were distributed across five classes. Within two weeks, thirty completed questionnaires were returned. The response rate (25%) may be considered acceptable for a survey distributed in comparable ways.

Piloting the questionnaire is an essential step in social research in order to obtain good quality survey data in the subsequent, main data collection phase. This is because “going into the field for a full production survey without knowing whether the questionnaire and/or field interviewer procedures work is a recipe for disaster” (Rothgeb 2008: 583). The main objectives of piloting are to identify possible problems with the questionnaire items, obtaining feedback and suggestions from participants that can be incorporated in the main study, and finally, statistical evaluation of hypothesised models. This latter aim was not feasible in the piloting phase of this doctoral research due to the sample size requirements that do not allow comprehensive statistical analysis of only thirty cases for modeling purposes. However, valuable suggestions were received from the pilot survey participants which led to the rewording and removal of a number of items, as well as expanding answer choices that helped finalize the questionnaire.

The thirty participants of the pilot study were enrolled in various programmes within the Faculty of Arts. The mean age of the pilot sample was nineteen. ‘Programme advancement’ was coded based on the number of semesters a student had until the completion of his/her undergraduate degree (Q#52). Table 4.1 contains descriptive information on the pilot participants.

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51 Extending the distribution of the questionnaire to stage I, II, or III students was preferable over a single-class distribution since the main study intended to target students from each faculty of the university. Consequently, following such an approach ensured that a relatively large pool of students was available for the pilot survey.

52 In the pilot study, questionnaires were left in classrooms for voluntary, after class collection. The 25% response rate is reasonable under the circumstances. It is not uncommon in various professional questionnaire distribution techniques, such as mailed surveys, phone interviews, face-to-face interviews that prospective research participants feel a certain degree of ‘chosenness’. This may increase their willingness to participate. For example, the using of an advance letter to accompany a phone interview may increase response rates by as much as 5-10% (Link 2008: 11). In contrast to the examples just described, the voluntary student participation in the pilot study lacked the ‘personal appeal’ element.

53 It is not uncommon that students hold multiple majors, which they may have started at different times. As a result, it is possible that the overall span of university education extends beyond six semesters for such students who were thus coded as ‘forth year students’ in this study. This is not to be confused with students who are in their fourth year of study,
Table 4.1 Descriptive data of pilot participants

<table>
<thead>
<tr>
<th>Gender</th>
<th>Total N=30</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>83</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Postgraduate study aspirations</th>
<th>Total N=30</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>no</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>maybe</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>yes</td>
<td>12</td>
<td>40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Programme advancement</th>
<th>Total N=30</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. year</td>
<td>13</td>
<td>43</td>
</tr>
<tr>
<td>II. year</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>III. year</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>IV. year</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grades</th>
<th>Total N=30</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+/A/A-</td>
<td>19</td>
<td>63</td>
</tr>
<tr>
<td>B+/B/B-</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>C+/C/C-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>D+/D/D-</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment status</th>
<th>Total N=30</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Yes/part-time</td>
<td>21</td>
<td>70</td>
</tr>
<tr>
<td>Yes/full-time</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>

4.8 Main study: an online survey

In the main phase of the quantitative research, every undergraduate student enrolled in The University of Auckland was given a link to the questionnaire hosted on SurveyMonkey, a well-known service provider specializing in hosting surveys online.

A particular concern in the online survey revolved around the question of how to protect the privacy of students. This was resolved by not letting the researcher have direct access to email addresses of students. Instead, all communications regarding the announcement and the distribution of the survey (in the form of a link to the SurveyMonkey site) were handled through professional IT managers of the university. For example, the survey link along with a brief description was announced through CECIL which is the Learning Management System environment used by The University of Auckland. The CECIL staff managed the survey link throughout a six week period from 6 August to 17 September 2009. This period included a two week mid-semester break, between 31 August and 12 September 2009. In the first three weeks, the survey link was available to students in a special folder called “Research Study” which was placed among the courses the students were enrolled in. Upon entering the “Research Study” folder, a student could read a brief announcement calling for participation in an ‘undergraduate student survey’, and they had a chance to read both the PIS form and the approval letter of the UAHPEC in pdf format. A monetary incentive was offered to survey participants in the form of allowing them to enter a $500 NZD prize draw.54 This information was included in the survey announcement.55 However, no additional attempt was made

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54 The prizedraw took place on 22 September 2009 with the Head of the Department and the main supervisor of the researcher present. 348 students participated in the prizedraw, and ten of them received $50 each.
55 The announcement is included in Appendix A2 in the form of a snapshot that was taken of the relevant CECIL page by the researcher on 3rd September, 2009.
to publicise the survey during this time period. Participation therefore depended primarily on students’ curiosity. During the fourth week, the CECIL team sent out a brief reminder email containing the same information as in the original announcement.\(^{56}\) This was the only time students received a direct email, calling for participation in the survey. By the time of closing the survey at the end of the sixth week, a total of 2055 questionnaires had been collected.

The end of the quantitative data collection phase did not mean, however, that the data could immediately be analysed. While the questionnaire used in the study primarily contained closed-ended questions, it was designed to accommodate as much qualitative student feedback as possible in the form of offering the ‘other’ answer choice to many of the questions. Moreover, sufficient space was provided at the end of the questionnaire where students had the opportunity to write comments regarding the questions or the topic of the study. This allowed the collection of a considerable amount of qualitative data, despite the survey form.\(^{57}\) While the nature of the comments was overwhelmingly positive, there were a couple of critical comments that were directed at the study itself. Most notably, one student found it difficult to distinguish this survey from other surveys conducted by the university in terms of how the privacy of students was handled. It is common practice in various university surveys (for example student surveys, library surveys) that for identification purposes, students are required to log in to the learning management interface (for example, CECIL) of the university. While it is a reasonable requirement from a managerial point of view, the same procedure was neither desirable nor possible in the present context. Unlike surveys conducted by the university, the privacy of survey participants had been fully protected throughout this study.\(^{58}\) Although this had been clearly explained on the documents accompanied the questionnaire, some students may have questioned whether their answers could really be anonymous given that the survey was available through CECIL.\(^{59}\) These concerns — as healthy as they are otherwise — were unwarranted in that only the survey link was announced though CECIL while the researcher had no access to students’ personal information.

\(^{56}\) The ‘reminder email’ was sent to students on 2 September 2009.

\(^{57}\) Overall, 256 students commented on the survey, which is 13.6% of the final sample of 1882.

\(^{58}\) This fact also explains why official, university-conducted surveys do not need to ask questions related to demographic background and academic performance of students, as this kind of information is readily available for the institution from its electronic databases.

\(^{59}\) The following quote from a participant may be a good illustration of how the present survey may have appeared indistinguishable from those conducted by the university: “I do not trust that this survey is anonymous, which is probably a distrust shared with many others who were told they could take a survey from their CECIL”. Incidentally, the survey data collection happened at almost the same time as The University of Auckland conducted its own undergraduate survey (between 13 September and 6 October, 2009).
4.8.1 Survey participants

As mentioned earlier, the target population of the research was comprised of all undergraduate students who were enrolled in at least one undergraduate course at The University of Auckland in the second semester of the 2009 academic year.\textsuperscript{60} Student statistics were obtained from the Planning and Quality Office of The University of Auckland. This internal report lists 27,570 students as formally enrolled in a Bachelor degree in the second semester, 2009 (The University of Auckland 2009a).\textsuperscript{61} This number is considered as the target population throughout this study.

As explained earlier, the convenience sample obtained in the study does not allow generalisation of the findings to the whole population in an absolute sense. However, as it is going to be explained in the next section, the final sample consisted of 1882 students which covers approximately 6.8% of the target population. Considering that about one in every fifteen students enrolled in at least one bachelor degree programme completed the questionnaire, it is fair to assume that findings of the research — to at least a certain degree — may be representative of the wider student population of The University of Auckland.

In the subsequent sections the various processes are described that resulted in the final sample of the main study. Essentially, these procedures provide details on the data management phases that started at the end of the data collection, and finished with the final cleaning of the data. It also includes a detailed description of the rationale with respect to the removal of certain cases from the sample. The consideration of data deletion is closely linked to the fact that monetary incentives were offered in exchange for participation in the survey.

4.8.1.1 Data screening and quality control

A rigorous screening of the obtained data is crucially important in any type of large scale empirical social scientific research (Hair et al. 2009; Schumacker and Lomax 2010; Tabachnick and Fidel 2012). The required ‘researcher-vigilance’ is proportionate to the amount of data collected, as it is assumed that respondent-related errors and bias are related to increases in the response rates. This warrants that all efforts are made on the part of researchers, including various forms of intervention, to maintain the high quality of the data (Meade and Craig 2012). While this is the researchers’

\textsuperscript{60} At New Zealand universities there are two main semesters in an academic year. The first semester starts in March and finishes in June, while second semester commences in July and ends in November.

\textsuperscript{61} Official documents of the university, such as the Annual Report 2009, or The University of Auckland profile 2009-10 cite different numbers. While the former uses EFTS [equivalent full time student] numbers, the latter one does not specify whether the numbers it cites refer to EFTS or head count data. In order to obtain the correct students statistics, the Planning and Quality Office was contacted, and Dr David Tippin made these statistics available to the researcher.
responsibility, there are no uniform guidelines to assist them in the process of intervention once the data are collected. In the case of large scale quantitative research, ‘data screening’ is perhaps best understood as an umbrella term for the various techniques that researchers do in order to preserve the integrity of the data. It is a highly customized exercise that depends on the particular contexts of the research. Such techniques may include various checks on consistency as well as the veracity of responses (Johnson 2005; Barge and Gehlbach 2012). Data screening techniques therefore allow researchers not only the identification of legitimate outliers, but they also have the capacity of flagging certain respondents as subject to additional scrutiny. As standardized guidelines with respect to which cases are best to remove from a survey are unlikely to be established, the deletion of cases is a common practice in large scale quantitative research in which the autonomous decisions of researchers remain a central element (Tabachnick and Fidel 2012: 72-77). While drivers of data screening considerations may be topic-related in certain surveys (for examples, see Furlong et al. 2004; or Cross and Newman-Gonchar 2004), in the present research, the integrity of the data was challenged because monetary incentives were offered to prospective participants.

4.8.1.2 Incentives in survey research

There have been intensive debates regarding the effects of incentives on participation rate and on data quality in the survey research literature (Groves et al. 2000; Trussell and Lavrakas 2004; Boulianne 2008). It has been recognised that positive effects tend to outweigh the negative ones (Toepoel 2012). Boulianne (2008) proposes four distinct theoretical concepts that explain why such incentives may work. The first, social exchange theory, considers the trust element that may be forged between researchers and participants. Such a relationship is thought to be established by the researcher’s gesture of giving which would encourage a participant’s compliance. The second theory, economic exchange theory, emphasizes the element of compensation in the transaction whereby participants need to be rewarded for their effort proportionately, which means that the more time-consuming the survey participation is, the larger the incentives should be. A third approach draws on cognitive dissonance theory insofar as it posits that compliance (accepting pre-paid incentives) is the most favoured option for participants. This option bears the least amount of cognitive distress on participants in comparison to noncompliant alternatives such as accepting rewards without filling out the questionnaire, or refusing the reward altogether which requires the extra effort of sending the reward back to the research team. The fourth and final concept is labelled as leverage-saliency theory (Groves et al. 2000). The theory proposes that survey participation depends on various factors, some of which are more salient in participation considerations for
certain groups than for others. It can be expected that the careful evaluation and exploitation of these factors can positively affect survey participation.

4.8.1.2.1 Monetary incentives in the project

These four approaches have important implications for this research. While an incentive was offered, it was made available only to those who completed the questionnaire. Although incentives are generally believed to increase response rates in survey research, they may not compensate for the lack of intrinsic motivation that is essential for obtaining quality data (Trussell and Lavrakas 2004). It may be assumed that the monetary reward (the possibility of participating in a $500 prize draw upon completion) played a mixed role in increasing the participation rate in this survey. It is expected that participation would have been lower were such incentives not offered. However, one cannot rule out the possibility that the prize draw may have had the adverse effect of inflating the sample with disinterested students. In light of the complexity of ‘optimal filtering’ — which aims to exclude cases only where some sort of dishonesty (this is explained shortly) was evident — it is assumed that the monetary incentive had an overall positive effect on the response rate, in harmony with the consensus in the survey research literature in this regard (Boulianne 2008).

This positive element is perhaps most evident in cases where incentives cannot be assumed to be the sole motivation for participation. Rather, incentives may have played a merely promotional role insofar as they may have triggered participation, while students’ persistence and the quality of their answers may reflect their genuine interest in the topic of the survey. In other words, what matters is that students may have become and remained interested in the survey throughout the completion process regardless of their initial motivation at the time of starting the survey. Table 4.2 provides a description of students’ interest in participating in the prizedraw and the interview, respectively.

Table 4.2 Expression of interest regarding participation in the prizedraw and the interview

<table>
<thead>
<tr>
<th>interested in prize draw</th>
<th>interested in interview</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>interested in interview</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Total N (%)</td>
<td>95</td>
</tr>
</tbody>
</table>

Instruction on the prize draw was given to students only on the last page of the survey questionnaire. The noncompliant alternatives described by the cognitive dissonance theory therefore do not apply to this project.

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62 Instruction on the prize draw was given to students only on the last page of the survey questionnaire. The noncompliant alternatives described by the cognitive dissonance theory therefore do not apply to this project.
4.8.1.3 Response evaluation

In the first step, incomplete questionnaires were eliminated by applying filters to the online survey in Surveymonkey, leading to the saving of data from a total of 2055 respondents. A thorough inspection of the filtered data led to the exclusion of 89 cases (4.33 %), leaving 1966 students in the trimmed sample. The most common reasons for deletion from the final sample included suspicious response patterns (explained below), and multiple completion (see Table 4.3).

It was a complex task to identify respondents who gave suspicious answers throughout the questionnaire. There were two main areas in the survey to detect problematic answers. The first area was comprised of the open-ended questions in the questionnaire that required manual input from students. Responses to open-ended questions that contained exclusively random characters, or a singular digit input (for example, by pressing ‘1’, or ‘A’ then ‘enter’ on the computer keyboard to get to the next question page) became candidates for deletion. Consistently ‘uniform answers’ to Likert scale, multiple choice questions represent the second type of examples that warranted extra scrutiny. Finally, multiple completion involved a couple of instances where students admittedly filled out the questionnaire twice, in order to ‘correct’ some of their previous responses.

Table 4.3 Phases of data deletion within the main survey

<table>
<thead>
<tr>
<th>initial sample</th>
<th>cases deleted, compared to totals in the previous step (N and %)</th>
<th>reason(s) for deletion</th>
<th>resulting sample (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N= 2055</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>step 1</td>
<td>89 (4.33 %)</td>
<td>‘uniform answer’ patterns and unrealistically quick completion times</td>
<td>→ 1966</td>
</tr>
<tr>
<td>step 2</td>
<td>43 (2.19 %)</td>
<td>the entire last question block on demographic variables was missing</td>
<td>→ 1923</td>
</tr>
<tr>
<td>step 3</td>
<td>41 (2.13 %)</td>
<td>missing information on family income and parental education levels (a)</td>
<td>Final sample = 1882 (b)</td>
</tr>
</tbody>
</table>

(a) In this case, students did not answer any of these three key demographic variables.
(b) Unless indicated otherwise, all statistical analyses in the thesis are carried out on this final sample.

While the true motivations for survey participation are unknown, there are good reasons to assume that the data, after the rigorous screening and cleaning described above (resulting in the final sample of 1882 respondents) is of good quality. Moreover, the relatively high sample to population ratio

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63 According to Surveymonkey, a significant number of participants dropped out at various stages of the questionnaire. As important questions on students’ demographic information were asked only at the end of the questionnaire, it was imperative to retain only the fully completed questionnaires.

64 A relatively straightforward identifier of cases of ‘uniform answers’ was when, throughout the questionnaire, the same answer choice was ticked, regardless of the content of question, and the direction of answer choices. Moreover, the completion time was suspiciously short in these cases. For example, cases where completion time fell below 10 minutes were given extra attention. Furthermore, since there was no time limit for the questionnaire completion, the relevant statistics of survey completion are the mode (21 minutes), and median (25 minutes), rather than the mean (31.12 minutes) which is inflated due to the possibility of some students taking a break during the survey.
(1:15) is a positive feature of this study inasmuch as there is an inverse relation between the sample-to-population ratio and the survey sampling error (Visser et al. 2000). Consequently, the sample can be considered as having achieved as close an approximation of the target population as it was realistically possible in the present research context. Table 4.4 summarises descriptive characteristics of the final sample as well as the target population.

Table 4.4 UoA students’ characteristics in the sample and in the target population in 2009 *

<table>
<thead>
<tr>
<th>Primary faculty affiliation</th>
<th>survey sample N=1882 (%)</th>
<th>UoA population N= 27,570 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>408 (21.7)</td>
<td>6378 (23.1)</td>
</tr>
<tr>
<td>Business</td>
<td>274 (14.8)</td>
<td>5341 (19.4)</td>
</tr>
<tr>
<td>Education</td>
<td>112 (6.0)</td>
<td>1466 (5.3)</td>
</tr>
<tr>
<td>Engineering</td>
<td>237 (12.6)</td>
<td>2451 (9.0)</td>
</tr>
<tr>
<td>Law</td>
<td>77 (4.1)</td>
<td>2472 (9.0)</td>
</tr>
<tr>
<td>Medical</td>
<td>201 (10.7)</td>
<td>1613 (5.6)</td>
</tr>
<tr>
<td>Creative Arts</td>
<td>71 (3.8)</td>
<td>2041 (7.4)</td>
</tr>
<tr>
<td>Science</td>
<td>497 (26.4)</td>
<td>5808 (21.2)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>male</td>
<td>737 (39.2)</td>
<td>12,550 (45.5)</td>
</tr>
<tr>
<td>female</td>
<td>1145 (60.8)</td>
<td>15,020 (54.5)</td>
</tr>
<tr>
<td>Enrolment status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>full time</td>
<td>1790 (95.1)</td>
<td>21,040 (76.3)</td>
</tr>
<tr>
<td>part time</td>
<td>92 (4.9)</td>
<td>6530 (23.7)</td>
</tr>
<tr>
<td>Residency status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>domestic</td>
<td>1740 (92.5)</td>
<td>25,130 (91.1)</td>
</tr>
<tr>
<td>international</td>
<td>142 (7.5)</td>
<td>2440 (8.9)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 or under</td>
<td>389 (20.7)</td>
<td>6615 (24.0)</td>
</tr>
<tr>
<td>19-20</td>
<td>759 (40.3)</td>
<td>9730 (35.3)</td>
</tr>
<tr>
<td>21-23</td>
<td>489 (26.0)</td>
<td>6707 (24.3)</td>
</tr>
<tr>
<td>24-29</td>
<td>150 (8.0)</td>
<td>2301 (8.4)</td>
</tr>
<tr>
<td>30-39</td>
<td>46 (2.4)</td>
<td>1142 (4.1)</td>
</tr>
<tr>
<td>40 or over</td>
<td>49 (2.6)</td>
<td>1075 (3.9)</td>
</tr>
<tr>
<td>Programme advancement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>first year student</td>
<td>429 (22.8)</td>
<td>7626 (22.7)</td>
</tr>
<tr>
<td>second year and beyond</td>
<td>1453 (77.2)</td>
<td>19,944 (77.3)</td>
</tr>
</tbody>
</table>

* There are notable discrepancies between the sample and the population with respect to gender, ‘enrolment status’, and ‘residency status’. This can be expected given the sampling procedure in the study. However, these dimensions are not of particular research interest in the study.

4.8.2 Data imputation

As indicated earlier, only fully completed questionnaires were included in the final sample. This does not mean, however, that all answers could automatically be used without problems in the data analysis. For example, it was possible to choose ‘other’ or ‘do not know’ categories for a number of questions. While choosing such categories can certainly be accepted as valid responses to questions, their interpretation can be difficult. Demographic questions were particularly affected by missing
data of such kind. The following questions needed extra attention: family income, and paternal and maternal educational level. These three variables are usually important in locating the approximate socio-economic positions of participants in social scientific research (Krieger et al. 1997; Galobardes et al. 2007; Saegert et al. 2007; Shavers 2007; Braveman et al. 2011). While it was often possible to recover the ‘valid values’ of the maternal and paternal educational level variables from comments left in the (open-ended) ‘other’ answers, a ‘do not know’ answer for the family income measure meant that such answers could not be considered without adequate treatment (explained below). As mentioned previously, listwise deletion was applied to 41 cases where all of these three variables were missing. This still left 251 cases that had no information on family income which comprised 13.3% of the final sample of 1882. While there appears to be no universal ‘rule of thumb’ with respect to the amount of missing data that can be disregarded (Tabachnick and Fidel 2012: 63), listwise deletion can be accepted only in a sufficiently large sample and if “the number of cases with missing data is small”, corresponding to “less than 5% in larger samples” (Garson 2012a: 6). Accordingly, the listwise deletion of 13.3% of cases with missing data has not been a viable option in this research. Instead, the missing data problem was addressed by data imputation so that subsequent statistical analyses could be conducted on a complete dataset. The following main missing value techniques were considered: pairwise deletion, mean substitution, expectation maximisation (EM), and multiple imputation. A comprehensive overview of all available imputation techniques is not needed in this thesis, but the advantages and limitations of each are discussed thoroughly in the relevant methodological literature, all drawing on Rubin’s (1976) missing data theory (see: Schafer 1997; Little and Rubin 2002; Peugh and Enders 2004; Reiter 2007; Rässler et al. 2008; Davey and Savla 2010; Enders 2010; Kline 2010; Garson 2012a).

4.8.2.1 Traditional and modern methods for handling missing data

Maximum likelihood based (for example, expectation maximization [EM]) and multiple imputation techniques are generally regarded as the ‘modern methods’ in the field of missing data analysis (Enders 2006; Enders 2010). Previously, researchers generally used one of the “older methods” (Schafer and Graham 2002: 155) that suffered from well-documented limitations. For example, Brown (1994) notes that the waste of information is a major drawback of listwise deletion; the perils of pairwise deletion are explained in Wothke (1993) and in Graham (2009); and the

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65 However, see Bollen et al. (2001, 2002, 2007) for discussions regarding why the selection of the appropriate socio-economic status variables is largely a context-dependent decision for any researcher.
The advantages of the ‘modern methods’ are widely recognised, and they are mainly due to their attractive statistical properties whereby they “are superior to traditional missing data techniques because they produce unbiased estimates” (Baraldi and Enders 2010: 14). These scholars note that researchers are free to apply either of the modern methods since they generally produce very similar results. An important consideration in a decision on the ‘most appropriate’ data imputation strategy in this research situation concerned the ordinal nature of the (coarsely categorized) ‘family income’ variable. Multiple imputation was employed to handle missingness on this variable in the dataset. Multiple imputation does not refer to a singular, universal technique, rather, it can be described as “a broad term that encompasses a collection of different techniques” (Enders 2010: 186). In particular, Bayesian imputation was utilised in the research since it is regarded as a recommended technique in various research situations (Judkins 2008). One advantage of Bayesian imputation is that it can sufficiently handle the imputation of ordinal data (Kim et al. 2009b; Li 2009). The importance of careful consideration of the appropriate imputation routine is stressed by Chen and Åstebro (2003). These authors also recommended the use of Bayesian imputation over the regression-based single-imputation method for research scenarios where the listwise-deletion of missing data would adversely affect the statistical power, especially when variables have more than 10 to 20% missing cases. Based on these considerations, missing values for the 251 cases (13.3% of the final sample of 1882) for the ‘family income’ variable were imputed utilising Bayesian imputation in the Mplus software package, version 7.11 (Muthén and Muthén 2012).

4.8.3 Descriptive analyses of the survey data

The questions on the questionnaire can be arranged into three thematic groups. First, there are the familiar questions routinely asked in ‘official’ university surveys (see section 3.5.1 in Chapter Three), including students’ satisfaction with academic and social dimensions of their learning experiences, reasons for failing or underperforming, engagement with the teaching staff and so forth. The second group of questions is comprised of dimensions that tend to be of limited interest in institution-initiated surveys: friendship networks, university social club activities, online social networking, musical taste, extracurricular activities, considerations in choosing friends, flatmates, and spouse, employment, financial problems, post-graduation plans, and preferred aspects of prospective jobs. Finally, the last set of questions is devoted to students’ socio-economic

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66 There are several other traditional techniques to handle missing data that are discussed by Enders (2010: 44-52).
background, and enrolment status. It was essential to obtain demographic information of students, since unlike the university — which can match participating students against its database — the researcher in the present study had no other means to collect such data. This has multiple implications on the development of the questionnaire. For example, the scope of the questions needed to be adjusted so that the overall completion time could remain at about twenty minutes which is regarded as a typical length for standard surveys (Hugick and Best 2008: 659). Keeping the required time for the completion of the survey was of paramount importance, considering that students volunteered their time for the project. Moreover, it was imperative that the elevation of ‘non-conventional’ aspects of student life into the survey would not negatively affect the inclusion of various measures of student satisfaction which remained of particular interest throughout the research. In the following sections the measures used in the quantitative analysis are discussed.

4.8.3.1 Pre-university characteristics

It is customary in sociological studies of higher education that hypothesised relationships are examined between the internal (for example, academic achievement) and external (for example, education level of the parents) dimensions of postsecondary learning. The official student surveys can often explore the former areas in sufficient detail. On the other hand, variables to capture the external dimensions need to be selected based on the specific research context. As outlined earlier in section 3.3.1 in Chapter Three, the main research hypothesis in this study is about contrasting the effects of two sets of sociological, pre-university characteristics of students (socio-economic status and ‘propensity for relational diversity’) on various aspects of the undergraduate student experience. In the following sections the operationalization of the socio-economic status and the ‘propensity for relational diversity’ concepts are outlined.

4.8.3.1.1 Socio-economic status

It has been recognised in the social and behavioural sciences that socio-economic status (SES) is a multidimensional concept. For example, occupational status, educational level, and income are generally regarded as components of SES in the field of sociology (Hauser and Warren 1997). However, the underlying dimensions of SES depend on the particular research context, and the

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67 For example, the questionnaire used in the influential National Survey of Student Engagement study takes a comparable amount of time to complete (National Survey of Student Engagement 2010).

68 Socio-economic status is unlikely to be proposed as a dependent variable in a higher education study. On the other hand, one can imagine research scenarios where the student experience is hypothesised to influence socialisation-dynamics of students. This may be worthwhile pursuing in longitudinal studies, or in social network analyses, however, the research design of the present study does not allow the exploration of these directions.
population of the study (Liberatos et al. 1988; Bollen et al. 2001; Bradley and Corwyn 2002). In
this study, the multidimensionality of SES is represented by multiple indicators of the SES
construct. The selection of suitable indicators is intended to reflect the assumption that the uniform
use of conventional variables (such as occupation, education, and income) need to be accompanied
by variables that are specific to the student population. Overall, a number of indicators were
considered to inform this project about the socio-economic status of undergraduate students. Table
4.5 contains descriptive information on the SES-related indicators.

Table 4.5 Socio-economic status variables in the study

<table>
<thead>
<tr>
<th>name of indicator</th>
<th>wording of the corresponding items on the questionnaire</th>
<th># of answer choices</th>
</tr>
</thead>
<tbody>
<tr>
<td>subjective social class</td>
<td>Which of the following best describes your social class when you were growing up? [Q#73]</td>
<td>5</td>
</tr>
<tr>
<td>family income</td>
<td>Which category includes the total annual combined income of your parent(s) last year, before taxes? Please tick the box that indicates your best estimate. [Q#74]</td>
<td>11</td>
</tr>
<tr>
<td>paternal educational level</td>
<td>What is your father's highest level of educational or professional qualification? [Q#70]</td>
<td>6</td>
</tr>
<tr>
<td>maternal educational level</td>
<td>What is your mother's highest level of educational or professional qualification? [Q#71]</td>
<td>6</td>
</tr>
<tr>
<td>paternal occupation</td>
<td>Please fill out the following fields by typing in what your parents' occupations are. (Father) [Q#72]</td>
<td>open-ended*</td>
</tr>
<tr>
<td>maternal occupation</td>
<td>Please fill out the following fields by typing in what your parents' occupations are. (Mother) [Q#72]</td>
<td>open-ended*</td>
</tr>
<tr>
<td>frequency of financial problems</td>
<td>Have you had a serious financial problem at any time during your studies at the university? [Q#39]</td>
<td>3**</td>
</tr>
<tr>
<td>student allowance</td>
<td>Do you get student allowance? [Q# 65]</td>
<td>4***</td>
</tr>
</tbody>
</table>

* The open-ended nature of each occupational indicator rendered the prospect of their meaningful categorisation virtually impossible. Consequently, these two variables were excluded from further statistical analysis.

** This item was reverse-coded so that ‘never’ having financial problems indicated higher SES.

*** The exact weekly amount was asked in a subsequent question from those who answered ‘yes’ to the initial question. The weekly amount of student allowance was inversed (multiplied by -1) so that smaller numbers would indicate higher SES, with ‘zero’ being the highest SES category. Those who received student allowance were put into 3 equal-sized categories that represent receiving large, medium, and small amount, relative to the sample.

A series of statistical analyses was conducted to verify the extent to which the aforementioned indicators contribute to the hypothesised ‘university student SES’ construct. It is important to note, however, that the computation of a ‘student SES’ index is inescapably incomplete as long as the indicators used for the computation measure characteristics only about the family, but nothing particular about the students themselves. For this reason, the calculation of such an index involved two additional variables (‘frequency of financial problems’, and ‘receiving student allowance’) that

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69 The number in brackets indicates the location of a variable on the questionnaire which available in Appendix A4.

70 Indeed, an SES index that exclusively focuses on family-level information shall more appropriately be labelled as ‘family social background of students’. Such an approach is certainly suitable in the primary and secondary educational context where students’ financial dependence on their parents is evident. However, it is less tenable to regard university students as entirely dependent on their family, financially or otherwise.
were added to other conventional, family-related socio-economic indicators. The examination of the correlational matrix of the variables described above was followed by a multiple regression analysis. The former included the computation of the appropriate (polychoric) correlational matrices, based on the types of the variables. In multiple regression analysis, ‘subjective social class’ was considered the dependent variable on which all other indicators mentioned above were regressed. Only the significant variables were kept for the following step in which the ‘student-SES’ index was calculated. In order to accommodate the different weight of the indicators in forming the index, a confirmatory factor analysis was performed in which a ‘factor score’ was calculated. More details on these analyses are provided in the following chapter. Descriptive analysis of some of the key SES-measures in the study (subjective social class, family income, paternal and maternal educational levels, as well as the SES index) reveals that undergraduate students of The University of Auckland come from a variety of social backgrounds which are not limited to the upper ends of the social strata (see Appendix F).

4.8.3.1.2 Propensity for relational diversity

‘Propensity for relational diversity’ (PRD) is proposed in this project as an alternative sociological background measure to socio-economic status. As described in section 3.3.3 in Chapter Three, PRD is hypothesized to have three analytically distinct yet loosely related components: ‘socialisation diversity’ (SocDiv), ‘musical diversity’ (MusDiv) and ‘propensity for making friends’ (PMF). Together, they are assumed to reflect the multidimensionality of an individual preference for diverse social interactions.

4.8.3.1.2.1 Socialisation diversity

As mentioned earlier, several socio-cultural aspects (ethnicity, age, gender, sexual orientation, physical appearance, socio-economic background, socio-political views, and religious views), and three social situations (selection of a friend, a flatmate, and a spouse) were utilized in the operationalization of the construct of ‘socialisation diversity’. It is assumed that unimportance of the aforementioned socio-cultural aspects in the three hypothetical situations can be interpreted as the manifestation of diverse socialisation. The operationalization of socialisation diversity was carried out in two parts of the questionnaire. With respect to the selection of friends and flatmates, all eight socio-cultural aspects were included in the questions, while gender and sexual-orientation
were excluded from the question on spouse considerations. Altogether, there were twenty two sub-questions across three questions on the questionnaire.\footnote{See questions #3, #19, and #20 of the questionnaire which is included in Appendix A4.}

In an initial step, basic statistical descriptive analysis (for example, frequency tables) was employed to examine the relative importance of each variable within the socialisation diversity construct. The analysis led to the exclusion of variables which could not be used for the purpose of differentiating between students in subsequent statistical analysis.\footnote{For example, a uniformly low (indicating importance) or high (indicating unimportance) mean, median and mode, along with low standard deviation for any of these variables, may reflect a ‘near-universal’ agreement among students on the importance of these variables in their decision-making processes in the three social situations described above.}

Next, exploratory and confirmatory factor analyses were carried out to explore the dimensionality (unidimensionality versus multidimensionality) of the items. As a result, fourteen variables were considered for further analyses. It is argued that these could be regarded as conceptually plausible representations of the hypothesised construct of socialisation diversity. These variables are listed in Table 4.6.

<table>
<thead>
<tr>
<th>socio-cultural aspects (the importance of)</th>
<th>survey questions/ item#</th>
<th>mean</th>
<th>mode</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>situations (...in the selection of a)</td>
<td>#20/7</td>
<td>2.23</td>
<td>2</td>
<td>1.125</td>
</tr>
<tr>
<td>[01] religious beliefs</td>
<td>spouse</td>
<td>2.63</td>
<td>2</td>
<td>1.152</td>
</tr>
<tr>
<td>[02] socio-political views</td>
<td>spouse</td>
<td>2.73</td>
<td>2</td>
<td>1.298</td>
</tr>
<tr>
<td>[03] ethnicity</td>
<td>spouse</td>
<td>2.83</td>
<td>3</td>
<td>1.173</td>
</tr>
<tr>
<td>[04] socio-economic background</td>
<td>spouse</td>
<td>2.95</td>
<td>3</td>
<td>1.127</td>
</tr>
<tr>
<td>[05] socio-economic background</td>
<td>flatmate</td>
<td>3.00</td>
<td>3</td>
<td>1.304</td>
</tr>
<tr>
<td>[06] sexual orientation</td>
<td>flatmate</td>
<td>3.04</td>
<td>3</td>
<td>1.144</td>
</tr>
<tr>
<td>[07] religious beliefs</td>
<td>flatmate</td>
<td>3.11</td>
<td>2</td>
<td>1.238</td>
</tr>
<tr>
<td>[08] ethnicity</td>
<td>flatmate</td>
<td>3.19</td>
<td>3</td>
<td>1.094</td>
</tr>
<tr>
<td>[09] socio-political views</td>
<td>flatmate</td>
<td>3.37</td>
<td>3</td>
<td>1.025</td>
</tr>
<tr>
<td>[10] socio-political views</td>
<td>friend</td>
<td>3.56</td>
<td>3</td>
<td>0.986</td>
</tr>
<tr>
<td>[12] sexual orientation</td>
<td>friend</td>
<td>3.76</td>
<td>4</td>
<td>1.052</td>
</tr>
<tr>
<td>[13] ethnicity</td>
<td>friend</td>
<td>3.78</td>
<td>4</td>
<td>0.947</td>
</tr>
</tbody>
</table>

Table 4.6 Indicators of ‘socialisation diversity’*

* Each questionnaire item is measured on 5 point Likert-scales (range: 1-5). The indicators are reverse coded so that the lower numbers indicate higher importance. For sake of clarity, research items in the table are mean-ordered.

4.8.3.1.2.2 Musical diversity

It is proposed that the ‘musical diversity’ construct is able to provide valuable information on cultural taste-diversity, and network diversity. The rationale for this is derived from Bryson (1996: 885) who argues that musical taste “provides a good test for questions about symbolic boundaries”. However, these boundaries are socially constructed in that they are constantly reinforced and challenged by groups and individuals. As a result, musical preferences can influence the identity-


formation of individuals as well as that of social groups (DeNora 2000; Roy 2002; Roy and Dowd 2010). Moreover, it has been argued that boundary-crossing in musical preferences (such as being a musical omnivore) can strategically be employed by those with higher social and educational status (Erickson 1996; DiMaggio 1997).

In this study, musical preferences were measured by the frequency of listening to twelve musical genres during a specific time period (“in the last three months”). Responses were recorded on a six-point scale, where 5 indicated listening to a type of music ‘very often’, and 0 indicated that a genre had not been listened to at all during that period. Next, the twelve musical items were summed, and divided by the ‘musical selectivity’, a temporary measure.73

Table 4.7 Statistical properties of ‘musical diversity’

<table>
<thead>
<tr>
<th></th>
<th>N=1882</th>
<th>mean</th>
<th>median</th>
<th>SD</th>
<th>minimum</th>
<th>maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>musical diversity</td>
<td>12.28</td>
<td>7.5</td>
<td>11.85</td>
<td>0</td>
<td>56</td>
<td></td>
</tr>
</tbody>
</table>

It has been recognised in cultural sociology that not only musical preferences, but the active dislike of certain types of music can affect the dynamics of cultural boundary formation. Bryson proposed that musical exclusion can be linked to symbolic exclusion which can be operationalized as ‘musical dislikes’. It follows that “musical tolerance, or cultural tolerance (…) refer[s] to the absence of dislike for a cultural cue or musical genre” (Bryson 1996: 886). Information on ‘musical dislike’ was collected with the following open-ended question: “Is there a kind of music that you particularly dislike?”74 From the final sample of 1882, 760 students (40%) indicated that they do not dislike any musical genre while the majority of students did have at least one disliked musical genre.

4.8.3.1.2.3 Propensity for making friends

The third construct comprising PRD is proposed as ‘propensity for making friends’ (PMF). This construct is conceptualised as a proxy for the multidimensional set of social skills that enables an individual to connect to a variety of social networks. PMF is operationalized in this study as the capacity for making new friendships in dissimilar social groups since the beginning of undergraduate study. It is proposed that there are three distinct networks within the university where students can possibly make friends. These networks are distinguished based on academic majors,

73 ‘Musical selectivity’ is based on the range of genre(s) a student listened to. The value of ‘1’ indicates that a student listened to each of the twelve musical genres at least ‘very rarely’ while ‘12’ denotes those who listened to only one genre, regardless of the frequency of listening. ‘Musical diversity’ is then obtained by dividing the sum of the items (5x12 =60) by the ‘musical selectivity’ thus setting the upper bound of ‘musical diversity’ to sixty. Only two students did not listen to any of the twelve musical genres from the list and so their ‘musical diversity’ values were coded as zero.

74 Answer categories were ‘yes’, and ‘no’. Those who answered with ‘yes’ could then enter manually the types of music they disliked in a following, optional question.
and faculty affiliations of students. Two additional questions were asked on friend-networks that are not directly related to the university. The five items were summed without weighting into a composite score. This composite is used in subsequent analysis as the indicator of a student’s propensity for making friends. Summary information on these questions is included in Table 4.8.

<table>
<thead>
<tr>
<th>social spaces of ‘making a friend’</th>
<th>mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>within UoA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“doing the same major as I am”</td>
<td>3.56</td>
<td>1.172</td>
</tr>
<tr>
<td>“doing a different major, but in the same faculty as I am”</td>
<td>3.17</td>
<td>1.140</td>
</tr>
<tr>
<td>“doing a major in a different faculty than mine”</td>
<td>2.91</td>
<td>1.203</td>
</tr>
<tr>
<td>outside UoA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>“made many friends with others who are not students at UoA”</td>
<td>2.86</td>
<td>1.212</td>
</tr>
<tr>
<td>“friends at [UoA] whom I knew prior to enrolment”</td>
<td>3.41</td>
<td>1.334</td>
</tr>
</tbody>
</table>

* All items were measured on a five point Likert scale, where 5 indicated ‘strong agreement’.

4.8.3.2 University-related constructs

The constructs discussed so far were either customised for the present research context (socio-economic status of students), or proposed as hypothesised measures of PRD. The constructs discussed in this section are directly related to existing measures used in various undergraduate student surveys that were introduced in section 3.5.1 in Chapter Three. The various questionnaire items relate to two larger areas: satisfaction with various aspects of the university student experience, and engagement with teaching staff. These areas are represented by four constructs (SQT, SFID, ETS and SFE) that form the higher education ‘Base model’ (described in section 3.3.5 in Chapter Three). In addition to the ‘Base model’ constructs that are each captured by multiple indicators, the following single item higher education constructs were considered in separate analyses: satisfaction with verbal skills, practical skills, departmental student-instructor relationship and overall academic satisfaction; postgraduate study aspirations; academic performance and the preference for intrinsic and extrinsic job values.

4.8.3.2.1 Satisfaction with distinct aspects of the student experience

These constructs refer to the extent to which students are satisfied with the following aspects of the undergraduate student experience: quality of teaching (SQT), opportunities for diverse student-encounters (SFID), and ‘facilitating employability’ (SFE). They are proposed to cover major areas of the university student experience in a way that allows the collection of valuable data from survey participants regardless of their field(s) of study. The first two student-experience areas have been

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75 The exact question (#2 on the questionnaire) is worded as: “Please rate the level of your agreement with each of the following statements that are about whom you have made friends with since the beginning of your university studies at The University of Auckland. (A 'friend' could be anyone whom you could introduce to a third person as a 'friend')."
routinely surveyed in quantitative studies in higher education (see: Astin 1984, 1993; Pascarella and Terenzini 2005; Kim and Sax 2009; Magolda 2009). However, the latter dimension (‘facilitating employability’) represents an area that appears to be of less interest to the managerial establishment within higher education institutions. The items of the four ‘Base model’ constructs were asked in two separate questions on the questionnaire. The first question contained the three satisfaction-related constructs (SQT, SFID, SFE), while the engagement-related construct (ETS) was assessed in a separate question. Descriptive information on the items of the satisfaction-related university experience constructs is presented in Table 4.9.

Table 4.9 Descriptive information of the satisfaction indicators within the ‘Base model’*

<table>
<thead>
<tr>
<th>constructs</th>
<th>wording of the items (question #23)</th>
<th>mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of teaching (SQT)</td>
<td>The quality of lecturing</td>
<td>3.80</td>
<td>0.77</td>
</tr>
<tr>
<td></td>
<td>The quality of teaching assistance (e.g. tutorials, labs)</td>
<td>3.72</td>
<td>0.82</td>
</tr>
<tr>
<td></td>
<td>The quality of feedback from teaching staff</td>
<td>3.35</td>
<td>0.89</td>
</tr>
<tr>
<td></td>
<td>The content of courses</td>
<td>3.91</td>
<td>0.69</td>
</tr>
<tr>
<td>Interactional diversity (SFID)</td>
<td>The opportunities to have serious discussions with students whose interests are very different from mine</td>
<td>3.42</td>
<td>0.96</td>
</tr>
<tr>
<td></td>
<td>The ability to better understand people who are from very different backgrounds (social, ethnic, cultural) from mine</td>
<td>3.57</td>
<td>0.87</td>
</tr>
<tr>
<td></td>
<td>The variety of activities that university clubs/societies make available for students</td>
<td>3.36</td>
<td>0.91</td>
</tr>
<tr>
<td></td>
<td>My overall social experience at The University of Auckland</td>
<td>3.51</td>
<td>0.99</td>
</tr>
<tr>
<td>Facilitating employability (SFE)</td>
<td>The transferability of the academic knowledge learnt in my programme to my future employment</td>
<td>3.72</td>
<td>0.89</td>
</tr>
<tr>
<td></td>
<td>How the importance of research or work experience has been emphasized in my studies</td>
<td>3.47</td>
<td>0.94</td>
</tr>
<tr>
<td></td>
<td>The options available to gain work experience in my area of expertise before graduation (e.g. practicum, internship)</td>
<td>3.10</td>
<td>1.08</td>
</tr>
</tbody>
</table>

* All items were measured on a five point Likert scale, where 5 indicated being ‘very satisfied’.

4.8.3.2.2 Engagement with teaching staff

It has long been recognised that the relationship between students and the teaching staff is an important element in the understanding of undergraduate student performance and retention (Pascarella 1980; Astin 1984; Chickering and Reisser 1993; Tinto 1998). The interaction between students and instructors has been investigated in various higher education studies, focusing on both formal and informal encounters (Pascarella and Terenzini 1979; Theophilides and Terenzini 1981; Kuh and Hu 2001). In another line of studies, researchers have been interested in how student sub-populations — based on socio-cultural characteristics, such as ethnic background, gender, religious

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* While the term “student-faculty engagement” can frequently be found in the North-American higher education literature, it is replaced by alternatives in this thesis to avoid possible misinterpretations. Although academics from the United States may refer to themselves as ‘faculty’, this term is not used in New Zealand.
views, and so forth — affect the frequency and the nature of student-instructor contacts (Lundberg and Schreiner 2004; Sax et al. 2005; Kim et al. 2009a; Kim and Sax 2009). In this study, the ‘engagement with teaching staff’ (ETS) construct is proposed to capture the extent and nature of student-instructor relations. The exact wording of the six items is listed in Table 4.10.

Table 4.10 Indicators of ‘engagement with teaching staff’ (ETS)*

<table>
<thead>
<tr>
<th>“Have you ever had the following experiences at any time during your university studies?”</th>
<th>mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) discussing class-related material with teaching staff outside class time</td>
<td>0.77</td>
<td>0.63</td>
</tr>
<tr>
<td>(b) discussing career-plans with teaching staff</td>
<td>0.35</td>
<td>0.55</td>
</tr>
<tr>
<td>(c) volunteering for research done by instructor(s) within my department</td>
<td>0.32</td>
<td>0.54</td>
</tr>
<tr>
<td>(d) socializing with teaching staff from my department</td>
<td>0.28</td>
<td>0.50</td>
</tr>
<tr>
<td>(e) getting help from teaching staff to deal with non-academic responsibilities</td>
<td>0.16</td>
<td>0.40</td>
</tr>
<tr>
<td>(f) working together with teaching staff from my department on research projects outside of course requirements</td>
<td>0.14</td>
<td>0.39</td>
</tr>
</tbody>
</table>

* Answer choices (question#24) were coded as ‘never’ (0), ‘sometimes’ (1), and ‘often’ (2).

4.8.3.2.3 Single item higher education constructs

In the previous sections latent constructs have been discussed. These are measured by multiple indicators. There are research situations, however, when a single item can sufficiently measure a concept, and therefore latent variable modeling may not be required. In this study, satisfaction with verbal skills, practical skills, departmental student-instructor relationship and overall academic satisfaction; postgraduate study aspirations and academic performance are proposed as single item constructs. These measures are discussed next.

4.8.3.2.3.1 Verbal skills

Quantitative information on ‘verbal skills’ was collected as part of the ‘satisfaction with the university experience’ question on the questionnaire (item#5 in question#23). Accordingly, the wording of the item ([The level of satisfaction with] “the verbal skills I am developing as a result of my major”) was meant to ensure that the ‘verbal skills’ construct can be conceptualized as a dependent variable in the analysis. Evaluating some of the predictors of students’ satisfaction with the verbal skills development in their programmes is important insofar as mastering this particular expertise may not always be easy in the era of massified tertiary education. Descriptive information on the ‘verbal skills’ construct is given in Table 4.11. The same table is used to list some of the basic statistical properties of the ‘practical skills’, ‘departmental student-instructor relationship’ and ‘overall academic satisfaction’ constructs which are all measured with single items.

77 Examples of this kind of concepts may include age, gender, political party affiliation, and so forth.
4.8.3.2.3.2 Practical skills

Similar to ‘verbal skills’, ‘practical skills’ was intended to be used as a dependent variable in the study. The wording of the relevant item (#6 in question #23) reflects this rationale: (“[The level of satisfaction with] the skills I am developing to solve real-life problems as a result of my major”). ‘Practical skills’ is conceptually similar to the latent variable SFE in which the wording of the three encompassing items make references to ‘employment’ or ‘work’. In contrast to SFE, however, ‘practical skills’ is intended to measure a broader set of skills concerned with the solving of ‘real-life problems’ as opposed to serving the immediate needs of post-university employment.

4.8.3.2.3.3 Departmental student-instructor relationship

It is well established in the higher education literature that the academic and social integration of university students in part depends on the quality of the student-instructor departmental relationship (Astin 1993; Tinto 1998). The perceived quality of this relationship is conceptualized in this study as being part of the broader set of satisfaction aspects of the undergraduate experience. The relevant item (#7 in question#23) is worded on the questionnaire as “[The level of satisfaction with] the quality of student - teaching staff relationships in my department”.

4.8.3.2.3.4 Overall academic satisfaction

The rationale for including this item in the study was to offer students a straightforward option to indicate their overall satisfaction with the academic aspects of their university experience. Unlike the latent construct SQT, in which the three items are hypothesized to measure distinct yet related aspects of a thematically similar domain (‘quality of teaching’), the single item measure of ‘overall academic satisfaction’ aims to capture the more generic aspects of the academic learning experience.

Table 4.11 Descriptive statistics of the satisfaction-related single item constructs*

<table>
<thead>
<tr>
<th>satisfaction with respect to:</th>
<th>mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>(#5) the verbal skills developed as a result of the academic programme(s)</td>
<td>3.44</td>
<td>0.91</td>
</tr>
<tr>
<td>(#6) the problem solving skills as a result of the academic programme(s)</td>
<td>3.56</td>
<td>0.93</td>
</tr>
<tr>
<td>(#7) the quality of departmental student - teaching staff relationships</td>
<td>3.50</td>
<td>0.91</td>
</tr>
<tr>
<td>(#14) the overall academic experience at the university</td>
<td>3.87</td>
<td>0.76</td>
</tr>
</tbody>
</table>

* All items were measured on five point Likert scales (question# 23), where 5 indicated being ‘very satisfied’.
4.8.3.2.3.5 Postgraduate study aspirations

The intention of doing further academic studies is also operationalized as a simple item construct. The relevant question is worded on the questionnaire (question #42) as “Are you planning to enrol in a postgraduate programme after graduating?” Answer choices were provided as ‘no’, ‘not sure’, and ‘yes’. The distribution of these answers is presented in Table 4.12.

Table 4.12 Sample distribution of ‘postgraduate study aspirations’

<table>
<thead>
<tr>
<th>planning to enrol in a postgraduate programme:</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>no</td>
<td>298</td>
<td>15.8</td>
</tr>
<tr>
<td>not sure</td>
<td>909</td>
<td>48.3</td>
</tr>
<tr>
<td>yes</td>
<td>675</td>
<td>35.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1882</td>
<td>100</td>
</tr>
</tbody>
</table>

4.8.3.2.3.6 Academic performance

Academic performance is measured by grades. The following question (#27) is used to obtain this information: “What was your approximate grade average for all the courses you took last semester?” with ten possible answer categories, ranging from the combined lowest bands of D-, D, D+ to the highest one as A+. Since the data collection took place halfway through the second semester in the academic year, even first year students were able to report on their ‘most recent’ grades. Table 4.13 shows the academic grade-distribution of survey participants.

Table 4.13 Sample distribution of ‘academic performance’ as grades (with a histogram)

<table>
<thead>
<tr>
<th>category</th>
<th>grades</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>A+</td>
<td>95</td>
<td>5.1</td>
</tr>
<tr>
<td>9</td>
<td>A</td>
<td>219</td>
<td>11.6</td>
</tr>
<tr>
<td>8</td>
<td>A-</td>
<td>322</td>
<td>17.1</td>
</tr>
<tr>
<td>7</td>
<td>B+</td>
<td>386</td>
<td>20.5</td>
</tr>
<tr>
<td>6</td>
<td>B</td>
<td>344</td>
<td>18.3</td>
</tr>
<tr>
<td>5</td>
<td>B-</td>
<td>221</td>
<td>11.7</td>
</tr>
<tr>
<td>4</td>
<td>C+</td>
<td>130</td>
<td>6.9</td>
</tr>
<tr>
<td>3</td>
<td>C</td>
<td>75</td>
<td>4.0</td>
</tr>
<tr>
<td>2</td>
<td>C-</td>
<td>54</td>
<td>2.9</td>
</tr>
<tr>
<td>1</td>
<td>D+/D/D-</td>
<td>36</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>1882</td>
<td>100</td>
</tr>
</tbody>
</table>

4.8.3.3 Preferred job values

The final dimension of research interest in this project is about students’ preferences for different aspects in future employment. The ‘preferred job values’ construct refers to a post-university life stage in that it links students to the social world of paid employment. The possibility of the lack of students’ personal (working) experience therefore warrants caution with respect to the interpretation
of this construct. As mentioned earlier, it is regarded as a construct being capable of providing a reasonable approximation of career-value preferences of undergraduate students. The construct used in this study draws on the broader job satisfaction literature in which the basic distinction between extrinsic and intrinsic job value aspects has been known for over fifty years (Herzberg et al. 1959). Extrinsic job values (PEJV) are concerned with the prestige, promotion-opportunities, and the monetary rewards aspects in an occupation. Intrinsic job values (PIJV) are associated with seeking internal satisfaction, or opportunities to help others on the job. Since the original proposal of this differentiation, the body of knowledge has grown tremendously (Weiss et al. 1977; Mottaz 1985; Vandenberg and Scarpello 1990; Koeske et al. 1994; Law and Wong 1999; Travis 2006).

Of particular interest in this study is an examination of the relationships of the aforementioned two job values constructs with other measures explored in the project. Six items are proposed to capture the preference for intrinsic and extrinsic job aspects, three in each. These are listed in Table 4.14.

Table 4.14 Descriptive statistics of the indicators of PIV and PEJV*

<table>
<thead>
<tr>
<th>“How important would the following factors be in influencing your decision about post-university employment?”</th>
<th>mean</th>
<th>mode</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>intrinsic aspects</td>
<td>(a) doing a meaningful job</td>
<td>4.24</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(b) doing a job where I can help others</td>
<td>3.95</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(c) having an interesting job</td>
<td>4.49</td>
<td>5</td>
</tr>
<tr>
<td>extrinsic aspects</td>
<td>(d) having a prestigious job</td>
<td>3.47</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(e) having a well paid job</td>
<td>4.16</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(f) getting promoted quickly</td>
<td>3.39</td>
<td>3</td>
</tr>
</tbody>
</table>

* All items were measured on a five point Likert scale (question# 46), where 5 indicated being ‘very important’.

4.9 Quantitative data analysis

The operationalization process and the descriptive properties of each of the model constructs have been discussed throughout the previous sections. In this section some of the general aspects of the statistical technique employed in the research project are outlined. The main part of the quantitative analysis is comprised of the evaluation and comparison of hypothesised constructs that are proposed to influence students’ satisfaction with the university experience as well as the engagement with the teaching staff in a structural equation modeling (SEM) framework. While the rationale for choosing SEM for the main data analysis was given earlier (section 3.4 in Chapter Three), in the following sections some of the more technical aspects of this technique are discussed.
4.9.1 Structural Equation Modeling (SEM)

Structural equation modeling is a powerful, and increasingly popular multivariate statistical technique in the social sciences. It encompasses multivariate statistical procedures, such as factor analysis, multiple regression, and path analysis that are integrated into a coherent framework (Byrne 2010; Kline 2010). A formal definition of SEM is given by Hair et al. (2009: 634) whereby it is a multivariate technique that “enables the researcher to simultaneously examine a series of interrelated dependence relationships among the measured variables and latent constructs (variates) as well as between several latent constructs”. SEM has a number of alternative labels in the literature, including covariance structure modeling, covariance structure analysis, and analysis of covariance structures. While these labels correctly indicate that SEM is largely a covariance based technique, Garson (2012b: 16) points out that researchers should “be aware that SEM can also analyze the mean structure of the model”. Yet another alternative name for SEM is ‘causal modeling’ (Bentler 1988). The causal element is generally present in SEM since “the causal processes under study are represented by a series of structural (i.e., regression) equations” (Byrne 2010: 3). The validity of deriving causal claims from SEM analysis — under specified conditions — has been actively advocated by Pearl (1998, 2009a, 2009b, 2010, 2012a, 2012b). Regardless of the validity of these claims, SEM operates in a way that utilises the covariance or the correlation matrix of the variables within a proposed model. Moreover, the relationships between constructs are represented by regression equations in SEM. It is important to stress, however, that the meaning of those relationships can be assessed only in the context of the phenomenon under investigation. As Kline (2010: 10) notes, “[t]o say that the covariance is the basic statistic of SEM means that the analysis has two main goals: (1) to understand patterns of covariances among a set of observed variables and (2) to explain as much of their variance as possible with the researcher’s model”.

It follows that it is the researcher’s responsibility to reduce the complexity of the social world by capturing qualities most relevant to the research into quantifiable variables in a methodologically responsible way. Importantly, the psychometric properties of the variables are to be taken into account in the consideration for choosing a statistically sound method for the data analysis (Tabachnick and Fidel 2012). For example, it is inappropriate to use statistical techniques that assume multivariate normality and continuous variables when in fact these assumptions are violated.

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78 Pearl’s hope is explicitly stated at various places in his work regarding the revitalisation of “causal analysis in the social and behavioural sciences” (1998: 279). He argues that, while SEM is not free from judgemental assumptions, it is still a progressive statistical technique, especially so when “no method can do better” (Pearl 2010: 113).
for the data available to the researcher (Jöreskog 2005). Consequently, it is imperative to choose the appropriate data estimation method in any SEM study (Bollen 1989; Lei and Wu 2012).

It is commonly noted in discussions about SEM that the confirmatory aspect (that is, theory testing) are more pronounced in it, as opposed to other, exploratory techniques that may supplement the main analysis, such as principal component analysis, and exploratory factor analysis (Byrne 2010; Kline 2010; Garson 2012b). However, it is a common situation in the practice of research that an initially poor-fitting model is re-specified through a series of procedures, as depicted on Figure 4.1. These steps illustrate that exploratory features are inherent even in the SEM technique which is primarily designed for confirmatory purposes, such as assessing the plausibility of a theory. This is noted by Bollen (1989: 316) who reminds SEM practitioners that “even the ‘confirmatory’ techniques have an exploratory component when trying to improve a model with a poor fit”. Indeed, model modification is an “inevitable process in the application of SEM” (Chou and Huh 2012:245), but it is an exercise that is to be guided by the expert knowledge of the researcher and therefore it cannot be surrendered to automatic routines implemented in statistical software packages.

4.9.1.1 The measurement and the structural model components in SEM

The ‘two step approach’ is a widely accepted way of specifying a structural equation model in the social sciences (Anderson and Gerbing 1988; Kaplan 2009; Brown 2006; Kline 2010). In the first step the measurement models within the overall model are specified and tested with confirmatory factor analysis (CFA). Proceeding to the next step depends on the model fit of the measurement models. A poor fit possibly indicates that the measurement model needs re-specification, in accordance to both theoretical and statistical considerations. If the modified measurement models fit the data well, then the researcher can move on to the next step of model testing. In the second step the structural model is tested whereby the relationships between the previously specified measurement models are assessed through a system of simultaneous equations. This allows the assessment of direct, indirect, and total effects of one variable, or a construct on other variables, or constructs in the model. The assessment of overall model fit reveals possible locations of misfit in

79 CFA is an accepted way of assessment of measurement models in which items are reflective. However, there is less consensus on the most appropriate ways of assessing fit of measurement models where items are formative in nature. For a more detailed discussion on the reflective versus formative model specification issues, and related questions see the special issue of Psychological Methods, 2007, volume 12, issue 2.
the model, whereas a good fit indicates that the model is not to be rejected, given the data. The sequential nature of the SEM research procedure is illustrated in Figure 4.1.

Figure 4.1 The two-step approach in SEM*

These steps are to ensure that conceptually valid as well as unidimensional constructs are tested in the overall model. For these reasons, construct reliability (Werts et al. 1974) and validity (Fornell and Larcker 1981) need to be assessed empirically. The reason for this is that if measurement models lack construct validity (convergent and discriminant) then their investigation in the structural model has limited meaning (Kaplan 2009). Indeed, it is often the structural part of the overall model that is of primary research interest. As Skrondal and Rabe-Hesketh (2004: 75) put it:

> [m]easurement and factor models are important in their own right but also as building blocks in structural equation models where the relations among latent variables are modeled. These relationships are often of main scientific interest whereas the relationships between the observed items and the latent variables are of secondary interest.

SED researchers and methodologists often prefer the phrase “failing to reject” rather than “accepting” a model in discussions about newly evaluated models. The former expression reflects the temporal and conditional ‘acceptance’ of a model, while the validity of the latter can be established only after an indefinite period of time and in accordance with the accumulation of evidence gathered from other studies.

There are multiple ways to assess validity and reliability. Consequently, there is an ample body of academic work in the methodological and philosophy of science literatures on these interrelated topics. Comprehensive discussion of the broader issues surrounding reliability and validity can be found in various sources (Raykov 1997; Rossiter 2002; Borsboom et al. 2004; Zinbarg et al. 2005; Bentler 2009; Strauss and Smith 2009).

Evidence for construct reliability and validity of the constructs in this study is presented in the next chapter.
4.9.1.2 Latent variables and observed variables in SEM

An important feature of latent variable analysis is that the latent constructs are treated as hypothetical insofar as they are regarded as having “no values” (Bollen 2002: 612). This does not mean that these variables are related to ‘non-real’ phenomena. Rather, they are considered latent because they can be measured only through observed variables or indicators that, together, can be expected to reveal some important underlying properties, given theoretical expectations. In this respect, it is the observed variables that refer to quantifiable phenomena in a given investigation. In the context of social scientific research, however, the directly observed indicators almost certainly contain an unknown amount of measurement error. These errors are attached to \textit{items} of each latent construct, while the latent constructs themselves are considered as free from measurement error. Bollen et al. (2010: 38) note that the benefit of the SEM approach is that

\begin{quote}
[t]he analysis takes account of measurement error in observed variables so that the relationships of latent variables are estimated while controlling for measurement errors. This ability to consider measurement error and the relation between latent variables simultaneously gives SEMs considerable power and enables more realistic models that do not assume perfect measurement.
\end{quote}

The direct incorporation of measurement error in the SEM approach is regarded as a major advantage over more conventional statistical techniques where measurements are fraught with error. This attractive feature of SEM made it an increasingly popular tool for theory testing in the social sciences (Bollen 1989; Yuan and Bentler 2004; Raykov and Marcoulides 2006; Kline 2010; Schumacker and Lomax 2010). Moreover, SEM allows researchers to recover complex relationships between modelled concepts in a progressive way that makes it a unique multivariate statistical technique. This is because “when the phenomena of interest are complex and multidimensional, SEM is the only analysis that allows complete and simultaneous tests of all the relationships” (Ullman 2012: 684). Finally, the model assessment procedures in SEM — in which the possible sources of inadequate model fit are sought — provide researchers with opportunities with respect to revealing “problems or desirable aspects of model fit that are not regularly shown in other implementations” (Bollen et al. 2010: 46).

4.9.1.3 Assessment of model fit in SEM

SEM is a very active, still evolving methodological technique. One of its main advantages over alternative techniques is that the overall fit of a proposed model can be assessed. However, there is
little agreement among SEM researchers over the accepted standards of model fit. There are two conventional ways of assessing model fit in SEM. The first one is sometimes labelled as ‘exact fit’ testing as it is based on the paramount consideration of the model chi square ($\chi^2$) with its associated p value in assessing a model. The alternative mode of testing utilises ‘approximate fit’ indices for the same purpose.

4.9.1.3.1 Chi-square ($\chi^2$)

Assessment of model fit via the $\chi^2$ test is based on the assumption that the sample covariance matrix converges to the population covariance matrix in large samples (Jöreskog 1969). The $\chi^2$ statistic measures the discrepancy between the model-implied covariance matrix and the observed covariance matrix that emerges from the sample data. The associated p value (probability level, commonly set to as $\alpha = 0.05$) of the $\chi^2$ statistic indicates whether or not the difference between the two matrices are statistically significant. For this reason SEM researchers strive for obtaining a non-significant $\chi^2$ statistic which would imply that there are no nontrivial differences between the model implied and the observed covariance matrices. In other words, a nonsignificant $\chi^2$ may indicate that the proposed model fits the data well inasmuch as there is no evidence for the statistical rejection of the model. In this way therefore theory-driven models are tested against empirical data in SEM. The difference between the two covariance matrices is assessed through an iterative computational process, resulting in the minimal value of the discrepancy function.

However, it has been well established in the SEM literature that $\chi^2$ is sensitive to sample size in that even trivial model misspecifications can result in significant $\chi^2$ if the sample size is large enough (Jöreskog 1969; Browne and Cudeck 1993; Bollen et al. 2008; Bentler 2010; Marcoulides and Kyriakides 2010; Matsueda 2012; West et al. 2012). Another limitation of the $\chi^2$ statistical testing relates to the underlying multivariate normality assumption of the data which is arguably an overly stringent criterion since it is rarely met in empirical studies (Yuan and Bentler 2001). For example, when the multivariate normality assumption is violated (as evidenced by the presence of multivariate kurtosis and skewness in the interval-level data), $\chi^2$ tends to be inflated, and the standard errors of parameter estimates become underestimated, although the parameter estimates themselves do not necessarily become unreliable since they are “asymptotically unbiased: on

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83 The *Personality and Individual Differences* devoted an entire issue in 2007 (volume 42, issue 5) to discussing the conceptual and practical aspects as well as limitations of model fit assessment in SEM by prominent SEM methodologists. The topic is also often debated on SEMNET, an online discussion forum devoted to SEM.

84 However, this does not automatically guarantee that the model makes conceptual and ‘practical’ sense.

85 The 2SLS estimation is an exception to this as it is a noniterative technique (Bollen 1996).

86 Although ‘large sample size’ cannot be universally defined, samples with more than 500 or 1000 cases may be regarded as large (West et al. 1995; Iacobucci 2010).
average, in large samples, they neither overestimate nor underestimate the corresponding population parameter” (West et al. 1995: 58). In order to attenuate the negative effects of multivariate nonnormality on the $\chi^2$ statistical testing, a number of scaling procedures have been proposed, including the Satorra-Bentler mean- and variance-adjusted statistic (Satorra and Bentler 1988, 1994), or the correction statistic that is used along with the robust ML (‘Maximum Likelihood’) estimation technique proposed by Yuan and Bentler (2000). An alternative remedy technique to the nonnormality problem has been the bootstrapping of the $\chi^2$ statistic (Bollen and Stine 1992). Finally, nonnormality is inevitably present in coarsely categorized measures (for example, ordinal and dichotomous) that can typically be found in Likert-items within survey questionnaires (Mulaik 2009). The analysis of categorical variables requires that different estimation techniques and test statistics are considered for this type of data (Muthén 1983, 1984; Muthén et al. 1993; Muthén and Satorra 1995). This is because “[o]rdinal variables are not continuous variables and should not be treated as if they are. It is common practice to treat scores 1,2,3, … assigned to categories as if they have metric properties but this is wrong” (Jöreskog 2005: 1).

4.9.1.3.2 Approximate fit indices

The limitations associated with the $\chi^2$–based model assessment led to the development of various approximate fit indices. These indices “have been developed to measure the approximation between model and data. There are many model fit indices in the literature of SEM. Most of them are defined through a test statistic $T[\chi^2]$, and all aim to get rid of the effect of n” (Yuan and Betler 2006: 323). There are over thirty approximate fit indices that can be obtained through various SEM software outputs. There are also multiple ways to categorize them. A straightforward classification of fit indices is given in Hayashi et al. (2007: 406-409) whereby the following four categories were proposed: residual-based fit indices, independence-model-based fit indices, the root mean square error of approximation, and information-criterion-based fit indices (for an overview of fit indices, their properties, and algebraic formulas see Hu and Bentler 1998, 1999; Mulaik 2009).

The first category comprises of fit indices that are functions of the residuals between the true population covariance matrix and the covariance matrix implied by the parameters in the model. For example, the ‘Standardized Root Mean Square Residual’ (SRMR) is the square root of the sum of squares of the residuals in a standardized correlation metric (Hu and Bentler 1995; Jöreskog and Sörbom 1981). Smaller residuals (<0.05) indicate a good fit.

The second type of fit indices consider the fit of the proposed model according to its place on the continuum between the independence or baseline model (the model in which all variables are
uncorrelated) and the saturated model (the model in which all variables are correlated). One such index is the ‘Comparative Fit Index’ (CFI), proposed by Bentler (1990). A low value (close to 0) for the CFI indicates that the evaluated model is not much better than the (‘worst-fitting’) baseline model, while a higher value (> .95 and closer to 1) suggests that the model is not much worse than the (‘perfectly-fitting’) saturated model (Hu and Bentler 1999). CFI is among the most frequently used fit indices in the applied SEM literature. This may partly be due to its characteristic whereby it does not appear to depend on sample size (West et al. 2012). A similar, independence model-based fit index is the ‘Tucker-Lewis Index’ (TLI) which was introduced in the context of factor analysis by Tucker and Lewis (1973) and was adapted into SEM by Bentler and Bonett (1980).

Perhaps the somewhat unique features of the ‘Root Mean Square Error of Approximation’ (RMSEA) explain that this approximate fit index alone comprises the third category in the classification scheme offered by Hayashi et al. It was originally proposed by Steiger and Lind (1980), and became popular when Browne and Cudeck (1992) further developed it by calculating interval estimates for it. As Browne and Cudeck (1993: 144) noted, RMSEA can be understood as “a measure of the discrepancy per degree of freedom for the model”. This led Brown (2006: 83) to conclude later that the proper interpretation of RMSEA recognises that it is an “error of approximation” index because it assesses the extent to which a model fits reasonably well in the population (as opposed to testing whether the model holds exactly in the population; cf. $\chi^2$). There are at least two features of RMSEA that differentiate it from many other fit indices. First, unlike the independence-model based fit indices, RMSEA does not need the calculation of a baseline $\chi^2$ statistic. Second, unlike other fit indices, confidence interval estimates can be calculated for RMSEA, allowing a higher precision in locating the ‘true’ value of this parameter. Based on this index, a ‘close-fitting’ model is one in which the lower limit of the confidence interval of RMSEA stays below 0.05. The associated ‘close-fit’ hypothesis test assesses whether RMSEA is $\leq$ 0.05. A pre-specified probability level (i.e. $\alpha$=0.05, or $\alpha$=0.01) then can be used to either accept or reject the hypothesis whereby the proposed model has a ‘close fit’ to the data. Moreover, RMSEA is commonly regarded as a parsimonious fit index as it penalizes model complexity (Mueller and Hancock 2008). As power in SEM is driven by the degrees of freedom, and complex models often have low degrees of freedom, RMSEA favours models that have higher degrees of freedom, holding everything else constant (Kline 2010). For these reasons, RMSEA is a frequently used fit index which has been strongly recommended by SEM methodologists (MacCallum and Austin 2000).

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87 Jöreskog and Sörbom (1996) argued for stricter guidelines (i.e. p> .50 rather than p>0.05) regarding the close-fit testing of RMSEA.
The fourth category of fit indices is known in the literature as information-criterion-based fit indices. While numerous such indices have been proposed, the most frequently used ones in the literature are the AIC and the BIC. The former denotes ‘Akaike Information Criterion’ (Akaike 1987), while BIC stands for ‘Bayesian Information Criterion’ (Schwarz 1978). The major advantage of the information-criterion-based indices is that they allow the comparison between non-nested models whereby the model with the smallest information criterion may be accepted as the better model provided it also makes sense theoretically.

4.9.1.4 Current model evaluation practices in SEM

Based on the discussions in the previous sections, it can be concluded that model evaluation in SEM is a non-trivial matter insofar as currently there appears to be no one unambiguous way to assess model fit. The difference between the $\chi^2$-based exact fit, and the approximate fit indices-based ways of model testing is succinctly captured by Marcoulides and Kyriakides (2010) whereby “[t]he exact fit tests answer the question dichotomously with a simple yes or no, while the approximate fit tests determine the degree of the closeness between the observed and model-implied matrices” (ibid. 287). The emerging consensus regarding assessment of model fit is summarized in a recent general overview of the SEM methodology. This states that while “[c]ontroversy surrounds the best measures to use (…) [a] good practice suggests reporting the chi-square test statistic along with its degrees of freedom, p-value, and several other overall fit measures to help in the assessment of model fit” (Bollen et al. 2010: 46). This advice has been advocated by other prominent SEM methodologists as well (Brown 2006; Raykov and Marcoulides 2006; Savalei and Bentler 2006; Bollen et al. 2008; Mueller and Hancock 2009; Byrne 2010; Schumacker and Lomax 2010; West et al. 2012).

Based on the guidelines discussed above, the following measures of fit are reported throughout the thesis: $\chi^2$ with its degree of freedom and p value, RMSEA (with or without an associated confidence interval), CFI, TLI, SRMR. The properties of these, and other fit indices have been scrutinized in multiple simulation studies (Hu and Bentler 1998, 1999; Yu 2002; Wu and West 2010). While various guidelines, ‘cut-off values’, and ‘rules of thumb’ have been proposed regarding the appropriate use of approximate fit indices, these efforts have been simultaneously accompanied by warnings against the extreme reliance on any one of such measures, stressing their limited

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88 Some prominent SEM methodologists advocate the exclusive use of the exact fit ($\chi^2$-based) testing in evaluating structural equation models (Hayduk 1987, 1996; Shipley 2000).
generalizability to different research contexts (Marsh et al. 2004; Yuan 2005; Fan and Shivo 2007; Chen et al. 2008).

4.10 The qualitative method

This section describes the qualitative phase of the project in which in-depth, semi-structured interviews were conducted with students. It was anticipated that the information extracted from these interviews would enrich and add toward a more complete understanding of the undergraduate student experience. In the following sections of this chapter, the sampling strategy, the interview procedure, and the analytical strategy are discussed.

In general, qualitative research methods aim to understand the phenomena under investigation in relation to their specific context (Hatch 2002; Patton 2002). When paired with survey study, interview research can clarify meanings associated with responses in questionnaire items therefore possibly ‘fine-tuning’ the understandings of the research topics (Polit and Beck 2006). It can be argued that the comparative advantages of doing qualitative research over quantitative research may become increasingly evident in the spirit of “the more you want to know about something in depth, the more attractive qualitative research becomes” (Davidson and Tolich 2003: 124). Another positive aspect of doing a qualitative study is that it allows researchers to ‘get closer’ to the data, which in turn enables the development of a reflexive understanding of the research phenomena from multiple standpoints (Rist 1977).

In particular, the interview technique is remarkably flexible in that it allows researchers to generate scientific knowledge in ways which participants can elevate themselves into the status of virtual co-authorship. An attractive feature of the research findings produced this way is therefore that the emerging knowledge claims in them can be conceived as being well grounded in established academic (expert) knowledge on the one hand, yet they are also enhanced by the potentially infinite richness of the everyday life experiences of the participants on the other. It follows that under ideal conditions, well-conducted interview research has unrivalled potential to reconcile the alleged dissonance between these two epistemological domains of social scientific knowledge thus enabling researchers to avoid the perils of overemphasizing the merits of either one at the expense of underutilising the other.

In an effort to trace the origin of the now well-utilized interviewing research technique, and writing in the context of psychology, Kvale (1999) identifies the psychoanalytical therapeutic interviews of Freud as the first systematic break with the “positivist demands for a scientific psychological
As it is well known, and noted by Rennie (2012), the early effort by Freud was not immediately followed, and qualitative methodologies gained popularity among social scientists only much later, in a “search for a better way [after] disappointment in what the (…) objectivist methodology has delivered” (ibid. 394). However, caution is warranted that social scientists fully acknowledge both the merits and the shortcomings of the quantitative and qualitative methodologies in order to avoid a hypothetical situation in which the dismissing of the former and fascination with the latter would risk qualitative research “becoming a ghetto in the world of knowledge production” (ibid. 394). Indeed, just as quantitative methods have proliferated (and still do) into ever-evolving new techniques, there appears to be a comparably expanding trend within the qualitative branches of research investigations. For example, one, admittedly not exhaustive categorization of the plethora of qualitative methods is proposed in Madill and Gough (2008) in which they distinguish between thirty two different modes of qualitative data collection (ibid. 255-256), all of which can be loosely arranged into five broader “procedural categories”, the interview being just one of them. The authors then went on to propose a still different categorization of qualitative methods with respect to data analysis (ibid. 257-258). Other properties and advantages of the various qualitative techniques available to social sciences have been thoroughly discussed in several sources (Pidgeon and Henwood 2004; Creswell 2009; Marshall and Rossman 2010; Packer 2011; Yin 2011).

Very recently, some qualitative methodologists in the educational field became receptive to the idea that the language of ‘causal inference’ need not necessarily be dismissed as a remnant of outdated “quantitative orthodoxies” (Cohen 1999; Kouritzin et al. 2009), but can be meaningfully adopted to advance the understanding of many social phenomena. Maxwell (2004) argues that researchers can genuinely make causal claims by emphasizing the processual nature of causality as opposed to limiting themselves to describing relations between variables in statistical terms. Building on this recognition, Maxwell (2012) went on to suggest that a ‘realist’ model of causality — one that is based on the process-oriented notion of it — can be meaningfully established through qualitative approaches. Moreover, he emphasised that the careful use of qualitative techniques is an indispensable requirement in educational research if it aims to “credibly identify the actual causes that influence a particular outcome, let alone to make claims about the broader efficacy of any intervention” (ibid. 658). In a similar vein, Erickson (2012: 687) reiterates his earlier arguments (outlined in Erickson 1986) whereby a principal aim in a qualitative inquiry, which is inherently interpretive in nature, is to uncover patterns of “internal generalization” rather than an external one.

89 In the context of sociology, Duneier (2012) takes the emergence of the Chicago School in the 1920s as representing the first serious commitment toward empirical data collection, breaking with previous traditions that could be characterized by “a lot of armchair speculating” (ibid. 74).
which is commonly referred to as ‘reliability’ in the quantitative vocabulary. Other researchers, however, appear to remain sceptical about the prospects of conducting qualitative studies in order to uncover causal relations that could appease policy-makers. For example, Donmoyer (2012) takes the notion of causality as a “functional fiction in the policy arena” since it originates in the demand of policy-makers to be presented with “simple, easy-to-digest answers to their what-works question[5]” (ibid. 670-672) by the research community. He argues that the invisibility of causal arguments in certain qualitative studies can well be compensated by their capacity to deliver “thick descriptions” of complex phenomena, a feature uncommon in the predominantly quantitative inquiries. Donmoyer laments the fact that policy makers seemingly subscribe to a simplistic worldview whereby intervention-efficacy could be assessed in standardized fashion. He therefore encourages fellow researchers to convince influential fund-allocating agencies about the “heuristic value of traditional thick-description approaches” (ibid. 672).

It is permissible to argue that the lively debates over fundamental methodological questions are unlikely to be settled, not least because the underlying issues are philosophical and thus ‘unresolvable’. This also means that the seemingly ‘dominant’ status of certain quantitative or qualitative approaches can be best seen as a temporal achievement which is subjected to the fluctuating dynamics between the competing scientific paradigms, as popularized by Kuhn (1970). In the philosophy of science, Lakatos (1970) may be credited with the recognition that an emerging scientific theory cannot be fully proven insofar as the verification of the body of accumulated evidence upon which it can make legitimate claims about the “discovery of novel facts (…) can be checked only empirically [which] may take an indefinite time” (ibid. 116). The emergence of a ‘general consensus’ within social scientific fields is an even less straightforward process insofar as an established theory can be readily challenged at any time, given the low “paradigmatic development” (Braxton et al. 1998) of these fields, a characteristic that can always be exploited by academics pursuing publication opportunities. It is this context in which the recent arrival of the mixed method design to the periodically polarized research scene can be appreciated inasmuch as it represents a methodological ‘golden middle path’, offering a vehicle to attempt the thorough understanding of social phenomena, perhaps giving some guidance to policy makers along the way.

4.10.1 Participants and sampling of the interview participants

It has been mentioned in section 4.3.1 that interview participants were recruited from those students who completed the online survey. On the last page of the questionnaire the email address of the researcher was shown. This allowed interested students to email the researcher about their intention
to be considered for interview. Upon receiving these emails, students were arranged according to a specific set of criteria to ensure the maximum variation of the participants for the selection process (Wiersma and Jurs 2005). It was intended for the interview sample to match the undergraduate student population of The University of Auckland as closely as was possible. Students who expressed an interest to be interviewed were contacted by the researcher on 22\textsuperscript{nd} September, 2009, by an email which is included in Appendix A5. The following seven pieces of information were sought: (1) gender, (2) age, (3) ethnicity, (4) residency status, (5) employment status, (6) primary faculty affiliation, and (7) programme advancement. Twenty interviews have been conducted which deemed to provide sufficient amount of qualitative information on a broad range of aspects of student life, yet it remained manageable for the solo researcher. The organizing process of the twenty interviews had to be based on the availability of the students, and therefore it took a considerable amount of time. Summary characteristics of the interview participants are listed in Table 4.15, while more detailed pieces of demographic information are included in Appendix G.

Table 4.15 Demographic information of interviewees

<table>
<thead>
<tr>
<th>Age</th>
<th>N=20</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-20</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>21-26</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>N=20</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>male</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>female</td>
<td>13</td>
<td>65</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Employment status</th>
<th>N=20</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>working</td>
<td>16</td>
<td>80</td>
</tr>
<tr>
<td>not working</td>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Programme advancement</th>
<th>N=20</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st year</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>2nd year</td>
<td>9</td>
<td>45</td>
</tr>
<tr>
<td>3rd year and beyond</td>
<td>7</td>
<td>35</td>
</tr>
</tbody>
</table>

4.10.2 Semi-structured interviewing

The interview questions thematically followed some of the main issues outlined in the relevant higher education literature. The semi-structured form of the interviews allowed the flexible yet concentrated engagement between the researcher and the participants (Stake 2010). As the name suggests, in the semi-structured interview context, informants are not restricted in forming their answers inasmuch as they can describe the phenomena in their own words and at their own pace (Holloway 1997). The researcher, too, enjoys considerable freedom to alter the ‘predetermined’ research questions, or the order of questions to maximize the potential of obtaining meaningful and relevant information. Flexibility is therefore an inherent quality of the semi-structured interviewing technique which makes the exploration of unforeseen issues possible as well as rewarding (Barbour 2008).
4.10.3 Interview procedure

While students were contacted initially through email, all interviews were conducted in person. This allowed not only the exploration of a wide range of topics related to the undergraduate student experience, but it also facilitated an unrestricted way of receiving feedback from participants (Legard et al. 2003). A variety of topics were discussed throughout the interviews which largely followed the ‘interview topic guide’ (see Appendix A6) that was developed prior to the interviewing. The following main topics were covered in the interviews: high school and family background, transition to the university, personal networks at the university, weekly routine, engagement with instructors and other students, extracurricular activities, and work experiences. All of the interviews were carried out in the Department of Sociology between November 2009 and March 2010. The interviews were audio-recorded, and consent forms were signed by each informant. In order to maintain confidentiality, all identifiable information (including name) was removed from the interview transcripts. The interviews took about 60 minutes on average, and participants were compensated with a $25 book voucher for their valuable contribution to the research project.

4.10.4 Analysis of interview data

Once the interview data had been collected and transcribed, it was coded for the analysis. The coding process was less straightforward than in the case of survey data, since there were many nuances that needed tracking. For example, body language, or the change in tone of the participants may carry connotative meanings beyond the denotative ones (Barthes 1977). In this sense, the coding of the interview transcripts resembles a nontrivial “decoding” process of the rich layers of meanings that were interactively constructed by both the participants and the interviewer (Hall 1980). The end result of the decoding process is that important themes are collected and sorted within each transcript.

Thematic analysis is a common technique to analyse textual data (Berg 2000). This is defined as “a data reduction and analysis strategy by which qualitative data are segmented, categorized, summarized, and reconstructed in a way that captures the important concepts within the data set” (Ayres 2008: 867). Thematic analysis has multiple steps, in which the listening to the audio recordings and the reading of the transcripts are repeated multiple times until identifiable themes emerge which link the interview participants in some ways (Attride-Stirling 2001; Braun and Clarke
The Nvivo 9 software package was used for the analysis of the qualitative data throughout this research project (QSR International 2010).

4.11 Chapter summary

A mixed methods research framework has been adapted in this research, drawing on both quantitative and qualitative data. The former included the overview of some of the common issues in quantitative analysis, such as those related to population and sampling, the handling of missing cases, and the careful yet effective data screening practices. Moreover, the research procedures of the pilot as well as the main survey study have been described. The main research constructs have been discussed, and their descriptive statistical properties have been reported. Since structural equation modeling has been used for the analysis of the survey data, some of the issues specific to SEM have been overviewed as well. It can be argued that no one research technique can guarantee the complete coverage of any research topic. The motivation for employing mixed methods design in this project is rooted in the aim of carrying out as a comprehensive sociological study of the undergraduate student experience as it is possible by a single independent researcher. The student interviews represent the qualitative aspect of the mixed-methods research and therefore this chapter concluded with a discussion and overview of some of the distinct features of the interviewing technique. In the following two chapters the results of the analyses of the quantitative (in Chapter Five) and the qualitative data (in Chapter Six) are reported.
Chapter V — Quantitative Results

5.1 General overview

In this chapter the project’s main quantitative findings are reported. The primary aim of this research is to systematically examine two sets of hypotheses that drive the study. First, a plausible, limited model of higher education (‘Base model’) was proposed with six hypotheses that describe the relationships among the four main constructs of the undergraduate student experience. Second, four comparative hypotheses were formulated representing two important sociological dimensions in which undergraduate students are located. These dimensions are about students’ socio-economic background characteristics on the one hand, and their socialisation diversity characteristics on the other. It is demonstrated that each of the four constructs within the ‘Base model’ is more closely related to students’ socialisation characteristics rather than to their socio-economic background. Moreover, an empirical classification of academic fields is presented, based on the distinction between ‘General’ and ‘Professional’ study areas. In another set of analyses the relationships between the higher education ‘Base model’ and the selected plausible ‘predictor’ and ‘outcome’ constructs are examined. Finally, the relationships between several ‘predictor’ and ‘outcome measures’ are assessed directly, without specifying the ‘Base model’ constructs between them.

5.2 Factor structures within the ‘Base model’

The ‘Base model’ was introduced in section 3.3.5 in Chapter Three. It describes the hypothesized relationships among four higher education constructs. These are ‘Satisfaction with the Quality of Teaching’ (SQT), ‘Satisfaction with Facilitating Interactional Diversity’ (SFID), ‘Satisfaction with Facilitating Employability’ (SFE), and ‘Engagement with Teaching Staff’ (ETS). The first three factors have been hypothesized as three distinct facets of students’ satisfaction. ETS is proposed as a separate, unidimensional latent construct that can capture the ways in which students engage with their instructors. The empirical validity of each of these four constructs is assessed in the coming sections.

5.2.1 Satisfaction factors

The initial factorial validity of the proposed satisfaction-related constructs was assessed via exploratory factor analysis (EFA). In particular, the ‘Exploratory Structural Equation Modeling’ (ESEM) feature was utilized for this purpose, implemented in Mplus (Asparouhov and Muthén
One of the unique features of ESEM is that the significance level of each item loading on each factor can be assessed. This allows a more precise handling of the possible cross-loadings of the items in comparison to running the factor analysis in conventional statistical packages like SPSS where standard errors of factor loadings are not reported. Moreover, confirmatory factor analysis (CFA) was used to assess the tenability of the proposed measurement model via the examination of modification indices (MIs). The combined ESEM and CFA assessment strategy allowed for the distinct diagnostic features of each technique to be utilized. For example, Browne notes (2001: 113) that “[t]he discovery of misspecified loadings (...) is more direct through rotation of the factor matrix than through the examination of model modification indices”. Accordingly, both ESEM and CFA techniques were used in tandem in order to assess a measurement model that shows consistency with the data. The following modeling and diagnostic steps were taken. First, the initial ESEM of the student-satisfaction measurement model was carried out on the eleven items. It is expected that items should load only on their hypothesized factor while significant item cross-loadings should be kept to a minimum, approaching an approximately simple factor structure, as described in Sass (2010). This step was followed by another EFA in which certain cross-loading items have been removed. Finally, a CFA was specified in which cross-loadings were not allowed.

5.2.1.1 EFA and CFA in model modification

An important consideration in exploratory factor analysis is the choice of the factor rotation criterion. Sass and Schmitt (2010: 101) note that this is not a trivial matter since “[t]here is no right or wrong rotation criterion but instead the goal is to select the rotation that provides the simplest and most informative solution”. Only oblique rotation techniques have been considered in this study as factors are expected to correlate to a certain degree. Considering the expected approximately simple structure of the satisfaction-related factors in the data set, as well as findings from simulation studies on various rotation criteria (Sass and Schitt 2010; Schmitt and Sass 2011), the Geomin and the Equamax rotation techniques have been utilized in this study. While the former minimizes item cross-loading (row complexity; see Browne 2001) at the price of inflating interfactor correlations, the latter “will better estimate an approximate simple structure solution with less interfactor correlation bias”, thus reducing factor complexity (Sass and Schitt 2010: 90). Since there is no perfect solution in factor analysis because of the factor indeterminacy problem (Mulaik 2005), it is

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90 In the context of evaluating a measurement model, ESEM is practically an EFA, in which the significance levels of the item loadings are readily available in the software output. Unless stated otherwise, the EFA analyses reported in this chapter have been carried out through the ESEM specification implemented in Mplus 7.11.
recommended that researchers report multiple factor pattern matrices of exploratory factor analyses (Sass and Schmitt 2010). The analyses reported in this section take on these recommendations.

Table 5.1 Factor pattern matrices of SQT, SFID, and SFE from the initial EFA analyses*

<table>
<thead>
<tr>
<th>satisfaction factors ↓</th>
<th>items (shortened labels)</th>
<th>rotation: Geomin</th>
<th>rotation: Equamax</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>F1</td>
<td>F2</td>
</tr>
<tr>
<td>Quality of Teaching</td>
<td>(Sat1) lecturing quality</td>
<td>.87</td>
<td>-.12</td>
</tr>
<tr>
<td>(F1 - SQT)</td>
<td>(Sat2) tutoring quality</td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Sat3) feedback quality</td>
<td>.62</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Satx1) course content</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td>Interactional Diversity</td>
<td>(Sat4) discussion-opportunities</td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td>(F2 - SFID)</td>
<td>(Sat5) understanding others</td>
<td>.78</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Sat6) club activities</td>
<td>.60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Satx2) overall social experience</td>
<td>.11</td>
<td>.49</td>
</tr>
<tr>
<td>Facilitating</td>
<td>(Sat7) knowledge-transferability</td>
<td>.14</td>
<td>.58</td>
</tr>
<tr>
<td>Employability</td>
<td>(Sat8) work emphasis</td>
<td></td>
<td>.80</td>
</tr>
<tr>
<td>(F3 - SFE)</td>
<td>(Sat9) work opportunities</td>
<td></td>
<td>.72</td>
</tr>
<tr>
<td>R (interfactor</td>
<td></td>
<td>R F1-F2</td>
<td>.43</td>
</tr>
<tr>
<td>correlations)</td>
<td></td>
<td>R F1-F3</td>
<td>.44</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R F2-F3</td>
<td>.53</td>
</tr>
</tbody>
</table>

* Primary factor loadings are highlighted. Only highly significant (p<0.01) item cross-loadings that also exceed 0.10 in absolute value are shown.

The factor loading patterns reported in Table 5.1 confirm that the Geomin and Equamax rotations differ in that the former results in higher factor loadings, higher interfactor-correlations, and a lower number of significant item cross-loadings. In both rotations the same three-factor solution emerged from the analyses, but model fit indices ($\chi^2[25]=327.94$ p.<.001; RMSEA=0.080; CFI=0.970) indicate that the model could be improved, especially with respect to RMSEA. Since item cross-loadings are already minimized in the Geomin factor rotation, significant cross-loadings under this rotation technique may warrant extra caution. For example, Satx1 has a relatively lower loading on its main factor (SQT) in the Geomin rotated solution, while it also loads on SFE significantly. Moreover, Satx1 has the largest (.16 in absolute value) cross-loading (obtained via the Equamax rotation) from all cross-loadings reported in Table 5.1 which is also significant even at the p<0.001 level. Another problematic item appears to be Satx2. Its loading to its main factor (SFID) is relatively low — in fact it is the lowest among all main factor loadings in absolute value — while it cross-loads to both SQT and SFID, irrespective of the two different factor-rotation criteria employed. In the next step, therefore, these two items were removed, and ESEM was run with the

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* The overall model fit statistic ($\chi^2$) are the same in both factor analyses, regardless of the rotation criteria.
* It is evident from Table 5.1 that item Sat7 could also be a potential candidate for removal from subsequent analyses due to cross-loadings combined with a slightly lower loading on its main factor, SFE. However, both factor analyses indicate clearly that Sat7 ‘belongs’ to its main factor, since the cross-loadings are still below the 0.3 factor loading cut-off commonly employed in applied research. Moreover, Sat7 is part of one of the main dependent latent variables in the study, and it is of theoretical research interest to keep it in its main factor in subsequent analyses.
remaining nine items. Both the Geomin and Equamax rotations revealed the same factor structure, exhibiting characteristics of a reasonably ‘simple factor structure’ (see Table 5.2). The fit indices of the second EFA indicate a reasonably good fit to the data ($\chi^2 = 29.003$ [18], $p = 0.004$; RMSEA = 0.027; CFI = 0.998). Next, the factorial solution obtained in the second EFA (EFA2) was assessed in a CFA, utilizing the WLSMV estimator, which is recommended in cases of analysing ordinal data (Muthén 1984; Beauducel and Herzberg 2006).

Table 5.2 Factor pattern matrices of SQT, SFID, and SFE from EFA2 and from the CFA*

<table>
<thead>
<tr>
<th>satisfaction-factors ↓</th>
<th>items (shortened labels)</th>
<th>rotation: Geomin</th>
<th>rotation: Equamax</th>
<th>CFA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Teaching</td>
<td>(Sat1) lecturing quality</td>
<td>.70 F1</td>
<td>.68 F1</td>
<td>.72* F1</td>
</tr>
<tr>
<td></td>
<td>(Sat2) tutoring quality</td>
<td>.84 F2</td>
<td>.81 F2</td>
<td>.78 F2</td>
</tr>
<tr>
<td></td>
<td>(Sat3) feedback quality</td>
<td>.65 F3</td>
<td>.63 F3</td>
<td>.72 F3</td>
</tr>
<tr>
<td>Interactional Diversity</td>
<td>(Sat4) discussion-opportunities</td>
<td>.76 F1</td>
<td>.73 F1</td>
<td>.79* F2</td>
</tr>
<tr>
<td></td>
<td>(Sat5) understanding others</td>
<td>.80 F2</td>
<td>.77 F2</td>
<td>.74 F2</td>
</tr>
<tr>
<td></td>
<td>(Sat6) club activities</td>
<td>.56 F3</td>
<td>.54 F3</td>
<td>.61 F3</td>
</tr>
<tr>
<td>Facilitating Employability</td>
<td>(Sat7) knowledge-transferability</td>
<td>.13 F1</td>
<td>.58 F2</td>
<td>.11 F2</td>
</tr>
<tr>
<td></td>
<td>(Sat8) work emphasis</td>
<td>.80 F2</td>
<td>.77 F2</td>
<td>.74 F2</td>
</tr>
<tr>
<td></td>
<td>(Sat9) work opportunities</td>
<td>.72 F3</td>
<td>.69 F3</td>
<td>.66 F3</td>
</tr>
<tr>
<td>R (interfactor correlations)</td>
<td>R F1-F2</td>
<td>.35</td>
<td>.25</td>
<td>.38</td>
</tr>
<tr>
<td></td>
<td>R F1-F3</td>
<td>.43</td>
<td>.31</td>
<td>.46</td>
</tr>
<tr>
<td></td>
<td>R F2-F3</td>
<td>.51</td>
<td>.40</td>
<td>.55</td>
</tr>
</tbody>
</table>

* Primary factor loadings are highlighted. Only highly significant ($p<0.01$) item cross-loadings that also exceed 0.10 in absolute value are shown.

** These standardized factor loading coefficients in the CFA had fixed values for identification purposes.

As expected, the CFA model fit indices are not as good as the corresponding EFA solution just mentioned, although they still suggest a reasonable approximation to the data ($\chi^2 = 105.95$ [24], $p<0.001$; RMSEA = 0.043; CFI = 0.989). Moreover, the MIs do not suggest theoretically compelling modifications to improve upon the proposed three-factor structure.

5.2.2 Factorial validation of ‘Engagement with teaching staff’ (ETS)

The empirical assessment of the ETS followed a similar procedure as described above. In contrast to the hypothesized multidimensionality of the satisfaction-related constructs, ETS is assumed to have a single underlying dimension which is about the degree to which students engage and interact with the academic staff, primarily in their departments. While students’ engagement could theoretically be classified in several ways — for example, informal or formal, or course-material related versus non-course material related interactions, and so forth — it is expected that the various forms of engagement are all correlated with each other. The initial CFA (denoted as CFA1) on the six items of the ETS construct displays a rather unsatisfactory overall model fit, evident by the fit
indices ($\chi^2=117.086[9]$, $p<0.001$; RMSEA=0.08; CFI=0.957) and the lower loading on Exp6. Moreover, the largest drop in the $\chi^2$ statistic — according to the MIIs — points to correlation of the error terms of Exp6 and Exp5 for which there is little compelling theoretical support.\textsuperscript{93} For these reasons, a second CFA (CFA2) was run, without Exp6. Model fit indices ($\chi^2=63.878[5]$, $p<0.001$; RMSEA=0.079; CFI=0.974) showed considerable improvement over CFA1 and therefore CFA2 was accepted as a reasonable approximation of the ETS construct in the present data.\textsuperscript{94} Table 5.3 shows the factor loadings of the ETS in both CFA specifications.

Table 5.3 Factor loadings of the ETS items in CFA1 and CFA2

<table>
<thead>
<tr>
<th>factor with teaching staff (ETS)</th>
<th>items (shortened labels)</th>
<th>CFA1</th>
<th>CFA2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Exp1) discussing career-plans with academic staff</td>
<td>.73*</td>
<td>.74*</td>
</tr>
<tr>
<td></td>
<td>(Exp2) discussing class-related materials outside class</td>
<td>.65</td>
<td>.66</td>
</tr>
<tr>
<td></td>
<td>(Exp3) socializing with academic staff</td>
<td>.77</td>
<td>.78</td>
</tr>
<tr>
<td></td>
<td>(Exp4) getting help with non-academic responsibilities</td>
<td>.77</td>
<td>.78</td>
</tr>
<tr>
<td></td>
<td>(Exp5) working on research with academic staff</td>
<td>.69</td>
<td>.65</td>
</tr>
<tr>
<td></td>
<td>(Exp6) volunteering for departmental research</td>
<td>.40</td>
<td>-</td>
</tr>
</tbody>
</table>

*Factor loading of item Exp1 was fixed to 1 in both CFA1 and CFA2 for identification purposes.

5.2.3 Empirical evaluation of construct reliability and validity

In the preceding sections the three satisfaction-related constructs (SQT, SFID, and SFE) and the one measuring the extent of students’ engagement with the teaching staff (ETS) have been assessed separately. In this section these four constructs are specified as the higher-educational structural equation model which was proposed as the ‘Base model’ in section 3.3.5 in Chapter Three. Prior to the SEM analysis of the four constructs, their measurement reliability and validity were assessed, and the discriminant validity (sufficient separation) among the constructs was evaluated. The empirical validity of a construct is given by the ‘average variance extracted’ (AVE) as described in Fornell and Larcker (1981). These authors also propose that discriminant validity is established if the squared correlation between any two constructs is smaller than the AVE of either one of the two. Table 5.4 lists the criteria that were used to assess the reliability and validity properties of the constructs proposed throughout the thesis.

\textsuperscript{93} The low loading of Exp6 may simply reflect an organizational characteristic, rather than students’ interest in engaging or willingness to engage with teaching staff (for example, the lack of the type of research in a particular department for which students could volunteer).

\textsuperscript{94} As the two CFA models were nested, the difference in $\chi^2$ approach (Bollen 1989) was employed — implemented via the ‘difftest’ option in Mplus — to conclude that CFA2 did indeed fit significantly better to the data than did CFA1.
Table 5.4 Empirical reliability and validity criteria employed in the thesis

<table>
<thead>
<tr>
<th></th>
<th>recommended ‘cut-off’</th>
<th>source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s Alpha (α)</td>
<td>&gt;0.7</td>
<td>Nunnally 1978</td>
</tr>
<tr>
<td>Composite Reliability (ρ [rho])</td>
<td>&gt;0.6</td>
<td>Jöreskog 1971; Bagozzi and Yi 1988</td>
</tr>
<tr>
<td>Composite Validity (‘AVE’)</td>
<td>&gt;0.5</td>
<td>Fornell and Larcker 1981</td>
</tr>
<tr>
<td>Discriminant Validity</td>
<td>n.a. (explained in the text)</td>
<td>Fornell and Larcker 1981</td>
</tr>
</tbody>
</table>

As mentioned in section 4.9.1.1 in the Chapter Four, the empirical assessments of composite reliability and validity are subjects of intensive debate in various branches of the methodological literature. One area of consensus, however, is that the conventional and popular way of measuring reliability with Cronbach’s Alpha (Cronbach 1951) is no longer preferred, since it “cannot be interpreted as a measure of internal consistency” (Sijtsma 2009: 119). Instead, researchers have been increasingly encouraged to use alternative measures to establish composite reliability of a construct (for example, Raykov 1997), based on the work of Jöreskog (1971).\(^\text{95}\)

Table 5.5 Construct reliability and validity properties of SQT, SFID, ETS and SFE

<table>
<thead>
<tr>
<th>Construct</th>
<th>Reliability*</th>
<th>Validity</th>
<th>Correlation R and (R^2)**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>α</td>
<td>ρ</td>
<td>AVE</td>
</tr>
<tr>
<td>(1) SQT</td>
<td>.782</td>
<td>.783</td>
<td>.55</td>
</tr>
<tr>
<td>(2) SFID</td>
<td>.756</td>
<td>.760</td>
<td>.52</td>
</tr>
<tr>
<td>(3) ETS</td>
<td>.842</td>
<td>.844</td>
<td>.53</td>
</tr>
<tr>
<td>(4) SFE</td>
<td>.770</td>
<td>.770</td>
<td>.52</td>
</tr>
</tbody>
</table>

* α and ρ differ only in the third decimal place.

** Construct correlations (R) are above the diagonal and squared correlations (\(R^2\)) below the diagonal.

As evident from Table 5.5, the properties of each construct meet acceptable standards with respect to empirical reliability, validity and discriminant validity. As indicated earlier in the thesis, SEM was undertaken in this study in two stages, as outlined by Anderson and Gerbing (1988). As the measurement models within the ‘Base model’ have been established in the first step via CFA-s, the analysis can proceed to the full SEM in the second stage. The results of the initial SEM are reported in the following sections.

5.2.4 Initial SEM analysis of the ‘Base model’

The ‘Base model’ was outlined earlier in section 3.3.5 in Chapter Three, while the detailed empirical assessment of its measurement components has been carried out above. The results of the first full SEM analysis on the ‘Base model’ constructs are reported in Table 5.6.

\(^{95}\) As Cronbach’s Alpha is still perhaps the most frequently reported measure of reliability, it is reported here.
It is evident from Table 5.6 that all structural paths between the proposed constructs are positive and aligned to theoretical expectations. Overall, about 41% of the variance of the main dependent variable (SFE) is explained by the model whereas 8% of the variance of the mediating construct (ETS) is accounted for.\(^96\) Though the perfect model fit has not been achieved, goodness of fit indices suggest an acceptable approximation to the data. Moreover, the modification indexes (included in Appendix C) do not suggest theoretically justifiable changes to the proposed model.

5.3 Covariates of the ‘Base model’

In the following sections the ‘Base model’ is expanded to include a selected number of relevant covariates that were referred to as ‘pre-university characteristics’ in previous chapters. These are constructs of sociological interest that are expected to influence the student experience. The following covariates have been part of a series of analyses: socio-economic status, propensity for relational diversity, age, seniority, parental educational qualifications, weekly study hours, grades, working status, doing major-relevant work, weekly working hours, work satisfaction, residency status, ethnic background, and primary faculty affiliation.

\(^96\) To put it more precisely, the notion of ‘explained variance’ denotes the variance that is shared by the items that comprise a factor, without the error variance.
5.3.1 Socio-economic status (SES) of students

Basic descriptive characteristics of the SES-related variables were given in section 4.8.3.1.1 in Chapter Four. It was mentioned there that after the exclusion of the ‘paternal and maternal occupation’ variables, the empirical analysis focused on the following six variables: subjective social class, family income, paternal educational level, maternal educational level, frequency of financial problems of students, and student allowance.

In the initial step, two multiple regression analyses were carried out in Mplus, with subjective social class as the dependent variable. This variable has five response categories, and it follows an approximately normal distribution, without ceiling or floor effects. For these reasons, two regression analyses are reported. In the first, subjective social class was considered as a continuous dependent variable, while in the second analysis the possible ordinal nature of this variable was acknowledged. The results of these analyses are reported in Table 5.7.

Table 5.7 ‘Subjective social class’ as a continuous or ordinal dependent variable*

<table>
<thead>
<tr>
<th>variables</th>
<th>DV as continuous (R²=.502)</th>
<th>DV as ordinal (R²=.563)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(intercept)</td>
<td>B</td>
<td>β</td>
</tr>
<tr>
<td>1. family income</td>
<td>.189</td>
<td>.551</td>
</tr>
<tr>
<td>2. paternal educational level</td>
<td>.107</td>
<td>.154</td>
</tr>
<tr>
<td>3. maternal education level</td>
<td>.071</td>
<td>.095</td>
</tr>
<tr>
<td>4. frequency of financial problems</td>
<td>.091</td>
<td>.070</td>
</tr>
<tr>
<td>5. student allowance (4 levels)</td>
<td>.012</td>
<td>.015</td>
</tr>
</tbody>
</table>

* B/β= unstandardized/standardized regression coefficients; p<0.001; R²= explained variance. The ‘frequency of financial problems’ variable was reverse coded so that higher values represent less frequent financial problems.

As evident from Table 5.7, the five independent variables emerge in the same order in the two regression analyses, wherein ‘family income’ is the strongest predictor of subjective social class, while ‘student allowance’ turns out to be a non-significant predictor. Despite this, ‘student allowance’ was not removed from subsequent analyses on conceptual grounds, as it is fundamentally linked to the socio-economic position of students.

In the next step, a confirmatory factor analysis (CFA) was carried out on the polychoric correlation matrix of the six SES variables. This is the recommended practice when analysing the predominantly ordinal data (Holgado–Tello et al. 2010). The regression coefficients of the six SES variables within the CFA are indicative of their relative strengths in contributing to a latent SES composite variable. It has been well established in the SES-related structural equation modeling literature that indicators of SES may be formative, reflective in nature, or relatively free of

97 Unless indicated otherwise, the imputed version of the ‘family income’ variable is used in all analyses.
measurement error (Bollen et al. 2001, 2002, 2007). In the current analysis therefore CFA was considered a valuable tool to empirically evaluate the extent to which the six SES indicators could represent an underlying ‘SES factor’. This evaluation was carried out through two CFA analyses, utilizing the WLSMV and MLR estimation techniques in Mplus. Both estimation techniques are commonly used in applied social research with ordinal data. Although the factor loadings were slightly different in the two CFA-s, the six variables emerged in a nearly identical order in them. Moreover, the very high correlation between the two factor scores (r=0.98) obtained via the WLSMV and MLR estimations indicate that in the present context there are no practical differences between the two estimation methods.\(^98\) The polychoric correlation matrix of the six SES variables, and the factor loadings of the two CFA solutions are listed in Table 5.8.

Table 5.8 Polychoric correlation matrix and standardized loadings within the ‘SES index’

<table>
<thead>
<tr>
<th>SES-related variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>factor loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WLSMV</td>
</tr>
<tr>
<td>1. subjective social class</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.75</td>
</tr>
<tr>
<td>2. family income</td>
<td>0.72</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.77</td>
</tr>
<tr>
<td>3. paternal educational level</td>
<td>0.49</td>
<td>0.45</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>0.73</td>
</tr>
<tr>
<td>4. maternal education level</td>
<td>0.46</td>
<td>0.43</td>
<td>0.61</td>
<td>1</td>
<td></td>
<td></td>
<td>0.71</td>
</tr>
<tr>
<td>5. frequency of financial problems</td>
<td>0.29</td>
<td>0.27</td>
<td>0.16</td>
<td>0.15</td>
<td>1</td>
<td></td>
<td>0.30</td>
</tr>
<tr>
<td>6. student allowance (4 levels)</td>
<td>0.28</td>
<td>0.38</td>
<td>0.09</td>
<td>0.08</td>
<td>0.09</td>
<td>1</td>
<td>0.30</td>
</tr>
</tbody>
</table>

It was recognised in the SEM methodological literature early on that a computation of any ‘SES-index’ may mask the effects of the individual SES-items on constructs to which they are connected (Hayduk 1987). For this reason the effects of SES on the ‘Base model’ constructs were assessed through an overall SES-index in one model, followed by an alternative model specification in which the effects of the six SES-items were evaluated in a separate structural equation model.

Table 5.9 Alternative specifications of the SES-effects on the ‘Base model’ constructs\(^1\)

<table>
<thead>
<tr>
<th>SES variables → the ‘Base model’ ↓</th>
<th>SES-index</th>
<th>subjective social class</th>
<th>family income</th>
<th>paternal education</th>
<th>maternal education</th>
<th>financial problems</th>
<th>student allowance</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQT</td>
<td>0.011</td>
<td>-0.40</td>
<td>0.032</td>
<td>-0.080*</td>
<td>0.060</td>
<td>0.079**</td>
<td>0.033</td>
</tr>
<tr>
<td>SFID</td>
<td>-0.041</td>
<td>0.008</td>
<td>-0.056</td>
<td>0.014</td>
<td>-0.002</td>
<td>-0.074**</td>
<td>0.034</td>
</tr>
<tr>
<td>ETS</td>
<td>0.048</td>
<td>0.038</td>
<td>-0.039</td>
<td>-0.041</td>
<td>0.087*</td>
<td><strong>-0.128</strong>*</td>
<td>-0.024</td>
</tr>
<tr>
<td>SFE</td>
<td>0.016</td>
<td>-0.002</td>
<td>0.019</td>
<td>0.023</td>
<td>-0.062*</td>
<td>0.074**</td>
<td>0.028</td>
</tr>
<tr>
<td># of significant paths</td>
<td>0/4</td>
<td>0/4</td>
<td>0/4</td>
<td>1/4</td>
<td>2/4</td>
<td>4/4</td>
<td>0/4</td>
</tr>
</tbody>
</table>

\(^1\) Standardized regression coefficients. Italicized values are non-significant; * p<0.05; ** p<0.01; *** p<0.001. The last row shows how many of the four ‘Base model’ constructs are affected by the overall SES-index as well as the individual SES items even at a lenient p level (p<0.05). The model fit indices from the two respective models are: \(\chi^2(81)=271.082, p<0.001\); RMSEA=0.035; CFI=0.981; TLI=0.975 and \(\chi^2(131)=311.391, p<0.001\); RMSEA=0.027; CFI=0.983; TLI=0.977.

\(^98\) Unless indicated otherwise, the ‘SES-index’ of students in the thesis refers to the factor score obtained in Mplus via the WLSMV estimation technique.
Table 5.9 contains important information regarding the impacts of SES — either as an overall index, or as the six individual items — on the four ‘Base model’ constructs. While the SES index does not have any significant impact on either of the constructs in the higher education model, some of the individual SES items do have significant impacts on the same four latent variables. It emerges from the analysis that ‘subjective social class’, ‘family income’, and ‘student allowance’ were found not to be related to any of the ‘Base model’ constructs, although the educational variables seem to exert some modest influence within the model. Most notable, however, is the impact that the ‘frequency of financial problems’ variable has on all four higher education latent variables. In particular, the highly significant (p<0.001) negative relationship between this social background-related measure and ETS indicates that students with more frequent financial problems are more likely to engage (both formally and informally) with departmental teaching staff whereas the lack of financial problems appears to lessen the prospects of student-teacher encounters outside the classroom.

5.3.2 Propensity for Relational Diversity (PRD)

The operationalisation of PRD was introduced in section 4.8.3.1.2 in Chapter Four. It was argued there that PRD is comprised of three related components. These are ‘Socialisation diversity’ (SocDiv), ‘Musical Diversity’ (MusDiv), and ‘Propensity for Making Friends’ (PMF).

5.3.2.1 Socialisation diversity (SocDiv)

This construct has been conceptualized as a higher-order measure of the extent to which students’ diverse socialisation can be derived from attitudinal data on their non-rejection of dissimilar others, as described earlier in section 4.8.3.1.2.1 in Chapter Four. In that section, Table 4.6 contained a list of the fourteen specific variables that were submitted to EFA and CFA analyses in Mplus, utilizing the WLSMV estimation technique, and Geomin rotation for accommodating the ordinal data. The dimensionality of these items was first assessed in a series of EFA models in which one to five latent factors were considered.\(^9\) The overall poor model fit in each of the EFA solutions revealed that re-specification was necessary.\(^1\) This led to the gradual removal of six indicators from the item pool, on both conceptual (importance and relevance) and statistical (model fit) grounds. At the

\(^9\) The fourteen items covered five social-cultural aspects (ethnic background, socio-political background, sexual orientation, religious views, and socio-political views) of students’ attitudes toward others with respect to friend, flatmate, and spouse considerations.

\(^1\) The five factor model did not converge and it has not been evaluated further. The overall model fit of the remaining four different EFA models varied between the worst-fitting one-factor model ($\chi^2[77]= 7725.868$, p<0.001; RMSEA= 0.230; CFI=0.644; SRMR=0.167) to the better, yet still poor-fitting four factor model ($\chi^2[41]= 2237.436$, p<0.001; RMSEA= 0.169; CFI=0.898; SRMR=0.051).
end of the re-specification of the SocDiv model, a higher-order factor solution was found to be reasonably consistent with the data. Overall, the analyses suggested that ‘Socialisation Diversity’ was a higher-order representative of three first-order factors which were in turn capable of capturing the relationships among eight items (see Figure 5.1).

Figure 5.1 ‘Socialisation Diversity’ as a higher order factor model*

*Standardized coefficients; asterisks indicate fixed coefficients for identification purposes.

### 5.3.2.2 Musical Diversity (MusDiv)

Some basic descriptive characteristics of MusDiv were introduced in section 4.8.3.1.2.2 in Chapter Four. It was argued that MusDiv has two components. The first refers to the variety of musical genres students had been listening to. The second component is the unweighted sum of the frequency of each of the twelve musical genres students listened to. MusDiv is obtained as the ratio of these two components.

| Table 5.10 Descriptive statistics of MusDiv with its related components, and those of PMF |
|-----------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| variety of musical consumption              | 3.97           | 4              | 1              | 2.47           | 1              | 12             |
| summed frequency of musical consumption     | 26.04          | 26             | 23             | 8.42           | 0              | 56             |
| MusDiv                                       | 12.28          | 7.5            | 4              | 11.85          | 0              | 56             |
| Propensity for Making Friends               | 15.91          | 16             | 17             | 3.72           | 5              | 25             |

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5.3.2.3 Propensity for Making Friends (PMF)

The last component of PRD is about students’ friend networks. As described earlier in section 4.8.3.1.2.3 in Chapter Four, the ‘Propensity for Making Friends’ construct aims to capture diversity in students’ peer-networking in a higher education setting. Unlike most of the constructs discussed in the thesis that are conceptualised as reflective, it is argued that PMF can be more accurately captured via a formative specification. For this reason, the five individual components of this construct (see these in Table 4.8) have been summed up to form an unweighted composite, rather than using a factor score, which may be a more appropriate technique when working with reflective latent variables. The resulting PMF construct follows a reasonably normal distribution (Skewness=-0.322; Kurtosis=0.024).

5.3.2.4 PRD and the ‘Base model’

In this section it is examined how the three PRD constructs relate to the higher education ‘Base model’. In order to differentiate the effects of the individual constructs from the ‘Base model’ ones, their inter-relational dimensions are inspected first. Pearson correlational coefficients were calculated in SPSS and they are included in Table 5.11.

<table>
<thead>
<tr>
<th>constructs</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) SocDiv</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) MusDiv</td>
<td>.09*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>(3) PMF</td>
<td>ns (.02)</td>
<td>.14*</td>
<td>1</td>
</tr>
</tbody>
</table>

* Coefficients are significant at the p<0.001 level; ns= not significant. SocDiv is included as a ‘factor score’.

The results reported in Table 5.11 suggest that SocDiv, MusDiv and PMF measure clearly distinct aspects of PRD. While the former two, as well as the latter two, constructs correlate with each other rather weakly, SocDiv and PMF do not seem to be statistically related.

In order to evaluate the effects the three PRD constructs have on the specified ‘Base model’, a new model was specified in which the four ‘Base model’ latent variables were regressed on each of the three PRD measures. Graphical representation of this model and the corresponding statistical fit are shown in Figure 5.2, while numerical results are reported in Table 5.12.
Figure 5.2 Hypothesised relationships between the PRD constructs and the ‘Base model’

* The ‘Base model’ constructs are marked with yellow, while structural paths within the ‘Base model’ are marked with dashed lines. The twelve regression paths of present interest are labelled (from ‘s1’ to ‘p2’) and are described in more detail in Table 5.12. Proportions of the ‘explained variance’ for each of the four ‘Base model’ constructs are blue-coloured. The ‘Base model’ part within the overall model is coloured green.

Figure 5.2 shows that the inclusion of the three additional PRD constructs does not add to the ‘explained variance’ of the main dependent latent variable (SFE) in comparison to what was reported in Table 5.6. On the other hand, the PRD constructs account for approximately 5% additional variance in explaining ETS within the ‘Base model’. Moreover, this analysis reveals that the simultaneous inclusion of SocDiv, MusDiv, and PMF into the SEM analysis explains 4% and 15% of the variances of SQT and SFID, respectively.

Table 5.12 Relationships between the ‘Base model’ and the PRD-related constructs

<table>
<thead>
<tr>
<th>PRD constructs → ‘Base model’ constructs ↓</th>
<th>SocDiv</th>
<th>MusDiv</th>
<th>PMF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SQT</td>
<td>s1=.15**</td>
<td>m1=.03 ns</td>
<td>p1=.13**</td>
</tr>
<tr>
<td>SFID</td>
<td>s2=.14**</td>
<td>m2=.08*</td>
<td>p2=.36**</td>
</tr>
<tr>
<td>ETS</td>
<td>s3=.10**</td>
<td>m3=.11**</td>
<td>p3=.17**</td>
</tr>
<tr>
<td>SFE</td>
<td>s4=.05*</td>
<td>m4=.03 ns</td>
<td>p4=.02 ns</td>
</tr>
</tbody>
</table>

1 Standardized regression coefficients; * and ** denote p<0.01 and p<0.001, respectively; ‘ns’ means ‘not significant’.

5.3.2.4.1 Suppression and the effects of PRD on the ‘Base model’

It appears from Table 5.12 that the main dependent latent variable in the ‘Base model’ (SFE) is not ‘strongly’ related to any of the three PRD constructs. Moreover, there seems to exist a significant but negative relationship between SocDiv and ETS (p<0.001), as well as between SocDiv and SFE
Taking these findings at face value would suggest that a more diverse socialisation background would hinder students’ engagement with departmental teaching staff, and that such students would also be less likely to be satisfied with the ‘employment facilitating’ aspects of the university experience. These are findings that run contrary to theoretical expectations outlined earlier in the thesis. However, the somewhat low absolute values and significance levels of these standardized regression coefficients ($\beta=-0.10$ $p=0.001$; $\beta=-0.05$ $p=0.043$) necessitate a critical examination of the validity of these two relationships. For this reason, additional analyses were carried out in which ETS and SFE were regressed on each of the three PRD constructs. This was carried out in two separate analyses, followed by a third in which a reduced ‘Base model’ was specified, without the exogenous latent (SQT and SFID) variables. See Table 5.13 for the results.

Table 5.13 Sequential validation of the PRD and SFE as well as PRD and ETS links*

<table>
<thead>
<tr>
<th>PRD constructs ← dependent measures ↓</th>
<th>SocDiv</th>
<th>MusDiv</th>
<th>PMF</th>
<th>model fit indices</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) SFE alone</td>
<td>s4(a)=0.029</td>
<td>m4(a)=0.038</td>
<td>p4(a)=0.201</td>
<td>$\chi^2$(60)= 336.652; $p&lt;.001$; RMSEA= 0.049; CFI=0.979; TLI=0.973</td>
</tr>
<tr>
<td>(2) ETS alone</td>
<td>s3(a)= -0.065</td>
<td>m3(a)= 0.127</td>
<td>p3(a)=0.236</td>
<td>$\chi^2$(85)= 352.520; $p&lt;.001$; RMSEA= 0.041; CFI=0.980; TLI=0.976</td>
</tr>
<tr>
<td>(3) SFE with ETS</td>
<td>as above</td>
<td>as above</td>
<td>as above</td>
<td>$\chi^2$(126)=468.527; $p&lt;.001$; RMSEA= 0.038; CFI=0.978; TLI=0.973</td>
</tr>
</tbody>
</table>

* Standardized regression coefficients. Highly significant coefficients ($p<0.001$) are highlighted in red; “ns” means not significant. Path labels (for example, s4) follow the patterns used in Table 5.12. Additional indicators in path labels (for example s4a or p4b, and so forth) indicate that these paths were specified in different models. For example, the difference between paths m4a and m4b is that in the latter case ETS was specified as a mediator construct influencing SFE while ETS was simultaneously being affected by the MusDiv construct; in contrast, m4a denotes the direct link between MusDiv and SFE, without the influence of ETS.

** This analysis reveals that ETS has a stronger impact on SFE ($\beta=0.31$; $p<0.001$) when SQT and SFID are excluded from the model in comparison to the original ‘Base model’ (reported in Table 5.6), in which the equivalent coefficient was considerably smaller ($\beta=.17$; $p<0.001$). Moreover, the three PRD constructs alone explain 8% and 13% of the variances of ETS and SFE, respectively.

The results reported in Table 5.13 shed light on a set of more complex relationships between the three PRD constructs and SFE and ETS than appeared from the results reported in Table 5.12. First, the initially negative relationships between SocDiv and both SFE and ETS changed considerably when SQT and SFID were excluded from the analysis. For example, it appears that SocDiv in fact does not have a significant impact on SFE ($p=0.321$), while its effect on ETS is barely significant ($p=0.041$) which makes it practically negligible, given the large sample size. A plausible explanation to the discrepancy between the regression coefficients in the analyses described above is that SQT and SFID seem to act as ‘suppressors’ when they are included in the analysis as
‘mediators’ between the independent PRD and the dependent ETS and SFE measures.\textsuperscript{101} Second, it is revealed that there is in fact a significant and positive ($\beta=0.201; p<0.001$) relationship between PMF and SFE when the model is specified without SQT and SFID. However, MusDiv does not have a significant impact on SFE even when SQT and SFID are excluded from the model. Finally, in the third model PMF remains positively and significantly related to SFE, although the inclusion of ETS as a mediator between PMF and SFE reduces the direct impact of PMF on SFE from $\beta_{(p4a)}=0.201$ to $\beta_{(p4b)}=0.129$.

5.3.3 Comparing the effects of SES and PRD on the ‘Base model’

It is of primary interest in this research to compare the extent to which SES on the one hand, and PRD on the other hand have significant impacts on each of the ‘Base model’ constructs. This comparison is formally expressed as H1a-d in section 3.3.1 in Chapter Three. The relevant assessment was carried out in an extended structural equation model in which the SES-related variables and the three PRD constructs were specified as exogenous components that influenced each of the four latent variables in the ‘Base model’. Given the paramount importance of this comparison to the research, SocDiv was entered into the model in its fully specified form (as a higher-order construct). Results of this analysis are reported in Table 5.14.

Table 5.14 Comparison of the effects of SES and PRD on the ‘Base model’\textsuperscript{*}

<table>
<thead>
<tr>
<th>SES/PRD constructs ↓</th>
<th>SES variables</th>
<th>PRD constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>social class</td>
<td>family income</td>
</tr>
<tr>
<td>SQT</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>[R\textsuperscript{2}= 0.05]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFID</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>[R\textsuperscript{2}= 0.16]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ETS</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>[R\textsuperscript{2}= 0.16]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SFE</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>[R\textsuperscript{2}= 0.42]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\* Standardised coefficients. The overall model fit is acceptable ($\chi^2[340]=936.737, p<0.001$; RMSEA=0.031; CFI=0.970; TLI=0.964). Non-significant coefficients are marked with ‘-’. Genuine SES and PRD effects are highlighted with bold blue and red, respectively. The proportion of ‘explained variance’ is denoted by ‘R\textsuperscript{2}’.

Some of the regression paths reported in Table 5.14 are negative, while their corresponding significance levels are not particularly high (p>0.001), given the large sample size. Moreover, the

\textsuperscript{101} One of the advantages of the SEM methodology is that mediation effects can be tested so that spurious effects can be captured before false conclusions are drawn from the data. Suppression as a statistical phenomenon has been thoroughly discussed in the methodological literature (Cohen et al 2003). In the context of SEM, Cheung and Lau (2008: 299) note that “[w]hen the suppression effect is not controlled for, the relationship between X1 and Y would appear to be smaller or even of opposite sign”.

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interpretations of the relationships they capture are difficult in that they contradict theoretical expectations. Taken together, they raise suspicion that there may be suppression effects present in this model. Two additional analyses were carried out in order to provide further clarification on the relationships reported in Table 5.14. In these investigations, the effects of the six SES-related variables and the ones of the three PRD-related constructs (‘SocDiv’ being a higher-order measure) were assessed first on ETS and on SFE, in separate analyses which are reported in Table 5.15.

Table 5.15 SES and PRD effects on ETS (1) as well as on SFE (2) in separate analyses *

<table>
<thead>
<tr>
<th>SES and PRD →</th>
<th>SES variables</th>
<th>PRD constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td>dependent constructs</td>
<td>social class</td>
<td>family income</td>
</tr>
<tr>
<td>(1) ETS [R²= 0.11]</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2) SFE [R²= 0.05]</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Standardized coefficients. The model fit is acceptable in both models (χ²[157]=511.263, p<0.001; RMSEA=0.035; CFI=0.974; TLI=0.970 in model ‘1’; χ²[120]= 471.912, p=0.003; RMSEA=0.039; CFI=0.974; TLI=0.69 in model ‘2’). The four bolded coefficients indicate results that are different from what was reported in Table 5.14.

It appears that the negative relationship between ETS and ‘frequency of financial problems’ is genuine, a finding that was confirmed earlier (see Table 5.9). This suggests that those with frequent financial problems are more likely to seek opportunities to engage with teaching staff in formal and informal ways. On the other hand, the construct ‘frequency of financial problems’ is no longer a significant predictor of SFE when this dependent latent variable is modelled separately from the other ‘Base model’ measures. This suggests that SFE is indifferent to whether or not students have financial problems during the student years. The results also reveal that SocDiv is in fact not related significantly to either ETS or SFE, evident by the corresponding non-significant regression coefficients. These findings confirm that the three aforementioned relationships (which are denoted by bolded black in Table 5.15) are due to suppression effects whereby non-significant effects have been inflated (in either positive or negative directions) to erroneously suggest ‘real relationships’ when in fact none exist. Finally, contrary to the seemingly non-significant relationship between PMF and SFE (as reported above in Table 5.14), regressing all nine background related measures on SFE in isolation from the other ‘Base model’ constructs reveals that PMF is in fact a reasonably strong, positive predictor of SFE (β=.203; p<0.001), signified with bold red in Table 5.15. This result is in accordance with a similar finding reported in Table 5.13.

This research exercise also reveals that SFE is the only ‘Base model’ construct that is not affected by any of the six SES-related variables. Another distinct feature of SFE is that it is the only latent variable within the ‘Base model’ that is affected by only one of the PRD constructs whereby
‘Propensity for Making Friends’ has a positive and highly significant impact on SFE. A possible interpretation of this can be derived through the ‘strength of weak ties’ theory of Granovetter (1973, 1983). By adapting insights from his thesis to the present context, it can be argued that those students with a large, heterogeneous friend network may be more satisfied with the employment-facilitating aspects of the university experience. This is because their extensive network could enable them to see employment opportunities in a variety of situations which may not be the case for those with a more limited — and possibly more homophilic — friend network. Nonetheless, the initially strong positive relationship between SFE and PMF was reduced to an insignificant level as soon as it was embedded in a broader model in which the other ‘Base model’ constructs, control variables and measures were all estimated simultaneously.

The systematic comparison of the SES and the PRD constructs on the higher education ‘Base model’ reveals that SES does not have a strong impact on any of the four ‘Base model’ measures (see Table 5.9). The exception appears to be ‘frequency of financial problems’ which is the only SES-related variable that does exert some influence on the ‘Base model’ constructs. On the other hand, several PRD effects have been found in a series of comparative analyses. By combining findings reported in Tables 5.14 and 5.15, it can be concluded that PRD is a considerably more relevant social background predictor of the student experience than is SES. Overall, only three SES-effects have been found, out of the possible twenty four, while eight PRD-effects have been captured, from the possible twelve in this research context. In other words, the three socialisation constructs appear to be better predictors of the selected aspects of undergraduate student satisfaction and engagement than students’ socio-economic background characteristics, regardless of the alternative measurement forms employed for the latter, either in an ‘SES-index’ form or through the set of individual SES-variables. Based on these findings, it can be concluded that the main research hypothesis (formalized as H1a-d) is accepted. This states that PRD is a more suitable social background predictor of the undergraduate student experience than is SES.

Moreover, the ‘frequency of financial problems’ variable has been confirmed as the most relevant SES-related measure in the research. This highlights the importance of measuring student SES through variables that are suitable to locate their SES more directly, rather than various indirect measures (those connected to the family background of the students rather than to the students themselves) that have long been dominating research praxis in the sociology of higher education.
5.3.4 Institutional socialisation of students: maturation and seniority effects

In addition to the socializing effects of pre-university characteristics that have been discussed so far, the undergraduate student experience is also shaped within the institution throughout the completion of a degree. As students complete a semester, they gain experience that helps them navigate through the increasingly difficult parts of the degree. However, a cohort of students in a programme has its own dynamics with respect to age and pathways of degree attainment. For example, it is not uncommon that third year, ‘traditional age’ (for example, those under twenty five) students are younger than first year, ‘non-traditional age’ students, or that students complete a degrees within varying timeframes. Time therefore has an analytically dual nature in the student experience, whereby ageing-based maturation effects can analytically be separated from degree completion-based seniority effects. In order to capture the potential effects of maturation and seniority on a series of university-related variables, two separate ANOVA analyses were carried out.\(^\text{102}\)

Table 5.16 Maturation and seniority effects in the student experience*

<table>
<thead>
<tr>
<th>Maturation effects: (simplified item labels)</th>
<th>ANOVA</th>
<th>Seniority effects: (simplified item labels)</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>satisfaction - verbal skills</td>
<td>3.55</td>
<td>satisfaction - work experience availability</td>
<td>3.50</td>
</tr>
<tr>
<td>satisfaction - student-teacher relationship</td>
<td>5.40</td>
<td>failing - personal distractions</td>
<td>4.43</td>
</tr>
<tr>
<td>failing - poor study behaviour</td>
<td>7.35</td>
<td>failing - other conflicting responsibilities</td>
<td>5.05</td>
</tr>
<tr>
<td>failing - heavy workload</td>
<td>4.49</td>
<td>study hours</td>
<td>3.99</td>
</tr>
<tr>
<td>failing - personal distractions</td>
<td>5.65</td>
<td>working status</td>
<td>18.33</td>
</tr>
<tr>
<td>failing - other conflicting responsibilities</td>
<td>5.10</td>
<td>jobsaspects - helping others (part of PIJV)</td>
<td>4.22</td>
</tr>
<tr>
<td>jobsaspects - meaningful job (part of PIJV)</td>
<td>4.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>jobsaspects - helping others (part of PIJV)</td>
<td>4.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>jobsaspects - prestigious (part of PEJV)</td>
<td>9.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>jobsaspects - well paid (part of PEJV)</td>
<td>3.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>jobsaspects - quick promotions (part of PEJV)</td>
<td>3.90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>postgraduate study aspirations</td>
<td>4.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>working status</td>
<td>28.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>first-generational status</td>
<td>11.41</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The two ANOVAs were run on the same set of fifty six variables that capture key aspects of the undergraduate student experience, including satisfaction, engagement, underperformance, career preferences, working status, and postgraduate study aspirations. The corresponding mean plots of the analyses are included in Appendix E1-2.

\(^{102}\) ANOVA is based on the F-test of difference between group means and is used to assess whether the means of the dependent variables are different in the categories of the independent (or factor) variable. The null hypothesis is that the means are equal in the groups.
The results demonstrate that there are distinct ways in which ageing and study-progression affect the student experience. The statistically significant (p<0.001) effects of maturation and seniority are listed in Table 5.16. Maturation effects are present in fourteen indicators, representing the following six areas: satisfaction with the learning ‘outcomes’, reasons for underperforming, preferences in prospective job values, postgraduate study aspirations, working status, and first-generational status.

With respect to the first dimension, the data show evidence for the approximately linear and positive effects of maturity on satisfaction, with verbal skills and the departmental student-instructor relationship, suggesting that older students are more satisfied with these aspects of the student experience than are younger students.

The second area represents reasons for underperforming or failing a course. The four variables that were found significantly affected by maturation can be arranged in two groups based on their distinct patterns. Two variables (‘poor study behaviour’ and ‘heavy workload’) show a nearly linear, decreasing pattern whereby the younger students (19-23 year old) are the most likely to report these two reasons for underperformance while older learners are less affected. In contrast, a ∩-shape pattern is evident for the remaining two underperformance-related variables, with the youngest and the oldest age groups less likely to attribute reasons for underperforming to ‘personal distractions’ or ‘other conflicting responsibilities’ than those aged 23-29.

The third area is about preference for intrinsic (PIJV) or extrinsic (PEJV) job values in prospective employment. The importance of two significant indicators within PIJV (‘doing a meaningful job’ and ‘helping others’) increases with age while the three PEJV indicators (job that is ‘prestigious’, ‘well-paid’, and holds the promise of ‘quick promotions’) lose their appeal with ageing.

The fourth area is postgraduate study aspirations which appear to be highest in the 30-39 age group while students seem unlikely to consider further studies beyond the age of 40.

The fifth area is about ‘working status’ and it is represented by a binary variable. The mean plot shows that the likelihood of working while studying increases linearly until the age of 23 but then drops sharply afterward. A likely explanation for this trend is that undergraduate students could apply for a governmental financial aid (‘student allowance’) at the age of 24 on their own while the eligibility of younger students is tied to parental incomes.

The final dimension considers the ‘first-generational status’ of students, measured by a binary variable based on parental education. A student is considered ‘first-generational’ when neither of his/her parents has a university degree. The data show that younger students (up to about 23) are

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103 The factorial structure of ‘PIJV’ and ‘PEJV’ are discussed later in this chapter in section 5.7.2.
unlikely to be ‘first-generational’ in their family while the likelihood of entering university without being able to draw on a relatively higher level of parental ‘cultural capital’ is higher for students beyond the age of 30. This finding may provide provisional support for locating the beginning of the higher education expansion in New Zealand, suggesting that it accelerated during the 1980s and 1990s. The seminal work of Maani (1997) on the economics of the New Zealand higher educational sector confirms this account. She identifies the decade of 1985-1995 as a period of rapid increase in tertiary enrolment which has “nearly doubled” and adds that this development is not “a mere reflection of demographic factors, as significant increased participation rates are also observed within age groups” (ibid. 10-11). Ministry of Education data also confirm that tertiary enrolment increased especially since the early 1990s (Ministry of Education 2011c).

In contrast to the maturation effects discussed so far, seniority effects are less prevalent in the student experience. They are concentrated in five areas: ‘satisfaction with work experience availability’ within a programme, ‘reasons for underperforming’, ‘study hours’, ‘working status’, and the importance of ‘helping others’ in a prospective job. With respect to the first, a general downward trend is evident in the data insofar as students become less satisfied with this aspect of the university experience as they get closer to degree completion. Interestingly, however, the corresponding mean plot shows that the trend is not entirely linear in that ‘satisfaction with work experience availability’ fluctuates slightly between the first and second semesters within every academic year, being always somewhat higher in the latter. Students are perhaps more hopeful about the prospects of gaining work experience prior to graduation in the second semester in a given academic year as they approach the summer holiday which could provide such opportunities, at least to some. Two of the previously mentioned reasons for underperforming (‘personal distractions’ and ‘other conflicting responsibilities’) also show trends that vary between semesters within the academic year. However, these two reasons are more often reported by students in the first semester in a year, and they appear to occur less frequently in the second semester, perhaps reflecting the improvement in time management skills which in turn can lead to better academic performance. The third area is about the number of weekly study hours. It appears that students in the third and fourth semesters spend the least amount of time for studying. With respect to working status, the likelihood of working during studies increases with degree progression, and it becomes the highest in the last two years. Finally, the importance of ‘helping others’ in a prospective job is significantly affected by seniority. The mean plot reveals that this indicator of PIJV is valued very highly by students entering the university but that already by the second semester the enthusiasm driving the preference for this job aspect drops sharply, perhaps due to the atomizing as well as alienating effects of the large classes that characterise many of the first year programmes.
5.4 Differentiation of academic fields

It was argued earlier (see section 2.3.3 in Chapter Two) that the student experience is presumed to differ based on the academic field of study. These differences mainly concern the strength of the relationship between two satisfaction-related constructs in two groups, formally stated in hypotheses H8a and H8b in section 3.3.6 in Chapter Three. Two of the commonly used classification schemes of academic fields of study were assessed empirically in the project. The first differentiates between ‘soft’ and ‘hard’ academic fields, which approximately reflect the conventional divide between the ‘social sciences’ and ‘natural sciences’ (Lodahl and Gordon 1972). The eight faculties of UoA could be classified into ‘social’ and ‘natural’ sciences in the following way: Arts, Business, Creative Arts, Education, and Law comprise the former group while Engineering, Medicine, and Science belong to the latter. The alternative classification scheme is based on the criterion that Biglan (1973: 196) referred to as “requirements for practical application”, considering the practical components embedded in the curriculum of a particular programme. Based on this rationale, two categories of academic fields are proposed, in a new scheme which is referred to as a ‘profession-focused’ classification of the academic fields at UoA. The ‘General’ group is comprised of Arts, Creative Arts, and Science while Engineering, Medicine, Business, Law, and Education are considered ‘Professional’ degrees. Empirical evidence for the superiority of the ‘profession-focused’ classification scheme over the conventional one was established through a series of statistical analyses. In these, fifty six variables (covering various areas of the student experience) were submitted to independent sample t-tests, Mann–Whitney U tests, and binary logistic regression analyses in SPSS (see Table 5.17).

Table 5.17 Empirical comparison of the two classification schemes of academic fields

<table>
<thead>
<tr>
<th>classification schemes</th>
<th>disciplines at UoA</th>
<th>empirical assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number of variables differ (p ≤ 0.01):</td>
<td>(1) tests of difference</td>
</tr>
<tr>
<td></td>
<td>(a) T-test:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(b) Mann–Whitney U test:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hosmer–Lemeshow χ^2 =</td>
<td>Nagelkerke R^2 =</td>
</tr>
<tr>
<td></td>
<td>percentage correct</td>
<td></td>
</tr>
<tr>
<td>conventional Social Sciences</td>
<td>Arts, Business, Creative Arts, Education, Law</td>
<td>number of variables differ (p ≤ 0.01):</td>
</tr>
<tr>
<td>(N= 1882 (100%))</td>
<td>947 (50.3%)</td>
<td>(a) T-test: 16/56</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(b) Mann–Whitney U test: 17/56</td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>Engineering, Medicine, Science</td>
<td>percentage correct</td>
</tr>
<tr>
<td>(N= 935 (49.7%))</td>
<td>935 (49.7%)</td>
<td>Hosmer–Lemeshow χ^2 = 4.922(8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nagelkerke R^2 = 0.31</td>
</tr>
</tbody>
</table>

| profession-focused General degrees | Arts, Creative Arts, Science | number of variables differ (p ≤ 0.01): | 4.922(8) | 0.766 |
| (N= 976 (51.9%)) | 976 (51.9%) | (a) T-test: 23/56 |
| | | (b) Mann–Whitney U test: 23/56 |

| Professional degrees | Engineering, Medicine, Business, Law, Education | Hosmer–Lemeshow χ^2 = 2.789(8) | 0.602 |
| (N= 906 (48.1%)) | 906 (48.1%) | Nagelkerke R^2 = 0.23 |
| | | percentage correct | 72.5; 70.5; 67.6 |

* A non-significant p-value for the Hosmer-Lemeshow χ^2 indicates good fit; the three numbers under ‘percentage correct’ refer to the degree of ‘classification accuracy’ for the first group, the second group, and the total within a classification scheme, respectively.
The results of the two binary logistic regression analyses are reported in the last column of Table 5.17. Based on the recommendations of the relevant methodological literature (Hosmer and Lemeshow 2000; Cohen et al. 2003; Tabachnick and Fidel 2012), the Hosmer-Lemeshow $\chi^2$ test and the Nagelkerke $R^2$ measure are used to compare the two regression models, which differed only in their dependent variables. The results demonstrate that the proposed ‘profession-focused’ classification scheme of academic fields is better suited to differentiate between many important aspects of the undergraduate student experience than the more conventional typology.

5.4.1 Factorial invariance testing in the latent variable framework

An initial step in group comparisons within a structural equation modeling framework is to assess whether the measurements of interest are understood in similar ways within the groups to be compared. Depending on the purpose of the particular study, such assessment usually aims to establish factorial invariance between two or more groups. Ultimately, the objective is to establish a basis for comparing groups on the measured variables as a way of studying group differences on the latent variables. Violations of invariance would mean that systematic group differences on the measured variables could be due to influences apart from the targeted latent variables. In that case, group comparisons on the measured variables would have uncertain interpretations (Millsap and Olivera-Aguilar 2012: 380-381).

It became a common practice in the methodological literature to differentiate between the degrees to which factorial invariance could be established. The initial proposal of ‘configural’ or weak versus ‘metric’ or strong invariance by Horn and McArdle (1992) was refined by Meredith (1993) to include ‘strict’ as a third category. During the following decade, further extensions were made to the original typology of factorial invariance by a number of methodologists, who developed practical recommendations as well as standardized guidelines for applied researchers (Steenkamp and Baumgartner 1998; Vandenberg and Lance 2000; Vandenberg 2002; Meredith and Teresi 2006; Cheung and Rensvold 2002; Cheung and Lau 2012).

5.4.1.1 Multiple group comparison between academic groups

In this study, the assessment of factorial invariance of the measurement model concerned the comparison of the three satisfaction-related latent variables (SQT, SFID and SFE) between the two groups of academic fields of study: ‘General’ and ‘Professional’. In particular, the strengths of the SQT-to-SFE links in the two groups were compared. However, based on the discussion in the previous section, a group comparison can be a meaningful exercise only if factorial invariance of the measurement model holds across the two groups. Consequently, it needs to be demonstrated that
the understanding of the questionnaire items comprising the latent variables is not significantly different between students located in the ‘General’ and ‘Professional’ academic fields. This assessment was done by following the procedures outlined in Cheung and Lau (2012) and Lau and Cheung (2012) and by taking advantage of the capabilities of the Mplus statistical package. Drawing on the works of MacKinnon et al. (2004), Good (2005a, b), MacKinnon (2008), Preacher and Hayes (2008), and Williams and MacKinnon (2008), the approach promoted by Cheung and Lau (2012) involves the computation of bias-corrected bootstrap confidence intervals at a conventional alpha level around the relevant unstandardized regression coefficients. By adapting this technique for the purposes of this research, factorial invariance was established for the measurement model, which is comprised of the three satisfaction-related constructs (SQT, SFID and SFE). An additional requirement in multigroup analysis in the structural equation modeling framework is that satisfactory model fit has to be secured separately in each group before assessing model fit in the overall analysis (Steenkamp and Baumgartner 1998; Vandenberg and Lance 2000). In order to satisfy this requirement, model fits of the same measurement model (with SQT, SFID, and SFE) were assessed in the following sequence. First, the ‘initial’ measurement model was evaluated, without taking group differences into account. Then, model fits were assessed separately for the ‘General’ and ‘Professional’ groups. Finally, a multigroup analysis of the proposed measurement model was carried out. The results of these analyses are summarised in Table 5.1.

Table 5.18 Assessment summary of the multiple group analyses of the measurement model*

<table>
<thead>
<tr>
<th>models</th>
<th>N</th>
<th>$\chi^2_{ML}$(df)</th>
<th>p</th>
<th>RMSEA/CFI/TLI</th>
<th>$\chi^2_{WLSMV}$(df)</th>
<th>p</th>
<th>RMSEA/CFI/TLI</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘initial’</td>
<td>1882</td>
<td>86.24 (24)</td>
<td>.000</td>
<td>.037/.98/.98</td>
<td>121.32 (24)</td>
<td>.000</td>
<td>.046/.99/.98</td>
</tr>
<tr>
<td>Professional</td>
<td>906</td>
<td>74.09 (24)</td>
<td>.000</td>
<td>.048/.98/.96</td>
<td>117.61 (24)</td>
<td>.002</td>
<td>.066/.98/.97</td>
</tr>
<tr>
<td>‘combined’</td>
<td>1882</td>
<td>169.9 (60)</td>
<td>.000</td>
<td>.044/.97/.97</td>
<td>242.74 (78)</td>
<td>.000</td>
<td>.047/.98/.98</td>
</tr>
</tbody>
</table>

* Results from both ML and WLSMV estimation techniques are reported. The ‘Mplus defaults’ were not altered for the multigroup analysis of the ‘combined’ data. In each analysis the model fit indices were satisfactory.

Having established factorial invariance of the measurement model across the ‘General’ and ‘Professional’ groups and having secured acceptable model fit in the multigroup comparison, the analysis proceeded to compare the strength of the SQT-to-SFE link between the two academic groups. This revealed that the students’ satisfaction with the quality of teaching had a significantly higher impact on satisfaction with the employment facilitating aspects of the student experience in

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104 Cheung and Lau (2012: 171) explain that their procedure involves the creation of “bootstrap samples, calculates the parameters (such as the differences in factor loadings or intercepts) for each bootstrap sample, and finally makes adjustments to the bootstrap distribution of the parameters to form the confidence intervals. If zero falls outside of a confidence interval, then the null hypothesis of invariance will be rejected”. Evidence for factorial invariance for the three satisfaction-related constructs (SQT, SFID, and SFE) is demonstrated in Appendix D.
the ‘Professional’ (b=0.605; β=0.544) than in the ‘General’ (b=0.458; β=0.410) group. In addition to the bias-corrected bootstrap confidence interval method recommended by Cheung and Lau (2012), the χ² difference test (Bollen 1989) was computed as well (Table 5.19).

Table 5.19 Assessment of the SQT→SFE path difference between the two academic groups*

<table>
<thead>
<tr>
<th>ways of difference testing</th>
<th>lower confidence intervals</th>
<th>estimate of difference</th>
<th>upper confidence intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>95%</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td>bootstrap ∆b_{SQT-SFE} (ML)</td>
<td>0.004</td>
<td>0.029</td>
<td>0.148</td>
</tr>
<tr>
<td>bootstrap ∆b_{SQT-SFE} (WLSMV)</td>
<td>0.055</td>
<td>0.077</td>
<td>0.183</td>
</tr>
<tr>
<td>χ² difference (ML)</td>
<td>baseline χ²_{ML} = 95.90 (24); ∆χ²_{ML}(1) = 4.58 ; p&lt;0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>χ² difference (WLSMV)**</td>
<td>baseline χ²_{WLSMV} = 136.11 (36); ∆χ²_{WLSMV} (1) = 11.48 ; p&lt;0.001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Both the ML and WLSMV estimation techniques are reported. The unstandardized regression coefficient of comparison interest is denoted as “∆b_{SQT-SFE}”; 5000 bootstrap samples were requested in Mplus, following the recommendation of Preacher and Hayes (2008: 889).

** This assessment was made by using the “difftest” command in Mplus.

Both the bias-corrected bootstrap confidence interval method and the χ² difference test demonstrate empirically that SQT is indeed a stronger predictor of SFE in the ‘Professional’ than in the ‘General’ group thus confirming hypothesis H8a.

5.4.1.1.1 Sources of overall satisfaction between academic groups

An additional dimension of assessing the possible difference between the ‘General’ and ‘Professional’ academic groups aimed to identify the main drivers of ‘Overall Academic Satisfaction’ (SatAc), as outlined in H8b (see section 3.3.6 in Chapter Three). The schematic representation of this difference was depicted earlier in Figure 3.5; this is now expanded below with the relevant coefficients included in Figure 5.3.

Figure 5.3 Main sources of ‘SatAc’ in the ‘General’ and ‘Professional’ groups*

* Unstandardized coefficients are reported from the ML and WLSMV estimation techniques, separated by ‘;’.

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The results of the comparative analyses are summarised below in Table 5.2. Coefficient-differences were calculated in such a way that the value of the regression coefficient of interest from the ‘General’ group was subtracted from the value of the corresponding coefficient in the ‘Professional’ group. In all cases, these differences between the coefficients were significant, as evident from (1) the bias-corrected 95% bootstrap confidence intervals not containing zero, and (2) the significant $\chi^2$ difference tests.

<table>
<thead>
<tr>
<th>ways of difference testing</th>
<th>lower confidence intervals</th>
<th>estimate of difference</th>
<th>upper confidence intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td>bootstrap $\Delta b_1$ (ML)</td>
<td>0.014 0.038</td>
<td>0.157 0.284</td>
<td>0.307</td>
</tr>
<tr>
<td>bootstrap $\Delta b_1$ (WLSMV)</td>
<td>0.055 0.078</td>
<td>0.182 0.293</td>
<td>0.316</td>
</tr>
<tr>
<td>bootstrap $\Delta b_2$ (ML)</td>
<td>-0.502 -0.467</td>
<td>-0.306 -0.148</td>
<td>-0.114</td>
</tr>
<tr>
<td>bootstrap $\Delta b_2$ (WLSMV)</td>
<td>-0.488 -0.459</td>
<td>-0.316 -0.166</td>
<td>-0.138</td>
</tr>
<tr>
<td>bootstrap $\Delta b_3$ (ML)</td>
<td>0.137 0.164</td>
<td>0.309 0.456</td>
<td>0.486</td>
</tr>
<tr>
<td>bootstrap $\Delta b_3$ (WLSMV)</td>
<td>0.068 0.096</td>
<td>0.244 0.398</td>
<td>0.427</td>
</tr>
</tbody>
</table>

Table 5.2 Model comparisons between the two academic groups with ‘SatAc’ as ‘outcome’

* The upper part of the table contains the relevant unstandardized coefficients with 95% confidence intervals, which are boldfaced. The lower part contains the results of the $\chi^2$ difference tests (ML and WLSMV estimation methods).

These findings empirically prove that the relationships between SQT, SFE and SatAc (these are denoted as ‘b1’, ‘b2’ and ‘b3’) are indeed different between the ‘General’ and ‘Professional’ academic groups. In particular, these results demonstrate that (1) SQT has a stronger, direct impact on SatAc in the ‘General’ group, while it appears to be less important for those studying in ‘Professional’ fields; (2) SFE is a significantly stronger predictor of SatAc in the ‘Professional’ group while its impact is less pronounced in the ‘General’ one. Taken together, the findings provide empirical evidence to support the hypothesis (H8b) whereby Overall Academic Satisfaction is primarily generated by SFE in the ‘Professional’ group while SQT is its strongest predictor in the ‘General’ group. It is worth noting that $R^2$ values of both SFE and ‘SatAc’ were higher in the ‘Professional’ group than the corresponding $R^2$–s in the ‘General’ one, regardless of the estimation method used (ML or WLSMV).

105 For example, based on the notation used in Figure 5.3 and Table 5.20, $\Delta b_2$ (ML) refers to the coefficient-difference (rounded) which is obtained from .41 – .72 = -.31; $\Delta b_1$ (WLSMV) is obtained from .59 - .40 = .19, and so on.
5.5 Additional covariates and the ‘Base model’

It has been argued that the undergraduate university student experience is influenced by background variables other than the SES- or PRD-related ones that have been discussed so far. Some of the background variables investigated in this section are sociological ones, while others are organizational in nature. In order to measure the effects of these variables (covariates) on the ‘Base model’ construct, a series of models were hypothesized, in which the background variables were specified as predictors of the higher education ‘Base model’ constructs.

The effects of the covariates were assessed sequentially whereby the ‘Base model’ constructs were regressed on one control variable at a time. Once the effects of each covariate had been measured in isolation, they were also re-assessed together, thus allowing the comparative evaluation of their effects on the ‘Base model’. The results from these model specifications are reported in Table 5.2.

Table 5.2 Significant (p<0.01) covariates as ‘Base model’ predictors*

<table>
<thead>
<tr>
<th>‘Base model’ constructs →</th>
<th>SQT</th>
<th>SFID</th>
<th>ETS</th>
<th>SFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariates ↓ Q#</td>
<td>(a)</td>
<td>(b)</td>
<td>(a)</td>
<td>(b)</td>
</tr>
<tr>
<td>1. age¹</td>
<td>54</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. seniority</td>
<td>52</td>
<td>-0.08</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3. study hours</td>
<td>26</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4. grades</td>
<td>27</td>
<td>0.07</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. working status</td>
<td>32</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6. major-relevant work</td>
<td>33</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7. working hours</td>
<td>37</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8. satisfaction with work²</td>
<td>38</td>
<td>0.09</td>
<td>na</td>
<td>0.09</td>
</tr>
<tr>
<td>9. residency status</td>
<td>57</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10. ethnic background³</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Asian</td>
<td>-0.13</td>
<td>-0.12</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Central Asian</td>
<td>-0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>0.09</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>-</td>
<td>0.13</td>
<td>0.10</td>
<td>-</td>
</tr>
<tr>
<td>11. primary faculty affiliation⁴</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>-0.12</td>
<td>-0.10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Education</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Engineering</td>
<td>-0.17</td>
<td>-0.17</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Law</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Medical</td>
<td>-0.11</td>
<td>-0.11</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Creative Arts</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.11</td>
</tr>
<tr>
<td>Science</td>
<td>-0.11</td>
<td>-0.09</td>
<td>-0.13</td>
<td>-0.123</td>
</tr>
</tbody>
</table>

* Standardized coefficients; ‘-’ denotes ‘not significant’; the corresponding numbers of the questions on the questionnaire are under “Q#”. Coefficients obtained from the ‘isolated’ analyses are reported under column “a” for each ‘Base model’ construct, while the same coefficients obtained from the overall model are included in column “b”.

1 The “age” variable used here was recoded so that it followed the categorization used by The University of Auckland.
2 N=1255; “na” stands for ‘non applicable’ for the “satisfaction with work” question.
3 “Ethnicity” is dummy-coded, with “Caucasian” being the reference category.
4 “Primary faculty affiliation” is dummy-coded, with “Arts” being the reference category.
The results of these models do not reveal a straightforward pattern that would capture a systematically present ‘background effect’. Instead, certain constructs of the ‘Base model’ seem to be more affected by some of the background variables, while other covariates have smaller or not significant impacts on the ‘Base model’. It is also evident from the table that the coefficients and their corresponding significances change slightly when they are entered into the analysis together as opposed to in separate blocks in independent analyses.

5.6 SES and the external aspects of the higher education student experience

It was demonstrated earlier that SES did not appear to be a strong predictor of any of the constructs within the ‘Base model’. This is not to suggest, however, that all aspects of the higher education experience are free of SES effects. In this section some of the important external aspects of the undergraduate student experience are investigated, with a specific focus on how they may indeed be influenced by SES. A series of linear regression models were proposed so that the ‘SES effect’ — or the lack thereof — could be empirically captured. Moreover, it was assessed in additional analyses how the ethnic background affected student SES, even if ethnicity was not specified as an SES measure in the study. The results of these analyses are included in Table 5.2.

Table 5.2: SES effects in the student experience (a) and the effects of ethnicity on SES (b)

<table>
<thead>
<tr>
<th>(a) SES effects on ↓</th>
<th>SES index</th>
<th>social class</th>
<th>family income</th>
<th>paternal education</th>
<th>maternal education</th>
<th>financial problem</th>
<th>student allow.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. study hours</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.07</td>
<td>-</td>
</tr>
<tr>
<td>2. grades</td>
<td>0.19*</td>
<td>-</td>
<td>0.08</td>
<td>-</td>
<td>0.06</td>
<td>0.18*</td>
<td>-</td>
</tr>
<tr>
<td>3. working status</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.15*</td>
<td>-</td>
</tr>
<tr>
<td>4. major-relevant work</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.11*</td>
<td>-</td>
</tr>
<tr>
<td>5. working hours</td>
<td>0.05</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.17*</td>
<td>-</td>
</tr>
<tr>
<td>6. satisfaction with work</td>
<td>0.07</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.10*</td>
<td>-</td>
</tr>
</tbody>
</table>

(b) SES is affected by:

<table>
<thead>
<tr>
<th>7. ethnic background 3</th>
<th>East Asian</th>
<th>Central Asian</th>
<th>Pacific Islander</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-0.09</td>
<td>-</td>
<td>-0.22</td>
</tr>
<tr>
<td></td>
<td>-0.10</td>
<td>-</td>
<td>-0.24*</td>
</tr>
<tr>
<td></td>
<td>-0.23*</td>
<td>-0.12*</td>
<td>-0.16*</td>
</tr>
<tr>
<td></td>
<td>0.09</td>
<td>-</td>
<td>-0.17*</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>-0.16*</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>-0.13*</td>
</tr>
</tbody>
</table>

1 Standardized coefficients, p<0.05; ‘*’ denotes p<0.01; ‘-‘ indicates non-significance.
2 N=1255; this question was asked only of those who had been in paid employment while studying.
3 “Ethnicity” is dummy-coded, with “Caucasian” being the reference category.

As evident from Table 5.22, there is a strong, positive, and significant SES effect on students’ grades. Taking the positive and highly significant effect of the SES-index on grades (β=0.19) at face value would suggest the tempting conclusion that a favourable ‘family background’ is an essential predictor of academic performance. However, upon closer inspection, it becomes clear that the ‘frequency of financial problems’ variable is the primary driver (β=0.18) of the aforementioned
‘SES-effect’. These findings demonstrate the potential interpretational perils researchers can face when individual measures are ‘lumped’ together into gross composite measures such as an ‘SES-index’ (Hayduk 1987). A related effect is that of the negative impact of having financial problems on working hours (β=-0.17), which is perhaps among the least surprising findings reported in the thesis. Finally, it is worth mentioning that ethnic background alone is capable of influencing students’ overall SES. For example, ‘Māori or Pacific Islander’ students are more likely to come from a considerably more disadvantaged social environment than students from the Caucasian majority. This is also true, albeit to a much lesser extent, for students with an ‘East Asian’ background.

The last set of external higher education variables that were assessed with respect to SES-effects were about possible reasons for underperformance and failure in courses. It was hypothesized that students with generally lower socio-economic backgrounds were at higher risk of underperforming in, or failing, classes than their peers with more advantageous social backgrounds. The effects of the overall SES-index, as well as the six SES variables separately, on some of the possible reasons for underperformance, were assessed in a series of multiple regression analyses.

Table 5.23 SES effects on possible reasons for underperformance and failure*

<table>
<thead>
<tr>
<th>reasons for failing ↓</th>
<th>SES index</th>
<th>social class</th>
<th>family income</th>
<th>paternal educ.</th>
<th>maternal educ.</th>
<th>financial problem</th>
<th>student allow.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. poor study habits</td>
<td>-0.08</td>
<td>-0.10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.10</td>
<td>-</td>
</tr>
<tr>
<td>2. heavy workload</td>
<td>-0.09</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.15</td>
<td>-</td>
</tr>
<tr>
<td>3. personal distractions</td>
<td>-0.12</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.21</td>
<td>-</td>
</tr>
<tr>
<td>4. conflicting responsibilities</td>
<td>-0.17</td>
<td>-0.08</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.24</td>
<td>-</td>
</tr>
<tr>
<td>5. lost interest</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.09</td>
<td>-</td>
</tr>
<tr>
<td>6. no help available</td>
<td>-0.11</td>
<td>-</td>
<td>-0.09</td>
<td>-</td>
<td>-</td>
<td>-0.16</td>
<td>-</td>
</tr>
<tr>
<td>7. unclear course expectations</td>
<td>-0.07</td>
<td>-0.09</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.09</td>
<td>-</td>
</tr>
<tr>
<td>8. subjective limitations</td>
<td>-0.10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.10</td>
<td>-</td>
</tr>
<tr>
<td>9. weak quantitative skills</td>
<td>-0.13</td>
<td>-0.11</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.13</td>
<td>-</td>
</tr>
<tr>
<td>10. weak English skills</td>
<td>-0.11</td>
<td>-</td>
<td>-0.20</td>
<td>-</td>
<td>-</td>
<td>-0.12</td>
<td>-</td>
</tr>
</tbody>
</table>

* Standardized coefficients; p<0.01; "-" indicates non-significance.

These results provide empirical evidence for the assumption whereby students’ academic performance can be affected by their socio-economic backgrounds. It is also evident from Table 5.23 that the ‘frequency of financial problems’ SES variable has the most consistent (and negative) effect on underperformance in that this variable has a very negative (p<0.001) impact on each of the ten underperformance items.

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106 Ten possible reasons are listed in question #25 on the questionnaire which is in Appendix A4. While not a comprehensive list, the ten areas listed in this question aim to cover a broad range of possibilities that may be considered as students’ reasons for underperformance and failure in higher education.
5.7 ‘Base model’ and ‘outcomes’

The analysis of the ‘outcomes’ follows a similar sequence to that explained in the previous sections with respect to uncovering relationships between the ‘Base model’ constructs and their possible predictors, or covariates. In the next sections the following seven ‘outcome’ measures are assessed: verbal skills, practical skills, departmental relationships, grades, postgraduate study plans, and ‘job values’ (which is further divided into ‘intrinsic’ and ‘extrinsic’ factors). The discussion of potential ‘outcomes’ of higher education, however, is arguably more ambiguous than that of the covariates. Given the cross-sectional nature of the survey data in this study, it is possible that some of the ‘outcomes’ could alternatively be specified as ‘covariates’. It is therefore going to be indicated whether the results reported were obtained via an ‘outcome’ or a covariate type of model specification. The general scheme of the outcome model specification is depicted on Figure 5.4.

Figure 5.4 Specification of the higher education ‘outcomes’ in a SEM framework*

The ‘outcomes’ were assessed simultaneously in an overall structural equation model in which the ‘Base model’ latent variables were specified as predictors of each of the dependent constructs. The acceptable model fit of this specification ($\chi^2[141]=574.507$, $p<0.001$; RMSEA=0.040; CFI=0.972) allows the meaningful interpretation of the coefficients within the model. With the exception of the ‘verbal skills’ and ‘practical skills’ variables, the ‘outcome’ constructs could possibly have been specified as model covariates as well. For example, there may be equally compelling reasons to

---

107 Out of the listed ‘outcomes’, only the ‘verbal skills’ and ‘practical skills’ variables can be specified as ‘dependent measures’ with some confidence. The rationale for this is that the wording of these items in the questionnaire (#23) allows for a more straightforward assessment of these constructs while the remaining ‘outcome’ constructs may be reasonably specified as covariates as well.
hypothesize that being satisfied with the quality of student-teacher departmental relationships can be predicted by aspects of student satisfaction and engagement, or rather it is the quality of that relationship that affects satisfaction and engagement. In order to explore the differences between these alternative model specifications regarding the five dependent constructs, a separate structural equation model was specified, in which the somewhat ambiguous five ‘outcomes’ were also assessed as ‘covariates’. The goodness of fit of this second model was also acceptable ($\chi^2[121] = 466.716$, p<0.001; RMSEA=0.039; CFI=0.962). The results of both kinds of model specification (covariates, outcomes) are reported in Table 5.2.

Table 5.24 Measuring the ‘Base model’ effects on ‘outcomes’ via alternative specifications*

<table>
<thead>
<tr>
<th>measures of ‘outcomes’ ↓</th>
<th>'Base model’ constructs →</th>
<th>SQT</th>
<th>SFID</th>
<th>ETS</th>
<th>SFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, verbal skills</td>
<td>23/5 as outcome</td>
<td>0.34</td>
<td>0.21</td>
<td>0.08</td>
<td>0.14</td>
</tr>
<tr>
<td>2, practical skills</td>
<td>23/6 as outcome</td>
<td>-</td>
<td>0.06</td>
<td>-</td>
<td>0.63</td>
</tr>
<tr>
<td>3, departmental relation</td>
<td>23/7 as outcome as covariate</td>
<td>0.54</td>
<td>0.06</td>
<td>0.28</td>
<td>0.06</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.59</td>
<td>0.34</td>
<td>0.40</td>
<td>0.07</td>
</tr>
<tr>
<td>4, grades</td>
<td>27 as outcome as covariate</td>
<td>0.07</td>
<td>-0.13</td>
<td>0.13</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>-0.09</td>
<td>0.09</td>
<td>-</td>
</tr>
<tr>
<td>5, postgraduate study aspirations</td>
<td>42 as outcome as covariate</td>
<td>0.14</td>
<td>0.07</td>
<td>0.15</td>
<td>-0.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.08</td>
<td>0.06</td>
<td>0.10</td>
<td>-0.07</td>
</tr>
<tr>
<td>6, job values – intrinsic (PIJV)</td>
<td>46 as outcome as covariate</td>
<td>-</td>
<td>0.10</td>
<td>0.07</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.05</td>
<td>0.14</td>
<td>0.06</td>
<td>0.05</td>
</tr>
<tr>
<td>7, job values – extrinsic (PEJV)</td>
<td>as outcome as covariate</td>
<td>-0.15</td>
<td>-</td>
<td>-</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.05</td>
<td>-</td>
<td>-</td>
<td>0.10</td>
</tr>
</tbody>
</table>

* Standardized coefficients; p<0.05; “-“indicates non-significance. Standardized coefficients exceeding 0.10 in absolute value are in bold, while negative values are highlighted with grey.

The measures of plausible ‘outcomes’ (in Table 5.24) are essentially of two types. Verbal skills, practical skills, departmental relationship, grades, and postgraduate study aspirations were each measured by a single variable, while PIJV and PEJV were measured with multiple indicators.108

5.7.1 Potential suppression effects between the ‘Base model’ and the ‘outcomes’

Some of the results reported in Table 5.24 are significant and negative, indicating an inverse relationship between the corresponding pair of constructs. These negative relationships may be genuine; however they may also be due to suppression effects present in the model specifications in ways similar to what were described earlier in section 5.3.2.4.1. It is of particular research interest to distinguish between the genuinely negative relationships and the ones that are statistical artefacts.

108 The EFA analysis of the 18 job values-related items (discussed below in section 5.7.1) revealed dimensions other than ‘intrinsic’ and ‘extrinsic’, but the interpretation of those dimensions was unclear and of no particular interest in the present context.
For this reason a series of models were specified in which the negative effects were scrutinized in ‘isolation’ from the larger models discussed above. As evident from Table 5.25, there were three areas that needed specific attention in the present context. These were about the seemingly negative relationships between (1) PEJV and SQT, (2) ‘grades’ and SFID, and lastly, (3) ‘PGplans’ and SFE. The results of these analyses are reported in Table 5.25.

Table 5.25 Examination of suppression effects among the ‘Base model’ and ‘outcomes’*

<table>
<thead>
<tr>
<th>specification → outcome</th>
<th>(1) PEJV and SQT</th>
<th>(2) ‘grades’ and SFID</th>
<th>(3) ‘PGplans’ and SFE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>covariate</td>
<td>outcome</td>
<td>covariate</td>
</tr>
<tr>
<td>β</td>
<td>-0.087</td>
<td>-0.088</td>
<td>-0.05</td>
</tr>
<tr>
<td>p value**</td>
<td>0.001</td>
<td>0.001**</td>
<td>0.078</td>
</tr>
<tr>
<td>R²</td>
<td>0.008</td>
<td>0.008</td>
<td>0.002</td>
</tr>
<tr>
<td>nature of relationship</td>
<td>genuine negative</td>
<td>effect of suppression</td>
<td>effect of suppression</td>
</tr>
</tbody>
</table>

* Standardized regression coefficients; “specification” indicates whether the first construct (underlined) in the relevant assessment is specified as a dependent (outcome) or independent (covariate) construct.

** When a p value was not reported in the standardized solution in Mplus, the p value from the corresponding unstandardized solution is included.

Upon closer inspection of these three negative relationships it can be concluded that the PEJV is negatively related to SQT, in both types of specifications. On the other hand, the relationships between ‘grades’ and SFID as well as between ‘PGplans’ and SFE, are not significant, regardless of the model specification. These findings are important in that they prevent erroneous conclusions being drawn from seemingly negative relationships between constructs that are in fact not related.

In addition to clarifying the seemingly negative relationships between the constructs described above, the apparent weak connection between ETS and both PIJV and PEJV (in Table 5.24) also warranted further exploration, insofar as suppression effects may have been masking genuine relationships between these measures. A separate analysis was carried out with ETS being specified as a predictor of both PIJV and PEJV. This revealed that ETS was in fact positively and significantly related to PIJV (b=0.180; β=0.154 [p<0.001]) but not to PEJV (b=0.034; β=0.034 [p=0.285]). In other words, the genuinely positive effect of ETS on PIJV was suppressed by other constructs when these measures were assessed in a larger model.

The findings reported in Tables 5.24 and 5.25 provide answers to hypotheses H9 and H10, which were outlined in section 3.3.7 in Chapter Three. Hypotheses H9a-d state that each of the four ‘Base model’ higher education measures has a direct and positive impact on students’ postgraduate study aspirations. These hypotheses are partially confirmed insofar as SQT and ETS do have positive and significant effects on PGplans thus H9a and H9c are accepted. However, SFID and SFE do not influence PGplans, and so H9b and H9d are rejected in this study. Collectively, hypotheses H10a-d

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109 The fit of this model was acceptable ($\chi^2_{\text{WLSMV}}[32]=118.545, \text{p}<0.001; \text{RMSEA}=0.038; \text{CFI}=0.987; \text{TLI}=0.982$).
explore how prospective job values are shaped by the undergraduate student experience. These hypotheses too, receive only partial confirmation. For example, SFID is more strongly related to PIJV than to PEJV, which confirms H10b. While a positive and direct relationship between SQT and PIJV is not found (H10a is therefore not accepted), it is clear that satisfaction with the quality of teaching has a significant and negative impact on PEJV. With respect to H10c, it is revealed that ETS has a positive and significant impact on PIJV but not on PEJV therefore this hypothesis is accepted. Finally, H10d also receives empirical support insofar as satisfaction with the employment facilitating aspects of the student experience appears to generate (or reinforce) career preferences that emphasize extrinsic material rewards but not intrinsic non-economic ones.

5.7.2 Factorial evaluation of the intrinsic and extrinsic ‘job values’ constructs

Intrinsic and extrinsic job values were hypothesised as two distinct aspects of students’ preferences for their future employment and they are denoted as PIJV and PEJV, respectively. EFA was used for the empirical assessment of the proposed hypothesis. The evaluation procedure followed the steps outlined in section 5.2.1.1 in the context of factorial evaluation of the satisfaction and engagement constructs.

In the initial step, all eighteen job values-related items were submitted to two EFA analyses, employing the Geomin and the Equamax factor rotations in the Mplus software package, respectively. In these analyses a five factor solution emerged with the most interpretable data structure, which also had moderately acceptable model fit ($\chi^2[73]=781.965$, p<0.001; RMSEA=0.072; CFI=0.960). The EFAs also delivered preliminary evidence for the underlying structure of the intrinsic and extrinsic job value aspects. It was evident that there were seven items that could be reasonably considered as representations of the two constructs. In the following step, therefore, the two EFAs were repeated with only the seven items being submitted to the two EFAs. The factor pattern matrices of this analysis are reported in Table 5.2 under the label ‘EFA1’. Since the Geomin and the Equamax rotations resulted in nearly identical factor loadings (they differed only at the third decimal place), only the Geomin-rotated solutions are reported. These analyses revealed that both factors had one item with a significant cross-loading on their non-primary factors. These items were ‘i3’ and ‘e4’. The former had the lowest loading on its main factor (PIJV) among all PIJV items while it also loaded on PEJV. Conversely, item ‘e4’ had the lowest loading among the four items in the PEJV factor, while it also loaded on PIJV. Moreover, ‘e4’ had the largest

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110 The results of these analyses are not reported here. It is worth noting that the “having an interesting job” item loads very significantly (p<0.001) on four of the five factors.
cross-loading in absolute value of all cross-loadings in the factor analyses discussed so far. In order to obtain simpler factor structure that was relatively free of cross-loadings, items ‘i3’ and ‘e4’ were removed in the next step, thus resulting in the submission of five items to the EFAs, labelled as ‘EFA2’ in Table 5.26. This second EFA model had an acceptable model fit ($\chi^2 [1]=6.295, p=0.012; \text{RMSEA}=0.053; \text{CFI}=0.99$) and therefore the emerging two factor structure could be accepted as a reasonable representation of PIJV and PEJV in this student sample.

Table 5.26 Factor pattern matrices of PIJV and PEJV in the EFA analyses*

<table>
<thead>
<tr>
<th>factors</th>
<th>items (shortened labels) ↓</th>
<th>EFA1 PIJV</th>
<th>EFA1 PEJV</th>
<th>EFA2 PIJV</th>
<th>EFA2 PEJV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preference for intrinsic job values (PIJV)</td>
<td>(i1) meaningful job</td>
<td>0.97</td>
<td>ns</td>
<td>0.90</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>(i2) with opportunities to help others</td>
<td>0.66</td>
<td>ns</td>
<td>0.71</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>(i3) interesting</td>
<td>0.44</td>
<td>0.03</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Preference for extrinsic job values (PEJV)</td>
<td>(e1) prestigious</td>
<td>ns</td>
<td>0.79</td>
<td>0.08</td>
<td>0.73</td>
</tr>
<tr>
<td></td>
<td>(e2) well-paid</td>
<td>-0.009</td>
<td>0.77</td>
<td>0.002</td>
<td>0.79</td>
</tr>
<tr>
<td></td>
<td>(e3) with quick promotions</td>
<td>-0.10</td>
<td>0.78</td>
<td>ns</td>
<td>0.81</td>
</tr>
<tr>
<td></td>
<td>(e4) with a clear career path</td>
<td>0.16</td>
<td>0.61</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

* Geomin rotation; primary factor loadings are highlighted. Only highly significant (p<0.01) item cross-loadings are shown; ‘ns’ indicates non-significance.

5.8 Independent assessment of selected covariates and ‘outcomes’

In this section some of the measures previously conceptualised as covariates and plausible ‘outcomes’ are analysed directly, without considering their relationships with the higher education ‘Base model’ constructs. The series of exploratory statistical analyses that are reported below are not of primary interest in the study in that they are not directly related to the main research questions. Nonetheless, these investigations provide additional insights on the broader sociological context of the undergraduate student experience.

5.8.1 Working status and ‘degree-relevancy’ of work among students

Although higher education has been conceptualized as a transitional life stage between education and work, the overwhelming majority of undergraduate students in contemporary New Zealand hold some sort of job while studying toward a degree.\footnote{For example, the ‘Extended Baseline Report’ of a recent study, the Graduate Longitudinal Study New Zealand 2011 (2012: 11) mentions 40% of non-working students, although only 59% of that sample comprised undergraduate students. Since it is likely that many postgraduate students have some scholarships or student allowance, the percentage of undergraduate students not working is likely to be considerably lower than 40%.
} The ratio of non-working to working students in this study is one to two. Within the latter group, however, there is a variation among the different fields of study insofar as students in certain programmes are more likely to hold ‘degree-
relevant’ jobs while studying than others. However, the assessment of what can be accepted as ‘degree-relevant’ work by undergraduate students is a nontrivial exercise, requiring a thorough inspection of a number of variables, rather than relying uncritically on responses given to a single, dichotomous question.

5.8.1.1 Qualitative assessment of ‘doing a degree-relevant’ job as a student

In order to gain a more accurate understanding of what can reasonably constitute ‘degree-relevant’ paid employment for active students (listed as question #33 on the questionnaire), responses to the following four open-ended questions were considered: ‘name of degree’ (Q#1), ‘academic major’ (Q#49), ‘type of work while being a student’ (Q#34), and ‘expected job after graduation’ (Q#47). It is reasonable to assume that the plausibility of holding a ‘degree-relevant’ job can be better judged when the responses to the corresponding closed-ended questions are considered in conjunction with the aforementioned open-ended ones. Based on this rationale, the variable was re-coded, drawing on the careful, case-by-case inspection of the 425 students who had reported holding a ‘degree-relevant’ job while studying. As a result of the manual ‘recalibration’ of the original variable, 287 cases were retained as having a ‘degree-relevant’ jobs while 138 cases (32.5%) were re-classified into the ‘non degree-relevant’ category (see Table 5.27). The modified variable was used for subsequent statistical analysis in the project.

<table>
<thead>
<tr>
<th>academic fields</th>
<th>N</th>
<th>reported employment of students</th>
<th>retained as ‘degree-relevant’</th>
<th>re-classified into non ‘degree-relevant’</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘General’</td>
<td>181</td>
<td></td>
<td>98 (54%)</td>
<td>83 (46%)</td>
</tr>
<tr>
<td>‘Professional’</td>
<td>244</td>
<td></td>
<td>188 (77%)</td>
<td>56 (23%)</td>
</tr>
</tbody>
</table>

* Count data of the sub-sample (N=425), row-percentages are in brackets. Pearson $\chi^2 (1) = 24.772; p<0.001.$

It seems that the proportion of students who initially reported having a ‘degree-relevant’ position but who had been subjected to re-classification was twice as high in the ‘General’ fields as the corresponding ratio in the ‘Professional’ ones. In the latter group, over three quarters of the reported types of jobs could be accepted as ‘degree-relevant’, in sharp contrast to the ‘General’ group in which only a little over half of the job categories could ‘escape’ from re-classification.

Students whose degree-relevant working status became seriously questionable in light of their responses to the four open-ended questions were re-classified as holding ‘non degree-relevant’ jobs. Conversely, the original value of the variable was kept for those whose response-plausibility could withstand critical scrutiny. Although such re-categorisation of the original responses of students by a single researcher is inescapably an arbitrary exercise, its main aim was to increase the validity of responses. The assessment was carried out in a conservative fashion so that only the ‘clear mismatch’ responses were re-classified, while ‘borderline’ responses were not altered, to minimise data-intrusion. Some of the cases reclassified included a BSc student majoring in Mathematics who also worked as a “barista in a café”, a Political Studies/Geography double-major BA student who worked as a “Manager at McDonalds”; conversely, a “caregiver” position was accepted as degree-relevant from a student studying toward a Bachelor of Nursing degree.
5.8.1.2 Working status discrepancy between academic fields

It was mentioned earlier that about two thirds of the students in the sample worked while studying. It is assumed, however, that there may be important differences between working students with respect to fields of study as well as to the relevancy of their work to their academic major and expected future job. The summary results of a descriptive analysis between working status and academic field of study are included in Table 5.28.

Table 5.28 Working status of students by field of study*

<table>
<thead>
<tr>
<th>academic fields</th>
<th>N</th>
<th>none (29.4%)</th>
<th>not degree-relevant (45.9%)</th>
<th>degree-relevant (7.6%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Arts</td>
<td>408</td>
<td>120</td>
<td>257</td>
<td>31</td>
</tr>
<tr>
<td>2 Business</td>
<td>279</td>
<td>93</td>
<td>128</td>
<td>58</td>
</tr>
<tr>
<td>3 Education</td>
<td>112</td>
<td>40</td>
<td>45</td>
<td>27</td>
</tr>
<tr>
<td>4 Engineering</td>
<td>237</td>
<td>84</td>
<td>98</td>
<td>55</td>
</tr>
<tr>
<td>5 Law</td>
<td>77</td>
<td>21</td>
<td>44</td>
<td>12</td>
</tr>
<tr>
<td>6 Medical</td>
<td>201</td>
<td>74</td>
<td>91</td>
<td>36</td>
</tr>
<tr>
<td>7 Creative Arts</td>
<td>71</td>
<td>16</td>
<td>38</td>
<td>17</td>
</tr>
<tr>
<td>8 Science</td>
<td>497</td>
<td>179</td>
<td>267</td>
<td>51</td>
</tr>
</tbody>
</table>

Pearson $\chi^2$ (14) = 79.224; p<0.001

‘General’

<table>
<thead>
<tr>
<th>N</th>
<th>none (32.3%)</th>
<th>not degree-relevant (57.6%)</th>
<th>degree-relevant (10.1%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>976</td>
<td>315</td>
<td>562</td>
<td>99</td>
</tr>
</tbody>
</table>

‘Professional’

<table>
<thead>
<tr>
<th>N</th>
<th>none (34.4%)</th>
<th>not degree-relevant (44.8%)</th>
<th>degree-relevant (20.8%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>906</td>
<td>312</td>
<td>406</td>
<td>188</td>
</tr>
</tbody>
</table>

Pearson $\chi^2$ (2) = 50.22; p<0.001

<table>
<thead>
<tr>
<th>total</th>
<th>none (33.3%)</th>
<th>not degree-relevant (51.4%)</th>
<th>degree-relevant (15.3%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1882</td>
<td>627</td>
<td>968</td>
<td>287</td>
</tr>
</tbody>
</table>

* Count data of the total sample; row-percentages are in brackets. The upper part of the table lists each of the eight faculties, while the lower part aggregates them according to classification of academic fields used in the project.

These descriptive data illuminate the differences between academic fields with respect to the working status of students. Although the analysis concentrated on the proposed classification scheme of academic fields (‘General’ and ‘Professional’), based on the extent to which prospective employment-related skills are part of their academic curricula, Table 5.28 also lists the breakdown of the distribution of students’ working status according to the organizational structure of the university (eight faculties) as a point of reference. In both classifications of academic fields, the distributional differences are considerable, as evidenced by the results of the corresponding Pearson $\chi^2$ tests of independence (p<0.001 in both cases). As the proportion of non-working students in the ‘General’ and the ‘Professional’ academic groups was nearly identical (32.3% and 34.4% respectively), the real differences lay between students who had been in some sort of employment while studying toward a degree. The most striking finding reported in Table 5.28 is that a considerably higher proportion of students worked in ‘degree-relevant’ jobs in the ‘Professional’ fields than in the ‘General’ ones. The majority of the students in the latter group had worked in positions that were not related to the courses of their studies. Put differently, 31.6% of the working
students located within the ‘Professional’ group had held ‘degree-relevant’ employment, compared with a considerably lower proportion (15%) of degree-relevant working students in the ‘General’ academic fields. Arguably, working in positions that are at least partly relevant to the course of study or future employment has invaluable benefits to those students affected insofar as it endows them with multifaceted network capital, which can ease the subsequent transition from higher education to paid employment.

5.8.2 Broader predictors of academic performance

The pool of reasonable predictors of academic performance may be large and therefore its sources arguably cannot be limited to the aspects of the undergraduate experience that have been specified with latent variables in the ‘Base model’ (as reported earlier in Table 5.24). A separate analysis was carried out to explore additional sources of academic performance that included a variety of academic as well as non-academic experiences. In addition to the topics discussed previously (for example, satisfaction, engagement, postgraduate study aspirations, reasons for underperforming, job-values and so forth), several variables were added to the group of predictors of academic performance.

This admittedly exploratory analysis started with one hundred and forty independent variables, of which twenty eight were statistically significant (p<0.05), and these could account for about one third of the variance in academic performance (R²=0.329). Because of the large sample, a strict p-value (p<0.001) was set to narrow down the number of statistically significant predictors, by repeatedly removing the least significant variable and re-running the analysis. This resulted in a set of sixteen predictors (R²=0.279). Finally, twelve variables were kept which were assumed to be meaningful as well as ‘interpretable’ predictors of academic performance. ¹¹³ The results of this explanatory analysis are summarized in Table 5.29.

¹¹³ For example, while the negative effect of the ‘preference for doing a routine job after graduation’ on academic performance was found to be highly significant (b=-0.223; β=-0.113; p<0.001), the interpretation of such a relationship is of no particular interest in the project.
Table 5.29 Broader sources of academic performance*

<table>
<thead>
<tr>
<th>independent variables</th>
<th>unstandardized</th>
<th>standardized</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>having many friends doing the same major</td>
<td>0.244</td>
<td>0.140</td>
<td>0.000</td>
</tr>
<tr>
<td>overall academic satisfaction</td>
<td>0.354</td>
<td>0.132</td>
<td>0.000</td>
</tr>
<tr>
<td>frequency of financial problems (reverse coded)</td>
<td>0.381</td>
<td>0.126</td>
<td>0.000</td>
</tr>
<tr>
<td>frequency of doing volunteer work</td>
<td>0.118</td>
<td>0.094</td>
<td>0.000</td>
</tr>
<tr>
<td>weekly study hours</td>
<td>0.015</td>
<td>0.093</td>
<td>0.000</td>
</tr>
<tr>
<td>postgraduate study aspirations</td>
<td>0.194</td>
<td>0.066</td>
<td>0.000</td>
</tr>
<tr>
<td>satisfaction with problem-solving skills</td>
<td>-0.187</td>
<td>-0.085</td>
<td>0.000</td>
</tr>
<tr>
<td>time spent on family responsibilities</td>
<td>-0.131</td>
<td>-0.091</td>
<td>0.000</td>
</tr>
<tr>
<td>time spent on playing video games</td>
<td>-0.114</td>
<td>-0.097</td>
<td>0.000</td>
</tr>
<tr>
<td>frequency of listening to ‘Māori/Pasifika’ music</td>
<td>-0.191</td>
<td>-0.112</td>
<td>0.000</td>
</tr>
<tr>
<td>underperforming due to unavailable help</td>
<td>-0.200</td>
<td>-0.146</td>
<td>0.000</td>
</tr>
<tr>
<td>underperforming due to poor study habits</td>
<td>-0.261</td>
<td>-0.234</td>
<td>0.000</td>
</tr>
</tbody>
</table>

* P<0.001. The variables are listed in order of decreasing magnitude, based on β (beta) coefficients. The positive effects are highlighted with green while the negative ones are highlighted with red. The variable ‘frequency of financial problems’ was reverse-coded so that the highest value in it represented the lack of such difficulties.

Overall, the twelve variables accounted for over a quarter of the variance in the dependent variable (R²=0.27). The effects of some variables on academic performance can be interpreted with relative ease while the understanding of others demands more from the ‘sociological imagination’. This is true for both positive and negative effects.

For the positive effects, it is expected that ‘overall academic satisfaction’, the lack or limited occurrences of having ‘financial problems’, ‘weekly study hours’, and aspiring to enrol in ‘postgraduate studies’ would all be positively related to academic performance. On the other hand, there may be multiple explanations behind the effects of the remaining two positive predictors of academic performance, ‘volunteer working’ and ‘having many friends doing the same major’ while studying. The former effect could be interpreted as an indication of students’ identification with the institution, which in turn could exert a positive influence on academic performance. The positive impact on academic performance of studying with friends highlights the importance of a specific area within a broader set of social network effects whereby the gain in academic performance for a student appears to be proportionate to the size of his or her academically homophilic peer group. This is because majoring in the same academic field can be an indication of shared interests among group members, which can propel students toward better performance thus creating a quantifiable variant of the well-documented student ‘peer-effect’ (Astin 1993).

The reason for why such a ‘peer effect’ may lead to better academic performance could be interpreted from a different, yet related sociological perspective. Based on the concept of emotional
energy and the theory of interaction ritual chain by Collins (2004), it could be argued that friends majoring in the same academic programme collectively create a supportive social ‘interactional space’ that is conducive to academic success. By drawing on insights from the works of Durkheim and Goffman on rituals, Collins (2004) proposes an admittedly radical microsociological theory, which is “above all a theory of situations” (ibid. 5) inasmuch as the situation is the fundamental unit of analysis in it. In his model, agency is therefore not a mere synonym of ‘the individual’ but rather it is described as “the energy appearing in human bodies and emotions and as the intensity and focus of human consciousness, [which] arises in interactions in local, face-to-face situations, or as precipitates of chains of situations” (ibid. 6). Through micro-level, collaborative social situations that can take an infinite number of interactive forms, group members may periodically generate a heightened level of ‘emotional energy’. This can be (re)invigorated in future encounters through a “focused interaction” (ibid. 23) to strengthen in-group social cohesion over time.114

By adopting insights form the above into the context of this study, it could be argued that a group of friends studying in the same academic programme at the university are charged with emotional energy which may arguably be beneficial in different situations. Periodic encounters between group members can generate emotional energy for purely social ‘purposes’ (for example, entertaining arguments in a ‘good conversation’). On the other hand, it could be expected that these mutually focused interactive situations also create a supportive environment in which the course-related subjects are routinely discussed alongside more ‘ordinary’ conversation topics among friends. As a result, students located in such niche network positions (being able to study a subject with fellow students who are also friends) can draw from the accumulated emotional energy and transform it into a concrete and measurable asset in terms of academic performance. A plausible explanation for this is that the collectively generated emotional energy could potentially increase the study motivation of students and ultimately make their academic learning not only successful but also socially enjoyable. This is because students “who have made emotionally positive symbols of group relationships out of academic topics that they successfully talk about (…) become more engrossed in their studies, more interested in the topic. They internalize it into their own way of thinking, and this makes for better academic performance” (Collins 2013: n.pag.).

---

114 As Collins acknowledges, the distinction between “unfocused” and “focused” interaction originated in The behaviour in public places of Goffman (1963). Goffman argues that the aforementioned two types of interactions are essentially steps of communicative behaviour of those in the physical copresence of one another. While the former “has to do largely with the management of sheer and mere copresence, [the latter] deals with the kind of interaction that occurs when persons gather close together and openly cooperate to sustain a single focus of attention, typically by taking turns at talking. Where no focused interaction occurs, the term unfocused gathering can be used” (ibid. 24).
The negative effects in the model can also be distinguished based on ease of interpretation of the reasons behind them. For example, it is hardly surprising that time spent on family responsibilities or on playing video games has direct, significant and negative effects on academic performance. Similarly, students’ reported grades were lower when they listed ‘unavailable help’ or ‘poor study habits’ as reasons for underperforming in or failing a class. It is, however, more challenging to explain why ‘satisfaction with developing problem-solving skills’ and ‘frequency of listening to “Māori/Pasifika” music’ impact academic performance negatively. The former effect could be explained in two plausible ways. First, it is possible that those students not satisfied with the ‘problem-solving’ skills they developed in their academic majors would perhaps compensate for this by striving for better grades in order to increase chances of successful transition to the labour market or postgraduate studies. Conversely, being very satisfied with the development of the aforementioned skills may decrease the perceived need for academic excellence insofar as these students may see their considerable (real or perceived) level of endowment with problem-solving skills as providing the sufficient ‘transmission belt’ between education and work. Finally, the frequency of listening to ‘Māori or Pasifika music’ seemingly has a negative impact on grades. Although this finding may illuminate that the current and conventional academic pathways are fraught with difficulties that hinder prospects of academic excellence for students with Māori and Pacific Island background to some degree, the cultural consumption of an art form (in this case, listening to a particular type of musical genre) can never be exclusively linked to any particular ethnic or social group. The ‘Spearman rho’ correlation coefficient between ‘having a Māori or Pacific Island background’ and ‘frequency of listening to “Māori or Pasifika” music’ was 0.369.

5.8.3 Broader predictors of postgraduate study aspirations

The empirical assessment of the potential predictors of postgraduate study aspirations followed the procedure outlined in the previous section. Unlike academic performance (grades), which could be entered into statistical analyses as an interval-level measure, the ordinal nature of the dependent ‘PGplans’ variable needed to be taken into consideration and therefore the WLSMV estimation technique was employed for a series of multiple regression analyses in Mplus. The initial pool of predictors was narrowed down sequentially, so that subsequent discussions could focus on the most important sources of postgraduate study aspirations. 115 Eleven variables were identified as practically significant predictors, and these are listed in Table 5.30.

115 The initial pool of independent measures consisted of one of hundred and forty variables that overall could account for about 30% of the variance in postgraduate study aspirations (R²=0.299). Sixteen variables passed a very lenient
Table 5.3 Broader sources of postgraduate study aspirations*

<table>
<thead>
<tr>
<th>independent variables</th>
<th>b</th>
<th>S.E.</th>
<th>β (beta)</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>importance of getting further education after graduation</td>
<td>0.384</td>
<td>0.028</td>
<td><strong>0.326</strong></td>
<td>0.000</td>
</tr>
<tr>
<td>having many friends from the same faculty</td>
<td>0.112</td>
<td>0.025</td>
<td><strong>0.115</strong></td>
<td>0.000</td>
</tr>
<tr>
<td>time spent on visiting museums and exhibitions</td>
<td>0.081</td>
<td>0.020</td>
<td><strong>0.097</strong></td>
<td>0.000</td>
</tr>
<tr>
<td>time spent on working in paid employment</td>
<td>0.055</td>
<td>0.016</td>
<td><strong>0.095</strong></td>
<td>0.001</td>
</tr>
<tr>
<td>overall academic satisfaction</td>
<td>0.137</td>
<td>0.037</td>
<td><strong>0.094</strong></td>
<td>0.000</td>
</tr>
<tr>
<td>academic performance (grades)</td>
<td>0.045</td>
<td>0.013</td>
<td><strong>0.084</strong></td>
<td>0.001</td>
</tr>
<tr>
<td>working in degree-relevant paid employment</td>
<td>-0.144</td>
<td>0.048</td>
<td><strong>-0.087</strong></td>
<td>0.003</td>
</tr>
<tr>
<td>satisfaction with gaining degree-relevant work experience</td>
<td>-0.100</td>
<td>0.026</td>
<td><strong>-0.096</strong></td>
<td>0.000</td>
</tr>
<tr>
<td>importance of earning a high wage after graduation</td>
<td>-0.117</td>
<td>0.028</td>
<td><strong>-0.099</strong></td>
<td>0.000</td>
</tr>
<tr>
<td>intention of leaving Auckland after graduation</td>
<td>-0.176</td>
<td>0.038</td>
<td><strong>-0.108</strong></td>
<td>0.000</td>
</tr>
<tr>
<td>having many friends with the same major</td>
<td>-0.132</td>
<td>0.025</td>
<td><strong>-0.139</strong></td>
<td>0.000</td>
</tr>
</tbody>
</table>

* P<0.001. The variables are listed in order of decreasing magnitude, based on β (beta) coefficients. The positive effects are highlighted with green while the negative ones are highlighted with red. The standard errors of the standardized regression coefficients are omitted from the table because Mplus does not report them.

The eleven single item predictors listed in Table 5.30 comprise of a mix of positive and negative effects and overall they explain nearly one fifth of the variance of PGplans (R²=0.191). The interpretation of some effects is fairly straightforward, while others need a more involved elaboration. With respect to positive effects, it could be expected that ‘importance of getting further education after graduation’, ‘overall academic satisfaction’, and ‘academic performance’ all have direct impacts on students’ postgraduate study aspirations. In a similar vein, taking interest in cultural activities such as visiting museums or going to exhibitions may be indicative of an underlying scholarly and curious attitude that are arguably conducive elements in postgraduate study considerations. However, the positive impact of ‘time spent on working in paid employment’ on postgraduate study aspirations is not immediately clear in that spending more time at work would not necessarily be expected to be a strong facilitator of PGplans. It is important to consider the type as well as the frequency of jobs that students had done and which apparently increased the likelihood of their enrolment in advanced degrees. The result of the multidimensional descriptive analysis of ‘working status’, ‘frequency of work’, and PGplans is included in Table 5.31.

significance level (p<0.05) given the large sample size, resulting in R²=0.21. Five of these variables were removed from subsequent multiple regression analyses (manually, one at a time), ultimately leading to the eleven most significant predictors of the dependent variable, which were retained for interpretation.

168
Table 5.31 Multidimensional work-effects on postgraduate study aspirations (count data)*

<table>
<thead>
<tr>
<th>Working status</th>
<th>Frequency of work</th>
<th>Postgraduate study aspirations</th>
<th>N=</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>unsure</td>
</tr>
<tr>
<td>none not degree-relevant</td>
<td>0 (‘never’)</td>
<td>53</td>
<td>207</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>21</td>
<td>55</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>5 (‘very often’)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>0 (‘never’)</td>
<td>25</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>16</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>21</td>
<td>73</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>36</td>
<td>149</td>
</tr>
<tr>
<td></td>
<td>5 (‘very often’)</td>
<td>43</td>
<td>114</td>
</tr>
<tr>
<td>degree-relevant</td>
<td>0 (‘never’)</td>
<td>4</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>9</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>17</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>5 (‘very often’)</td>
<td>13</td>
<td>40</td>
</tr>
<tr>
<td>total=</td>
<td>298</td>
<td>909</td>
<td>675</td>
</tr>
</tbody>
</table>

* ‘Frequency of work’ was included as item#19 within question#18 on the questionnaire. Its response categories ranged between ‘never’ and ‘very often’ (coded as zero and five, respectively). Although slight discrepancies are evident in the table (contradictory responses between working status and the frequency of work), the highly significant Pearson correlation coefficient between ‘frequency of work’ and ‘weekly number of hours worked’ (r=0.409; p<0.001) indicates that the overwhelming majority of the responses can be accepted as reliable. The theoretical importance of the highlighted areas is explained in the text.

The distribution of students in the three aforementioned dimensions reveals a complex relationship between frequency of work and postgraduate study aspirations. It is evident that students are not distributed evenly among the fifty four cells in the table, but rather they are concentrated in specific areas within it. In particular, the biggest group of students is clustered in only six cells, (highlighted with dark red in Table 5.31), comprising nearly one third of all students in the sample (N=631 or 33.53%). This finding is important in that it illustrates that students are more likely to consider postgraduate studies when they spend a significant amount of their time working in positions that have no relevance to their academic field of study. In other words, the more time students spend (regardless whether this is voluntary or forced by financial circumstances) in what Ritzer would call ‘mcjobs’, the more attractive postgraduate studies become for them. In contrast, spending more time working in a position that is relevant to the academic major or future employment in some way (these students are highlighted in six cells with light red in Table 5.31) appears to lessen students’ interest in advanced degrees.

The interview data (introduced in the following chapter) will reinforce the idea that postgraduate study plans are often considered only when the prospects of jobs immediately after graduation are
uncertain, as a sort of ‘secondary plan’. Securing valuable internships also had a negative impact on postgraduate study aspirations, although students rarely excluded that option categorically.

Postgraduate study intentions are also expected to vary between academic fields. As evident from Table 5.32, students studying in ‘General’ academic fields were much more inclined to pursue advanced educational credentials than those in ‘Professional’ ones. Proportionately, there were twice as many students without postgraduate study aspirations in the latter group than in the former. On the other hand, 45.1 percent of those with ‘certain’ postgraduate plans in the ‘General’ group could be contrasted with the significantly lower proportion (25.9 percent) of students with the corresponding level of commitment for further studies in the ‘Professional’ group. The results also show that Arts students are by far the most likely to commit themselves to further study. While every second Arts student was planning to pursue postgraduate qualifications, the corresponding ratio in the Faculty of Engineering was only one in five.

Table 5.32 Postgraduate study aspirations by academic fields*

<table>
<thead>
<tr>
<th>academic fields</th>
<th>N</th>
<th>Postgraduate study aspirations</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>unsure</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>1 Arts</td>
<td>408</td>
<td>40 (9.8)</td>
<td>165 (40.4)</td>
<td>203 (49.8)</td>
<td></td>
</tr>
<tr>
<td>2 Business</td>
<td>279</td>
<td>62 (22.2)</td>
<td>137 (49.1)</td>
<td>80 (28.7)</td>
<td></td>
</tr>
<tr>
<td>3 Education</td>
<td>112</td>
<td>30 (26.8)</td>
<td>59 (52.7)</td>
<td>23 (20.5)</td>
<td></td>
</tr>
<tr>
<td>4 Engineering</td>
<td>237</td>
<td>50 (21.1)</td>
<td>142 (59.9)</td>
<td>45 (19.0)</td>
<td></td>
</tr>
<tr>
<td>5 Law</td>
<td>77</td>
<td>16 (20.8)</td>
<td>40 (51.9)</td>
<td>21 (27.3)</td>
<td></td>
</tr>
<tr>
<td>6 Medical</td>
<td>201</td>
<td>41 (20.4)</td>
<td>94 (46.8)</td>
<td>66 (32.8)</td>
<td></td>
</tr>
<tr>
<td>7 Creative Arts</td>
<td>71</td>
<td>9 (12.7)</td>
<td>35 (49.3)</td>
<td>27 (38.0)</td>
<td></td>
</tr>
<tr>
<td>8 Science</td>
<td>497</td>
<td>50 (10.1)</td>
<td>237 (47.6)</td>
<td>210 (42.3)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>academic fields</th>
<th>N</th>
<th>Postgraduate study aspirations</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>unsure</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>‘General’</td>
<td>976</td>
<td>99 (10.1)</td>
<td>437 (44.8)</td>
<td>440 (45.1)</td>
<td></td>
</tr>
<tr>
<td>‘Professional’</td>
<td>906</td>
<td>199 (22.0)</td>
<td>472 (52.1)</td>
<td>235 (25.9)</td>
<td></td>
</tr>
</tbody>
</table>

* Count data of the total sample; row-percentages are in brackets. The upper part of the table lists each of the eight faculties, while the lower part aggregates them according to the classification of academic fields used in the project.

It is important to keep in mind, however, that the period of data collection coincided with the global financial recession, and that the increase in postgraduate enrolment at that time could be in part attributed to the economic downturn, a phenomenon widely reported by the popular press in New Zealand and overseas (Lipsett 2009; Lynch 2009; Smith 2009; Tobin 2012) as well as by governmental and educational organizations (Engler 2009; Smart 2009; Usher and Dunn 2009).

The majority of the negative effects reported in Table 5.30, too, can be easily made sense of insofar as they are aligned with theoretical expectations. For example, the negative effects of ‘intention of leaving Auckland’, and ‘importance of high wages’ on PGplans hardly require longer discussion.
Similarly, the negative effect of ‘satisfaction with gaining major-relevant work experience’ on PGplans was also expected, based on the consideration of available options students have for after graduation. As opting for postgraduate studies and aiming for paid employment (degree-related and full-time) are two of the most common choices that undergraduate students can have upon graduating, it could be expected that these alternatives are largely mutually exclusive. Arguably, when students perceive themselves as being well prepared by their university for labour market participation, postgraduate study would likely lose its appeal, and vice versa.

Not all negative effects reported in Table 5.30, however, can be so easily explained. It appeared that the strongest prohibiting factor of students’ ‘postgraduate study aspirations’ of students was having a ‘large’ friend network within the majoring academic department. In contrast, the effect of ‘having many friends from the same faculty but with a different major’ is clearly positive. A plausible explanation of these findings is that the different friend networks may represent reference groups that exert two different sets of influences on students. Since the number of students with postgraduate study intentions is virtually always lower in an academic department than those without such plans, it is likely that proportionately, a student will have more peers without postgraduate study plans within his/her ‘local’ (departmental) student network than friends with a commitment to further studies. Hence the negative effect of a large, in-department (and possibly homophilic) friend network on postgraduate study plans. On the other hand, having a relatively large friend network that transcends immediate major and departmental boundaries may be indicative of academic interest or attitude, with an underlying desire to seek scientific understanding of worldly phenomena which is arguably an essential driver for pursuing postgraduate studies. In this case, a friend network with a considerable number of out-of-department students may function as an influential reference group that strengthens the postgraduate study commitments of students. The influence differential of the two distinct sets of friends can be understood by drawing on the insights of earlier scholarly works on ‘reference group theory’ from the field of social psychology (Hyman 1942; Deutsch and Gerard 1955; Shibutani 1955) which later made inroads into the sociology of higher education (Feldman and Newcomb 1969; Alwin, et al. 1991).

5.9 Chapter summary

This chapter has presented the findings from the main quantitative phase of the study. Thematically, the chapter was structured in a way that followed the presentation of the conceptual background and research context outlined in Chapter Three. A series of structural equation models were specified that allowed for the rigorous evaluation of the relationships between the ‘purely’ higher educational
constructs. They also illuminated how these constructs were anchored in broader social background characteristics. While the present research is about the sociology of higher education, it is recognised that certain model covariates and measures of plausible ‘outcomes’ may be linked directly, regardless of their respective connections, to the ‘Base model’ constructs. In the next chapter, the main findings from the semi-structured interviews are introduced, representing the qualitative phase in this mixed-method investigation of the undergraduate student experience.
Chapter VI — Qualitative Results

6.1 General overview

The rationale for employing an ‘embedded mixed methods’ research design (Creswell 2009, 2013) in this project was that the combined methods can be expected to capture more from the inherently complex undergraduate student experience than could be achieved through either quantitative or qualitative techniques alone. Although findings to all of the main research questions (outlined as H1-10 throughout section 3.3 in Chapter Three) have been delivered quantitatively in that they have been derived through multivariate statistical analyses, the qualitative results, too, are important in that they can illuminate processes and relationships that are difficult — if not impossible — to capture through standardized survey questions. The presentation of the interview findings in the following sections is an attempt to collect some of the emerging patterns from the data.116 As these findings explore somewhat different aspects of the learning experience than those discussed in the previous chapter, they do not ‘mirror’ the themes interrogated throughout the quantitative analyses. For example, there is little focus in this chapter on the comparison of the extent to which the two main branches of social background characteristics discussed in the study (those referred to as SES and PRD) influence the undergraduate student experience. Instead, by taking advantage of the semi-structured interview technique, this chapter aims to demonstrate the processual nature of the various social phenomena that influence the lives of students. Although the patterns presented in this chapter can be arranged around ‘themes’, they do not converge into an overarching, ‘central topic’. Some of the themes can more directly be linked to various sociological theories of higher education, while others represent ‘heuristic’ findings that may not be readily generalizable to other undergraduate student populations. Several topics that have been identified by the international higher education research literature as important for the comprehensive understanding of the undergraduate student experience are explored by means of semi-structured interviews. The list of these topics is included in Appendix A6 as the ‘interview topics guide’. Although some of the questions listed there have been explored quantitatively earlier in the thesis, the findings presented in this chapter allow us to illuminate mechanisms in a somewhat different light, given the distinct, yet overall complementary characteristics of the two types of empirical investigations.

116 The following six pieces of information are presented at the end of the interview excerpts, in the order of: name (all names are pseudonyms), age, gender, ethnicity, programme advancement in years, and study area(s). These pieces of information have been obtained directly from students in the sampling procedure of the interview participants, as outlined in section 4.10.1 in Chapter Four. When it is deemed necessary, short clarifications and explanations are inserted into the interview excerpts in brackets in order to assist the understanding. When students accentuated particular points during the interviews, the word ‘stressed’ is inserted before the relevant remarks, in brackets.
In the following sections the more ‘theory-relevant’ themes are presented first. These are related to pre-university life experience of students insofar as they illuminate the complex ways through which higher education is inextricably linked to emerging patterns of social stratification and intergenerational mobility. The sometimes challenging nature of educational transition (between secondary school and higher education) is another theme discussed which is also well explored by extensive academic work. Moreover, several accounts are presented to illustrate the importance of secondary schooling and that of family background, as two key agents of socialisation, in shaping the educational experience of university students.

In the second part of the chapter several themes are presented which connect students’ academic learning to their post-university life stages, including career plans, work experience, and postgraduate study aspirations. These aspects are explored with respect to the two principal study areas proposed in the thesis: the ‘General’ and ‘Professional’ academic fields (see Chapter Three and Five). By drawing on several student interviews, it is demonstrated that individuals studying in the former fields (in particular, those majoring in ‘Arts’ subjects) are arguably in the least enviable positions among those aspiring for tertiary educational credentials in contemporary New Zealand. Despite the very high quality teaching and the rich curricular content that characterize the educational experience of ‘Arts’ students at The University of Auckland, their learning does not particularly foster the development of certain practical and employable skills. Arguably the most worrisome aspect of this development is that students in the ‘General’ fields (even those who are academically successful) may have limited opportunities to achieve upward social mobility, insofar as the labour market cannot absorb them into credential-appropriate positions at the same rate as they are manufactured by the expanding tertiary education sector. However, these arguments are mainly speculative in that they require robust confirmation from further (and preferably large scale, longitudinal, and mixed methods) investigations before their plausibility could be convincingly established. For this reason, these findings need to be interpreted with caution until more studies confirm that the accounts of undergraduate student experience presented here are comparable to that of ‘degree hunters’ from other higher education institutions in New Zealand.

6.2 Social mobility, social reproduction, and educational expansion

Although the theories of social reproduction (Bourdieu 1973; Bourdieu and Passeron 1977) and social mobility (DiMaggio 1982, DiMaggio and Mohr 1985) attribute conflicting roles to higher education, the student interviews suggest that their analytical separation is not supported by the empirical evidence. When students reflected on their decision to study at the university, it is evident
that their motivation (with or without parental influence) was to achieve a better future for themselves. Regardless of their own educational qualifications, parents also exerted a degree of influence on students, driven by the very same rationale. This finding is expected as it corresponds to that illustrated in Lareau’s landmark, qualitative study on the topic (Lareau 2011). The effects of parental influence on higher education choice have been documented in several related academic studies, for example Lareau and Weininger (2003, 2008) and works cited therein. Overall, the findings presented here illustrate the general social acceptance of the idea that higher education is a principal vehicle for status attainment.

My mom influenced us heaps when it came to coming to uni, because she grew up with parents who were like “do not go to uni” [she now works as a medical receptionist]. She always pushed us heaps to come here. It was even annoying in a way because she was one of those “hands-on” parents, “what subject are you doing”, “what marks have you got in”? But that is all right, I think that was good (Nicole, 22yr, female, NZ-European, 5th year, Law and History).

My father had no qualifications beyond 15, but from 15-28 he was in farming. Then he got an apprenticeship in a welding engineering firm and became their top design engineer. He did that for about 10 years (…) Because of his lack of education or the lack of access to it he strongly believed in education and giving the children a go through university to get an education and qualifications (…) But my high school did not prepare well for the university. It was a very low socio-economic school. And it sort of had divisions in classes, because Tauranga is sort of a mix. There is the low socio-economic, sort of Māori and Pacific islander population, then also the Europeans, and because of the kiwi fruit industry there are the Indians as well. So you had this division in school where you have the sort of ‘elites’ and then you had what you call the ‘dumb class’ who were basically biding their time in high school till they are going to get out of school, get married and work in the supermarkets. I kind of sat in the middle of that up until 5th form [approximately 15 years old]. I was sort of leaning toward the ‘dumb class’ because the teachers there were nicer, more helpful, easier to understand, so for me it was - not that I did not value my education - more about that I wanted to enjoy my time (…) If you were intelligent and showed some good grades in the first year at high school, then it sets you up quite well, but if you were a sort of average student who did not have a lot of ambition, then it kind of funnelled you into a supermarket job. At that time both of my sisters were leaving to the university, and that was the sort of push when I kind of realized I did not want to work in a supermarket, I did not want to do farming, I want the sort of 9-to-5 job, and have my weekends (James, 26yr, male, NZ-European, 4th year, Civil and Environmental Engineering, [previously completed a Bachelor of Science degree]).

The following two excerpts highlight similar points to the ones just introduced, yet they touch upon several topics that are specific to migrating families. Two students from immigrant families (with a Korean and an Indian ethnic origin, respectively) reflect upon the complex social and cultural forces that influenced their study choices. The most relevant points to the present discussion evolved throughout the interview therefore the questions are preserved below to provide the full context.

I am still trying to figuring out why I am doing Medicine [laugh], like many of us in the Medical school, because it is so demanding and challenging. But for me, it was more that the interests I had since high school and all the [science] subject choices I made early on (…) And also I chose Medicine, because I really like the challenge. It is very personal for me. I would like to put myself into a good position in society where I could kind of give back what I have been given here in New Zealand, because obviously I had been through some tough times, like when I couldn’t speak English [he came
to New Zealand as a 12 year old]. But there has been a lot of community support from friends and family that helped me out, so I felt that I need to be an important part of the society. So choosing science subjects in high school was maybe a bit affected by that little push into adulthood, in a way to able me to make the most of what I have had, if that make sense [laugh].

Interviewer: So had you already made up your mind in high school to study medicine?

No, not really, just I have always been interested in science subjects. But I was also doing music, so a bit I was tossing between the two: whether doing Music at the university, or do a sort of ‘sciency’ thing. Then I was thinking that music would always stick with me as a hobby, even if I would study something else at the university.

Interviewer: How did you choose between studying toward a science degree or for medicine?

I guess that all migrating families are looking for that ‘success in life’. I guess it could be a little ‘Asian culture thing’, but being a doctor, or lawyer, or having one of those prestigious jobs are somewhat important. I mean, that should not be the whole reason [for choosing a degree], as you might know, but my dad is a little bit conservative. He is still in Korea, so he has still got that kind of ‘Korean-mindset’, whereas my mom here is just kind of looking after us. I guess you could say that I was a little bit ‘brainwashed’ [laugh], but, I kind of began to see that it was important for me to have a stable job within the field that I was interested in. I thought the course I am studying would bring the best out of me (Nick, 20yr, male, Korean-New-Zealander, 3rd year [class rep], Medicine).

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I chose Biotechnology, but this was more impulsive than planned. I have always wanted to do engineering, all through my school life. I applied for engineering, health sciences, and biotechnology, and I got accepted into all three. Although I was always sceptical about biotechnology, once I looked through the courses, they just looked more well-grounded than the other two so I chose it.

Interviewer: Did anyone influence you in this decision?

A few years back my father had brought up that biotechnology is going to be a hot subject to study and it would also be a good career option. In most traditional Indian families parents try to push you towards medicine or engineering, though it is not forced. I did fall into this type: my parents were like “do medicine, do medicine”, and I was like “fine”, because I have been a fairly good student in high school [Mount Roskil Grammar, a decile 4 school117], so I had good chances of getting into medicine. But I found that I was not really ready to give up 7 years of my life for something that I was not that passionate about. To my parents utter disapproval, I did not go for medicine, and nor did I go for engineering. That was the second thing I should have gone for, according to them. But this was not just about “going against” their wishes, because they understood that I would take biotechnology because this is something I feel much more passionate about, and this is what I would spend my life in, rather than doing something just for the sake of “keeping you guys happy”.

Interviewer: So did they accept this?

For them, because, even though we have immigrated here, this is still the Indian-Kiwi society. And there is this whole issue of comparing your kids to other kids. So when they accepted that I would do biotechnology, they were still saying like “OK, but make sure you get good grades, and you are still better than the other kids”. I did not really think about these things, but for the sake of keeping them happy, I was like “fine, I’ll do that” (…) So this is the pressure most Indian kids have to face, that you get constantly compared to kids from other families (Sangita, 20yr, female, Indian, 3rd year, Biotechnology).

117 The Ministry of Education website explains the socio-economic zoning of schools in the following way: [a] decile indicates the extent to which a school draws its students from low socio-economic communities. Decile 1 schools are the 10% of schools with the highest proportion of students from low socio-economic communities. Decile 10 schools are the 10% of schools with the lowest proportion of these students (Ministry of Education 2011a: n.pag.).
These quotes show that both students and parents expect the university to be an effective vehicle for status attainment. Furthermore, as the following two examples illustrate, excellent academic performance cannot be wholly explained by advantageous social background.

I made a strategic decision while I was in high school [Manurewa High School, decile 2]. I was not reaching my potential, like not going to classes, drinking alcohol in the class, so I left that group of friends I was with, and I joined another group who all had expectations to go to uni, and I kind of hang out with them. It was like, “oh, I actually need to get my grades up to go to uni”. None of those friends are at uni now, but all from the new group are. So it was a good choice [laugh]. And my school was pretty good with scholarships, because we were a low decile school, so they quite pushed scholarships onto us. I got a couple. One was the principal’s award ($6000), and the Auckland University Access Scholarship ($2000). It took a lot of the student loan pressure off, especially with my mom, so it was really good. (...) These scholarships were hard to get, but my teachers were quite supportive, so I could use them as references. We had a career adviser, and that was really helpful, too (...) I know I did not try hard in the first semester, yet my grades were all Bs, and I thought they are actually pretty good, so I tried harder in the second semester, and got them up to about As and carried on then (Lucy, 22yr, female, NZ-European, 4th year, Psychology, Marketing and Management).

My tuition is mostly covered by scholarships. I got two from high school: $2500 [for being the top student in Epsom Girls Grammar School, a decile 9 high school] per year, then I got one at the NCEA level3 [the final year in secondary schooling] which was $2000 per year. Since [tuition] fees are pretty cheap here [in New Zealand], $6000-7000 per year, they already cover quite a lot. Maybe $1000 left that I had to pay myself. That is pretty easy because you just save from the student allowance. Because we don’t spend much, so actually this is OK. (...) I don’t have to pay rent. My parents are very nice to me. We are really frugal: we tend not to spend unless it is necessary. Like petrol and food, that is about it. I don’t really do anything with money, like I don’t shop the “whole Queen street” you know [laugh]. We are just surviving, barely. But it’s fine, because I have been doing very well in high school, I have got lots of scholarships, and then I had my part time job in the library, then the internship [at one of the major international accounting firms in Auckland]. Then the student allowance that they have here [in the country] is really good as well. That is about $121 per week. That is pretty good (Monica, 20yr, female, Asian-New Zealander, 3rd year, Accounting and Computer Science).

These quotes hint that successful participation in higher education does not necessarily depend on socio-economic background characteristics of students (or that of their families). It was mentioned earlier (section 4.8.3.1.1) that undergraduate students at The University of Auckland come from diverse socio-economic backgrounds (see Appendix F). The cases presented above suggest the plausibility of this claim. Although a considerable proportion of young people do not (yet) participate in tertiary education in New Zealand, there can be a variety of reasons for this beside those related to social background, for example, pursuing lifestyle and career choices that do not require a tertiary certificate. Arguably, a series of rigorous, large scale empirical studies would be needed to explore the extent to which disadvantageous social background indeed limits entry into higher education. Until this occurs, however, it would be fallacious to suggest that the complex reasons for non-participation can be reduced to a singular cause whereby a presumably significant number of young people are ‘excluded’ from post-secondary education, predominantly because of alleged socio-economic ‘barriers’. Assuming that the undeniable expansion of higher education in
recent decades really unfolded with the continuous ‘exclusion’ of the lower social classes would lead to the rather unreasonable claim whereby the growth in student enrolments mainly reflects a relative increase of the upper and middle classes within the social strata.

Contrary to the implicit assertion in the ‘social reproduction’ thesis whereby university education is little more than the elite’s sophisticatedly manipulated tool to preserve pre-existing class inequalities, participation in tertiary education could reach an unprecedented degree in the history of New Zealand (Ministry of Education 2011c). While increased participation in the tertiary educational sector can by no means guarantee success later in life in itself, it nevertheless provides students with an invaluable chance of achieving upward social mobility. Despite these developments, secondary schools continue to play a crucial role in preparing students for the university, either through an academically strong curriculum, or by the conscious mentoring efforts of remarkable teachers and administrators who could turn a structural disadvantage (attending a low-decile high school) around to help individual students.

6.3 Transition to the university

The university is an on-going agent of socialisation throughout the student years, with the early, transitional period being perhaps the most challenging, notwithstanding the point that it is also an exciting time for new students (Feldman and Newcomb 1969). Below are five interview quotes in which students reflect on their transition to The University of Auckland. The excerpts are arranged in a way that helps contrast the easily adjusting students (these are presented first) with those who reportedly encountered some difficulties.

The transition was actually pretty enjoyable. It was not as stressful as high school, because you pretty much just do what you wanted to do, like the lecturers would not tell you what your homework is going to be, you have to do it yourself. This is what I found the most different from high school (Steve, 20yr, male, Chinese, 3rd year Commercial Law).

It was reasonably easy. All the stuff that the university had organized worked quite well, like the orientation, and all the clubs. I signed up to 5 or 6 clubs, and even though I did not actively do anything, I think they still kind of helped me integrating to the uni (Mark, 19yr, male, NZ-European, 2nd year, Biomedical Science).

The uni was a lot freer; they did not take a roll, they did not make you go to class. So in some ways it was good. But in other ways you had to be responsible. I actually kind of missed high school when I first came to uni just because I had very huge classes and it was really impersonal (Kelly, 21yr, female, Chinese-New Zealander, 3rd year Medicine).

Well, it is nothing like what you see on TV [laugh]. Probably the workload was the most challenging. You don’t realize in high school how intense it is going to be until you get here. I had friends who got dropped out, because they could not take it (Lucy, 22yr, female, NZ-European, 4th year, Psychology, Marketing and Management).
The transition was very difficult for me. You came from a school environment where people care about if you turn up; you are constantly checked. At university, suddenly back to having 4-5 hour classes a day, no one cares if you turn up. If you are not in the right circles, there is no competition to strive to something better. To me, it [the difficulty] was the freedom, that no one cared if you turned up to class or not, there was no roll taken, there were more than 150-200 students, and no one cared (James, 26yr, male, NZ-European, 4th year, Civil and Environmental Engineering, [previously completed a Bachelor of Science degree]).

It is evident that the same or similar experience during the early, transitional period can be received very differently by different students. While the unsupervised nature of the university environment was quickly embraced by some, others found the very same experience rather difficult. It is also likely that successful transition and engagement dynamics between students and staff as well as among students in part depend on academic majors insofar as institutional characteristics (for example, class size, mode of instruction, and so forth) exert considerable influence on the student-instructor relationship from the early stages of the learning experience (Kim and Sax 2011).

6.4 The preparatory role of secondary education

It can be argued that the degree of ‘transitional difficulty’ is directly related to quality of the preparatory work done at the secondary school level which in turn could affect satisfaction with the ‘high school student experience’, although personality differences between students cannot be ruled out in these regards. Five additional quotes are included below to illuminate the importance of preparatory role of secondary schooling to facilitate a reasonably smooth transition to the university.

My high school [in Singapore] prepared me well in essay writing, and organizational skills, but not so much in public speaking. I think New Zealand schools do better at that. The first semester was easy in terms of academic requirements, but it was really difficult to make friends (…) The workload was much less than what I was used to in Singapore. I put a lot of effort into my essays, although that was not what was required of me. I did not need to work that hard on my work. My grades have been pretty good, like A-s and B-s (Susan, 21, female, Chinese/Indian, 4th year, Psychology, Economics, Management, Marketing).

We have talked about uni a lot in the last year of school [Epsom Girls Grammar, a decile 9 school]. They did not just ‘throw us out there’ after school and not prepare [laugh]. We had a whole office on what you want to do after school. They also brought in some brochures and counsellors. I thought it was quite good (Nicole, 22yr, female, NZ-European, 5th year, Law and History).

There was a strong community spirit in my high school [Epsom Girls Grammar]: lots of clubs, after school activities, and sporting events. I was quite involved (…) A lot of teachers were like: next year is going to be very hard at uni, you cannot get any help from us, you cannot really talk to the lecturers, you are going to be out there alone. So I was a bit scared, but then when I got here, I did five papers [the maximum number allowed at UoA] in the first semester, because I wanted to do a conjoint degree, and I thought it is better to do as much as I can. It worked out well, because I got really, really good grades in the first semester (…) I got four A pluses and an A. I have been keeping up with my grades. Even in high school, I usually came out on top of the class, and in the final year I was the top student in the school. So I guess I was not too scared, but still, I kept in mind what they [the teachers] have said. I have to say, first year university papers are [stressed:] really similar to NCEA level 3, which I did in my last year of high school. A lot of the stuff overlapped, so all I had to do basically was revise
what I did before. I already knew the basics, the core concepts, so I did not really have to put anything else into my mind, except maybe a few extra facts (Monica, 20yr, female, Asian-New Zealander, 3rd year, Accounting and Computer Science).

I went to Northcote College [decile 9] and quite liked it. It prepared me well for university, because all of my friends had the goal of going to university. I had a very good group of friends. We also had all good families, so it was not like that we had a lot of troubles. My friends were quite academic, so I guess that helped. And my teachers were very supportive, so it was all very positive (Kelly, 21yr, female, Chinese-New Zealander, 3rd year Medicine).

I went to Rangitoto College [decile 10] which is the biggest [secondary] school in New Zealand. It prepared me well for the university. Sometimes you hear that it is a cool thing to hate high school, but I really enjoyed it. I could not have asked for a better group of peers and also teachers to what I have had during high school (Nick, 20yr, male, Korean-New Zealander, 3rd year [class rep], Medicine).

The experience of these students confirms that secondary schooling plays an invaluable role in preparing students academically, although a supportive family environment and individual motivation remain essential components for student success. It is apparent that almost all of the students quoted above graduated from high schools that are ranked in the top two socio-economic deciles (9 or 10). This factor alone, however, does not guarantee subsequent and sustainable success at the tertiary level, as is evident in the case of the following student.

I went to a [decile 10] private school in [a small town], south of Auckland. We had Cambridge exams (…) It does not mean too much during the year, but it is all focused on the exam [at the end of the year]. But I found that the stuff that they taught you [at high school] were a bit higher than the first year at the university. When I was in lectures for the first two weeks at uni, I thought that “I know this stuff, this is boring as”. It gave me a bit of a tendency to skip lectures (…) In the first semester sometimes I only turned up to 3 lectures in the whole semester. I was getting like a B average just from high school education (…) Now my grades are around a C+ average, but I would like to get them back up there in the B-range, definitely. I did quite good in high school. I was one of those guys everyone hated because I never used to study and still I got high [grades] in the class. That was sort of not good, because you come to uni and you [stressed:] need to study, but I had no idea exactly how you are supposed to do that. I did not write notes in class, I would just normally sit there and listen, and I ‘would know it’. But if it was not interesting, I would just sort of ‘glaze over’ and then you miss important things (Bill, 20yr, male, NZ-European, 2nd year, Environmental Science).

This example raises a fundamental issue that has long been central to the efforts of educational researchers and policy makers. It is about the systematic disentangling of intertwined factors that overall generate exemplary academic performance for a student. For such performance to remain sustainable students must demonstrate that they possess the composite skillset of what could be referred to as ‘good study behaviour’ from the very beginning of tertiary study. This implies that the ‘well-performing student habitus’ has already been generated, to a significant degree, prior to entering postsecondary education. Although a universally valid ‘guidebook’ for academic success cannot be proposed here, aspiring students can undoubtedly benefit from adapting certain study-patterns from students with proven records of academic excellence, such as Monica, whose account has been introduced above. Regarding her usual preparation before classes, she remarked:
What I would usually do is read over what is going to happen tomorrow, and look up all references, so I am all prepared to go to class. I would do this extra step, rather than sit there and trying to “take all in” (...) I attended every single tutorial, not only those that they have marks counting towards your final grade; they were very useful. I would rather do that than line up for the lecturer’s office hours (...)

Assignments [in Computer Science papers] were hard, and some of them were unrelated to the course and lecture material. By stage 2 and 3 I was quite disappointed. My grades were still good, but only because I studied the material very hard (Monica, 20yr, female, Asian-New Zealander, 3rd year, Accounting and Computer Science).

Her example suggests that thorough individual preparation, diligence and persistence are invaluable components of academic excellence. Moreover, it appears that academic performance does not depend on satisfaction with a course insofar as dedicated students can perform well even under suboptimal conditions.

6.5 Family as a socialising agent and ‘habitus generator’

The essentially socially constructed nature of even the most highly regarded individual qualities must be kept in mind inasmuch as they are always generated in social networks that act as agents of socialisation. The family is among the key agents as it plays a central role in generating and transmitting cultural capital which is arguably highly relevant for post-secondary student success. This point is highlighted with a positive and a negative example below. In elaborating further on the issue of parental influence, Nicole (also introduced earlier) unveils the origin of her ‘love for reading’ this way:

Nicole: My dad influenced me with music, but not with literature because he is not a big reader. I think it is because he reads so much at work [as an engineer] so he does not want to when he gets home.

Interviewer: What about you, do you like reading?

Nicole: I am a [stressed:] big reader. I love to read, I devour books, I like reading better than TV. I do not really like non-fiction, because I get bored as I read non-fiction at uni, so when I come home I prefer to read fiction. I like different ones, like sci-fi, or at the moment I am going through the sort of classics, European novels (...) My mom likes reading like life stories, and she has always been a big reader. When we were younger, she had this basket of books she would bring home from the library for us to read. That was what got me started. As we got older she stopped doing that so later we would need to get our own books. So now I buy a lot of books as well. I see buying books as a ‘good purchase’, like if I buy clothes I would think that I would ‘have to’ save money, but with books I don’t feel that I would have to (Nicole, 22yr, female, NZ-European, 5th year, Law and History).

The positive example of Nicole can offer social scientists some reasons for cautious optimism insofar as intergenerational upward social mobility can indeed be a realistic possibility, especially in a supportive family environment. The example shows that what could be seen as an overall positive ‘parental influence’ is in fact a result of a largely unsynchronised parental division of labour that can ultimately endow Nicole with different types of capitals, as we can see later in section 6.9. It is
also worth noting that although the educational level of the father in her example is higher than that of the mother, it is the latter who has taken the active role in making a conscious effort to spark her daughter’s interest in reading. Such a finding could have easily gone undetected in a survey study.

However, for less fortunate students, the immediate family environment can severely suppress students’ potential to evolve and strive. The following longer account of Kate shows that when social disadvantages accumulate, the prospects of academic as well as post-university success are drastically limited. In order to illustrate this, the example of Kate (26yr, female, Samoan, 3rd year, Primary Education) is presented in the following section differently from other cases described in this chapter. As she is the only student with Māori or Pacific Islander ethnic background among the twenty interview participants, her case cannot readily be generalized into a larger Māori or Pacific Islander population. However, it would be equally naïve to think that she is alone with her problems among students of similar backgrounds. In order to provide a reasonably complete account of the difficulties Kate has faced throughout the life course, the interview excerpts presented here are organized around seven themes, indicated by brackets. These themes are: (1) family background; (2) secondary school background; (3) rationale for programme selection; (4) friend network; (5) engagement with teaching staff and general educational experience; (6) study habits and academic performance; (7) employment outcome and post-university plans.

(1) My parents have not gone to university. I think they did not even pass intermediate school, they probably only went to primary and that was it. Then they had to leave to help the family (…) My dad has been working in a plastic factory, at the production line, for 26 years, and my mom is also a production line worker at [another company] (…) None of my brothers [she has 5 brothers, no sisters] went to uni (…) My youngest brother works pretty much just to help out my parents. He pays for all the bills for the house, and my parents pay for the mortgage. But my brother does not want to work, he wants to join the army.

(2) I was really into drama in high school [Otahuhu College, decile 1]. That was pretty much my life. My second thing was being a teacher, like you know, ‘still OK’. I had to give up drama because of my weight. Also, my parents did not agree with the idea of going to art school, because they did not think that it was ‘good enough’, I guess, because the programme was offered only at Unitec [a polytechnic], not at ‘the university’ [The University of Auckland]. I did not know what to do as I wanted to do drama but my parents did not want me to do it, so I just started working after school [she has worked for 5 years, doing different jobs]. I quit my last job after two months and decided to finally go to uni.

(3) I came to uni because I love two things: to act and to teach. When I moved away from the whole acting thing, I turned to my second passion which is helping people. When I graduate, I really want to work in South Auckland, especially in the area where I grew up, because I understand some of the points of view of the kids there. So I just kind of want to make a change, really, that is my motivation. I started uni in 2006, and then I got pregnant, had to get married [she has since separated and takes care of her 2 year old son] and had to stop uni. I came back to uni in 2008 to start it again [from the beginning].

(4) I would say that most of my friends are Islanders: Samoans, Tongans, Niueans. Maybe I feel more comfortable with them. But I have a Pakeha friend as well. But the reason we connect is that she is not a Pakeha, she is like ‘Pakeha on the outside’ but really she is like “brown”, the ways she talks and
interacts with us. I would be interested in making [more] Pakeha friends, but only if they make the first step to be friends with me, then I would be all good, as I would want to be friends with them, too. (5) I did not try getting help from the tutors, because I am the type of person who does not like to make a fuss. If I am struggling, I just keep it to myself and try to work it out myself. If I don’t, I just make it up, sometimes it worked in my first year [laugh]. We Samoans often do not ask for help. But when we did talk to a tutor, the only reason that we brought things up we did not understand with her was that we felt comfortable with her because she was a Samoan. If it was someone else, we still would have been reluctant to ask. Not to be a racist, or anything, just you feel more comfortable with people with the same background as you (...) In class we [Samoans and other Pacific Islander students] often felt that we were the minority. That is why I hated when in tutorial you would have to discuss things when my friends were not in my class. The lecturer [or the tutor] expected us to share and discuss ideas, but that is difficult when you are in a class solely dominated by Pakeha people. Sometimes, depending on the group, they think that your ideas are not valuable enough. For example, in a math class, they were rolling their eyes, or did little laughs. That is why we do not like contributing to class because we do not know what other people are like. But the social studies class this year was really good. The majority of people there were still Pakeha, but they were open to our ideas. They valued our opinions and thoughts so we could contribute to the group discussions. (6) Sometimes I attended tutorials, but other times no. Sometimes, even when I actually read the materials for the class, especially for her [a ‘highly praised’ lecturer in Education] class because I liked her, I still did not really quite get it. I don’t know why that was (...) I did not study much at all. But actually I did study, maybe 2 hours a day. But the thing about me is that I do not do 2 hours every day, just one or two days before the assignments were due (...) I never went to class on time, or I would not turn up if I did not like that class. This is the reason for why the papers with the better marks are the ones that I really liked or was very passionate about. My marks reflect my relationship with the lecturers and with the topic (...) My grades were B-s in the first year, but they were D-s and C-s later. In the second year, first semester, I only passed my practicum, but not my other papers. I failed the others because of the practicum. It takes a lot out of you, because there is so much planning to do. Sometimes I barely had any sleep. In the second semester I only passed one paper, and that was a C plus. Not good. (7) I honestly cannot tell you what I am going to do after uni. I do not want to teach straight after. I told everyone that I do not want to teach, because last year [stressed:] really put me off, because I really did not like how the visiting lecturer examined my teaching [during the teaching practicum]. It is very intimidating and nerve racking to teach in front of a class and a real teacher, and then even a visiting lecturer. It is really strange, how they come and watch us (...) So now I just wait for the final practicum at the beginning of last year. It will be 10 full weeks. If I love it, I will probably end up teaching. If I do not hate it, then I will be like fifty-fifty [laugh]. So it all depends on the practicum: if I have a positive experience, I would definitely become a teacher, because of that passion burning inside, that I will be a teacher.

As this study is not longitudinal, it is not known whether Kate managed to overcome the towering difficulties to degree completion so that she could become a teacher. The description of her case offers a wealth of material that can be approached from a variety of standpoints. One of the reasons why Kate’s educational experience has been particularly challenging can be understood by reference to her socialisation. It can be argued that although ethnic-based boundary-making behaviour is initially produced through social interaction throughout one’s socialisation, it can gradually ‘crystallize’ into a habitus (Bourdieu 1990a, 1990c) which begins to orient individual behaviour in specific, yet flexible ways later in life. Thus produced, the habitus then can be conceived as a ‘guiding device’ that operates by erecting fluid boundaries around the possible
courses of individual action while the actual outcome remains dependent on structural factors. Kate’s particularly strong reliance on positive social feedback to engage with others may be attributed to her (family) socialisation that may have emphasized the value of the building of strong ties, leading to the preference for ethnic-based social closure. However, this can be problematic when the aforementioned habitus continues driving the individual in an unfamiliar institutional setting that operates based on the largely impersonal, standardized assessment of individual performance. This is a foreign (and evidently) punitive logic for a student who places considerable importance on socio-cultural factors, such as social acceptance as a virtually ‘non-negotiable’ condition for compliance, engagement and effort-making. It complicates matters further that Kate considers her responsibility as a student (for example, preparing well for each class) as part of an imaginary ‘agreement’ between her and her ‘academic assessors’ whereby she is more willing to study the class material when that is taught by members of the teaching staff whom she accepted on a personal level. Arguably, the most worrisome aspect of such a mismatch between the operational rationales guiding the internalized individual habitus and the standardized institutional practice lies in the very real possibility of dropping out from the course at the final phase during the practicum. One can only hope that by now Kate could become a confident teacher.

6.6 Proactive social bridging through the conscious extension of personal networks

The complexity of the problems outlined in the previous section makes it unlikely that any one theory could address it in sufficient depth. It is hardly debated that general ethnic inequalities in contemporary, increasingly multicultural, New Zealand contributed significantly to the difficulties ethnic minorities face at the various levels in the school system, including higher education. It must be kept in mind, however, that undergraduate students cannot be assumed to be passive and powerless ‘products’ of larger social structures insofar as they possess means — however modest these may be — to overcome barriers, including those posed by patterns of ethnic-based social exclusion. The validity of this argument is illustrated by the example of Adam. His account highlights that one needs to be proactive to connect with peers in order to successfully break into ‘nearly-impenetrable’ friend circles, of which many are perhaps not as rigidly ethnic-based as it would first appear.

I have been in New Zealand for 13 years. Originally we planned to go back home after a few years, but my family decided to stay. Actually, my mom [in his account, ‘just a housewife here, but used to be a kindergarten teacher in Korea’] and I are here, my dad is working back in Korea (…) I went to a small, private school [decile 10, in Auckland] for about 6 years. It was very open and welcoming to new students. But even though it was private, the education level was not that high, and the teachers were not that experienced. For the final year [at the age of 17] I went to [secondary school in central
Auckland, decile 10]. This was more of an education-focused school. They do not even have a field (...) There was not really a welcoming environment there. I was the only new 7th form student that year. My first week was really hard, like people would not sit next to me. It was not a ‘racial-thing’, as they had their Asian friends; it was more of a ‘stranger-thing’. I had to find ways to get friends, so I listened to their conversations, tried to find out what they like, looked those things up on the internet, find out what the jokes are about, and actually get to know their culture. Then the next day I would start talking about those things. When they played computer games, I went along with them, when they went for lunch, I tagged along with them. In the end I got a lot of friends there, still keeping in touch with them (...) [As a university student] When we didn’t know something about an assignment, we went to the smartest students, and if they didn’t know we went to the tutors or the professors. Most of them [tutors] were very approachable and quite open, especially the first year ones. They were quite welcoming (...) I went to see lecturers in office hours quite a few times. Having a one-to-one talk with a lecturer is very special, very helpful. I am talking to professors these days. I have already talked to one, prof [name], but I am going to talk to 5 or 6 more. I asked questions like, what would I need to do as a professor, about the pay, where I should do my postgrad, the international reputation of UoA, the future of engineering, things like that. He is a very open teacher, and he gave me a lot of very good advice, and he told me a lot of things that I did not know. He was very approachable. It was very great (Adam, 21yr, male, Korean-New Zealander, 3rd year [class rep.], Civil Engineering).

At the risk of ‘over-interpreting’ the significance of a single case just introduced, it can be argued that the experience of repeated and successful engagement with dissimilar others can generate a certain level of emotional energy over time (Goffman 1967; Collins 2004) for the initiating individual. When reinforced with sufficiently frequent and positive feedback, this energy may act as an invaluable catalyst to strengthen personal goal commitment in future situations. Although plans and actions are habitus-driven, their actual outcomes are largely incalculable and therefore always uncertain. However, those who could accumulate considerable positive feedback from previous social encounters were unlikely to be overly hesitant in their attempts to connect with others, even after the full consideration of possible risks (for example, embarrassment, stigma). This is because for such ‘successful engagers’, it is likely that the prospects of gain make initial reservations around ‘making the first step’ gradually erode, allowing them to face uncertain social situations considerably more confidently than those who have less of a ‘personal depository’ of emotional energy to draw upon.

Based on these perspectives, it can be argued that the newly proposed social background measure in the study (‘Propensity for Relational Diversity’ or PRD) and the concept of ‘emotional energy’ can be linked conceptually insofar as the latter may act as a fundamental generator of the former. In other words, it can be expected that those who develop a habit of proactive engagement with dissimilar others are able to do so with repeated success because the incrementally accumulating and emotionally satisfying experience that they derive from these situations increases their propensity for diverse social encounters in the future. At this stage, however, these arguments are largely plausible speculations rather than empirically verified claims. Further empirical social
research could explore whether or not or the extent to which insights from a single case described above can be applicable to broader social configurations.

6.7 Multidimensionality of university student socialisation

This research project conceptualizes higher education as a unique life stage as well as an important agent of socialisation (Alwin et al. 1991; Chickering and Reisser 1993; Gurin 1999; Gurin et al. 2002; Stevens et al. 2008; Reason et al. 2010). There are multiple factors that make the university environment unique in comparison to other micro-level social networks such as a secondary school or the work place. Some of the unifying characteristics of the new learning environment are that students likely find themselves in classrooms that are larger in dimension and more diverse in student body than those they had ever experienced previously. While there may be various positive implications associated with this, student interviews revealed that the early stage of transition to the university could be challenging in some cases (see section 6.3). However, challenges in the transitioning process do not necessarily lead to integration-problems. It can be argued that the complex early phases of students’ institutional integration are inherent parts of the broader student socialisation process. During this period students may progressively acquire various ‘capitals’ that can help them navigate through the social networks of the institution. Individual and personality differences in students may facilitate different coping strategies in order to ease their integration (academic as well as social), but student interviews have generally showed that a successful transitioning is rarely possible without direct student effort in that regard (see the example of Adam in section 6.6).

Undoubtedly, student socialisation is a multifaceted phenomenon in which satisfaction and success in a particular aspect may not have far-reaching effects in other areas. For example, a successful academic integration (acquisition of effective study habits and attainment of good grades) does by no means guarantee that the student experience is also socially satisfying and vice-versa. Furthermore, some of the dimensions of student socialisation are more closely related to the institutional characteristics of the university than others. A distinction among these dimensions therefore seems warranted for analytical purposes. Internal dimensions of student socialisation may be the ones that can directly affect the socialisation outcomes while in the case of the external ones this impact may materialize less directly, if at all. For example, the former group is mostly comprised of institutional properties including class size, mode of instruction, academic curriculum as well as academic field-specific learning characteristics such as availability of course-related research, or work experience to name a few. On the other hand, external aspects of student
socialisation are indirectly related to student status, such as the variety of available social club activities at the university, the degree and profile of local student advocacy, the living arrangements of students or the broader geographic, political and cultural environment and so forth.

6.7.1 Internal aspects of student socialisation

The University of Auckland is a large research university. Many classes are large in size, in particular those in the first year. It was found however, that class size and degree of student engagement could be inversely related. It is unlikely a coincidence that students who expressed their satisfaction with the social aspects of the university experience were more senior (at least in their 2nd year) and who belonged to faculties in which instruction took place in relatively smaller classes, such as in the Faculty of Engineering, in the Faculty of Law or in the Faculty or Medical and Health Sciences. The mode of instruction also directly affected students’ interactions with peers and instructors. Regardless of faculty background, students generally described tutorials and labs in a positive light. Arguably, these important additions to any course curriculum contributed to the accumulation of a multi-layered student experience above and beyond that of mere ‘instructed learning’ that students received in lectures. It was not uncommon that friendships, even romantic relationships were forged in tutorials and labs among students. While the idea of ‘compulsory’ tutorials was not always received well, the majority of criticism that concerned tutorials was aimed at the perceived limited usefulness of the taught content or the ineffective instructing style of particular tutors rather than the tutorials themselves.

6.7.1.1 Academic research and student engagement

It has been argued previously in the thesis that the comprehensive understanding of student engagement has had a central place in higher education research. Not only can it be materialized through formal and informal channels, educational scholars have also repeatedly highlighted that its elementary form starts with the formation of student-only groups, such as study groups, peer-tutoring and so forth without the direct involvement of instructors (Astin 1984, 1993; Tinto 1998). The prospects of students’ active engagement with the teaching staff also depend on the specific characteristics of the academic micro-environments within the university, such as faculties and departments (Becher and Trowler 2001; Marsh et al. 2002, 2011). Student engagement therefore does not hinge only on students’ efforts and willingness but also on the professional conventions that guide academic fields (mode and topic of investigations) as well as on the research activity of scholars. Arguably, there are research areas within contemporary academia that do not make
research participation a readily available option for students while other areas may be less affected by such deficiency (Ishiyama 2002; Hu et al. 2009). In addition, there are a variety of reasons behind what may first appear as a seemingly ‘lacking’ or ‘limited’ student engagement with the academic staff. One of these may be that if the course contents and the taught materials are perceived by students as having of minimal practical or of potential employment-related importance then an active student engagement is unlikely to evolve. The combination of the perception of limited employment outcomes of a particular degree and the realization that it can be completed with limited study efforts may drive some students to optimize their efforts toward spending more time in paid employment at the expense of striving for better academic achievement and a more intellectually stimulating engagement with the teaching staff. Although such development may seem unfortunate from an engagement point of view, it can also be understood as a result of students’ calculated choice to minimize distress caused by financial insecurity and the impending student loan debt.\footnote{Such student strategy can be illustrated with the case of an Arts student (Sara) who observed that her academic performance has not suffered significantly even after she doubled her working hours, from twenty to forty per week. The increased workload has inevitably limited her options to engage with the teaching staff, but not her desire for it, as evidenced by her history of interest in participating in various types of social research. In this context she made the following remark: “I have occasionally participated in research like this. For example I participated in relationship research when I was still with my ex and I have done another one as well, but cannot remember (…) It was not from my study area. I have never seen any research in my departments” (Sara, 23yr, female, Canadian/New Zealander, 3rd year, English and Film, Television, Media Studies).}

A few would argue that ideally, an active, research-intensive higher education institution is in symbiosis with its socio-economic environment whereby regional, national, or — to a lesser degree, global — job market needs are monitored by a responsive and flexible university network (Geiger 2004; Shapiro 2005). This is to ensure that adjustments can be made based on the broader trends of labour market needs in order to assist the continuous replacement of the labour force. In addition, the contribution of higher education to the ongoing development of a critical, democratic citizenry undoubtedly benefits the broader society (Thornton and Jaeger 2007). Consequently, the fundamental aspect of the relationship between university and community is of mutual dependency. The desire of higher education institutions to emphasize their ‘community-serving’ profile is evidenced by browsing through their official documents and online publications. The University of Auckland is not different in this regard. It is therefore not surprising that emphasizing the ‘community link’ is a popular reference point routinely exploited by senior university administrators at high profile celebratory and media events, for example graduations, and various...
‘research showcase’ events.\footnote{These include ‘Exposure’, a postgraduate research competition that is held annually to all postgraduate student at the University Auckland and other, faculty-specific research ‘expo-s’ such as ‘HealtheX’ in the Faculty of Medical and Health Sciences.} Although the prestige of highly ranked ‘research universities’ is closely linked to the three intertwined reward mechanisms within higher education (research, teaching and service) it is indeed research that ties these universities most strongly to the surrounding society in general and to job market needs in particular (Tight 2003). Without this vital link there is indeed little reason to believe that higher education does not sink into isolation from its host community. Community-relevance in research is important in that it has considerable potential for the development of critical skills which are essential in the academic socialisation of students as well as of professional scholars in higher education. As Parker and Jary (1995: 334) note:

[i]f university teachers want their students to be rather more active citizens (…) then surely they should lead by example. Our version of academic labour would be one that stresses independent thinking as the most important transferable skill. Other, more instrumental or vocational bodies of knowledge should and will also be taught because universities must be economically relevant and not merely hideouts for those who do not wish to engage with problems outside the quadrangle.

Publications — as the end products of academic research — comprise the primary asset of organisational units as well as individual scholars in the competitive university environment. While the increasing rate of submission of articles into a growing number of academic journals (Panitch and Michalak 2005; Hussey 2007; Goel and Faria 2007; Hunter and Bruning 2010) inevitably leads to more publications in various forms, assessing the potential theoretical and practical merits of the produced publications as well as the significance of the presented findings within them is not necessarily a straightforward task (Heck 2006). The rapidly accelerating pace of academic publishing as well as its multiple negative consequences has already been noted at least over 20 years ago by Thorngate. Writing in the context of academic publishing in the field of psychology, he pointed out that academics were “collectively publishing articles at the rate about 100 per day, about one every 15 minutes” (Thorngate 1990: 262). Based on a more recent estimate, the number of journal articles published globally since 1726 surpassed 50 million around 2009, in which year alone the global output exceeded 1.5 million (Jinha 2010). This translates into one published article in every twenty seconds. There are no compelling reasons to assume that the number of publications would currently be on the decline.

Perhaps the increasing pressure to publish can explain why certain scholars sometimes cannot resist the temptation of using ‘their’ students as quasi-laboratory subjects to serve private research interests. The following interview excerpt captures this practice in an account given by Susan (21yr, female, Chinese/Indian, 4th year, Psychology, Economics, Management, Marketing):
Interviewer: Have you ever participated in any kind of research at the university?
Susan: In psychology, sometimes they give us questionnaires, to fill out other people’s research, and some online research questionnaires.

Interviewer: Did you do that in class?
Susan: Yes, in tutorial time.

Interviewer: Did you enjoy doing these questionnaires?
Susan: Hmmm, they gave us sweets, so …[laugh].

Interviewer: Did they take a long a time to complete?
Susan: No, just like 10-15 minutes, maximum”.

This kind of research practice could fundamentally be exploitative of students, despite of the clever ‘bribes’ that are to effectively manufacture ‘research compliance’. The rampant ‘student sampling’ is problematic for research not only because it can be used in ways to bypasses ethical regulations, but also because students “may be different from the broader population in important ways and this can impact the results” (Curtis and Curtis 2011: 24). However, it would be misleading to single out any one particular field of study within the Social Sciences. A more general, yet viciously critical account of academia was given by sociologist Andreski (1972: 31) who claimed social scientists resembled fable-inventing “witch-doctors”. He was not hesitant to use phrases such as “the smoke screen of jargon”, “ivory towers or bureaucratic treadmills”, “uses of absurdity”, “the corrupted citadels of learning”, and so forth, all in association with the institution or with those occupying salaried, and in the cases of public institutions, tax-payer funded positions within. This latter point is emphasized more recently by Lambdin (2012: 84-85) who concluded that in current academia “much unscientific research is likely conducted by academics simply to ensure their own professional survival (…) It should by now not sound overly cynical to observe that the business of most social scientists is to stay in business”. The well-documented downfall of high profile social psychologist Stapel in 2011 illustrates that survival can be indeed difficult when it is increasingly dependent on the incessant publishing of ‘novel findings’ (Enserink 2012).

It is virtually unavoidable that fraudulent academic works manage to pass through the peer-review process and therefore it is hardly surprising that there has been a growing demand to establish mechanisms through which the ‘scientific value’ of published works can be (re-)assessed or at least monitored (Marcus and Oransky 2013). The management-enforced publication fetishism appears to generate an emerging ‘niche market’ for entrepreneur-academics who can specialize in replicability.

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120 Note that tutorials are generally fifty minutes long at The University of Auckland.
121 Some partly blame certain postmodern intellectual celebrities and their preference to ‘hide behind’ jargons for producing work that is largely inaccessible to the general public. At the same time these jargons endowed a line of critical academics with readily deployable universal ‘tools’ to engage in science-relativizing arguments of various kinds (Sokal and Bricmont 1999).
of scientific results, aided by significant support funds (The Center for Open Science 2013). For examples from the social sciences, see Yong (2013), while the dark side of medical research is scrutinized by Musschenga et al. (2010) and by Goldacre (2012). The proliferation of publications has already led not only to higher “attention costs”, as Thorngate (1990: 269) remarked, but to even larger problems which are the over-specialization of fields and the concerns around the degrading “quality of academic life”. These phenomena are likely to affect directly and negatively the chances of a fruitful and mutually rewarding engagement between students and scholars. From a student perspective, however, the practicality of courses may be measured more directly by the extent to which the completion of a course helps students acquire degree-relevant employable skills. It is expected that research activity of academics would positively influence their teaching which in turn could benefit a large community of students.

6.7.1.2 Teaching-research relationship and the learning experience

There is a symbiotic relationship between research and teaching at the university. Indeed, universities in New Zealand are defined in the Education Act (1989), section 162(4)(a) through a set of characteristics, one of which states that “their research and teaching are closely interdependent and most of their teaching is done by people who are active in advancing knowledge”. Section 253B(3)(a) in the same Act adds to this that a degree “is taught mainly by people engaged in research”. The concept of ‘research-informed-teaching’ is not merely a codified legal requirement, but it is also an active study area within higher education research (Griffiths 2004; Healey and Jenkins 2006). However, the appreciation of the research-teaching link can be asymmetric between students and their instructors. While being ‘research active’ is not only a job requirement but also a salient aspect of the multifaceted reward mechanisms in higher education institutions, its direct and positive impact on teaching outcomes is not always clear. Moreover, students have their own criteria to judge the teaching effectiveness of lecturers. These generally revolve around being passionate and helpful toward students, as illustrated by three examples. The first two are concerned with ‘good lecturing’ while the third account points to certain negative aspects of tutorials.

The good lecturers are able to relate to students. They explain the very difficult concepts and they give you the basic ideas; they give you enough to get you started. The lecturers who taught well had found the way to make the subject interesting (…) The lecturers who did not have a passion for teaching or for their research were like “read this textbook on this page, and I already explained this in lectures”. They did not want to help beyond that; basically it was like “the lecture is finished, my teaching is

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122 The co-director of the Center noted that academics are “reinforced for publishing, not for getting it right, in the current incentives (…) We’re working to rejigger those incentives” and he commented on the unexpected donation of $5.25 million USD from a private foundation as “[i]t feels like it’s raining money. It’s just ridiculous how much interest there is in these issues” (Nosek, cited in Bartlett 2013: 15).
finished”. Whereas other lecturers would be like “look, I have got another class now, but come to my office later” (…) I found that good lecturers had the background experience and they used different ways of teaching, ‘were there’ for students, and who were passionate about what they were researching (James, 26yr, male, NZ-European, 4th year, Civil and Environmental Engineering, [previously completed a Bachelor of Science degree]).

Teachers should be taught more on the way they should teach, and not just [be evaluated based on] their academic abilities. Like [name] who was very smart, got the PhD, but was very nervous because that was his first year of teaching. We got lots of complaints from students, and I went to talk to the Associate Dean [Undergraduate] about this. That lecturer got a little warning and I think he improved a bit (…) I think lecturers do need to know how to teach. For example, prof [name] uses amazing examples, like bringing in liquid nitrogen, freeze things and brake things apart, and show them, ask students to come out and do experiments. This really engages students and it gets them interested (Adam, 21yr, male, Korean-New Zealander, 3rd year [class rep.], Civil Engineering).

Tutorials are compulsory in Psychology (…) I understand that sometimes you had to attend them because what you had to learn was computer-based but for some other papers they were just a big waste of time. I can’t remember when, but on one of them I actually walked out because we had other stuff on, and there was just no point being there, you were not learning anything, like they showed a video that you can find on Youtube. I can do that at night when I am free (…) Most of the discussions in the tutorials were kind of trivial, you did not really need to have them. Like we had two groups, and debate ‘pros’ and ‘cons’ about something. But you could do that in your head when you are walking home, and do not have to sit there for an hour [laugh]. And the tutors were not very enthusiastic either. I think they were just doing that because they were paid to do it (Lucy, 22yr, female, NZ-European, 4th year, Psychology, Marketing and Management).

Although students generally acknowledge the merits of the concept of ‘research-informed-teaching’, an emerging theme within the interviews was that students were more impressed by the demonstrated strong teaching skills of academics rather than their even otherwise impressive research record. This finding is approximately in line with the scholarly work on the subject which argues that the relationship between teaching effectiveness and research productivity is not always complementary, as it can also be independent, or even conflicting (Braxton 1996; Marsh and Hattie 2002). However, regardless of perceptions and opinions on the relationship between teaching and research, both of these are crucial components in the professional evaluation of scholars. In fact, individual academics in the New Zealand higher education system are rated “across three dimensions: ‘Nominated Research Outputs’ (…) ‘Contribution to Research Environment’ and ‘Peer Esteem’. These dimensions were weighted 70%, 15% and 15% respectively in calculating a numeric grade out of 700. Individual academics were then rated A (600–700), B (400–599), C (200–399) or R (less than 200)” (Curtis 2008: 188). It can be expected that the bibliometric auditing-based managerial practice will put enormous pressure on academic staff to increase research output ‘at all costs’. One of the negative consequences of this can be that certain scholars become tempted to find the time needed for high quality research through ‘creative’ re-arrangements of their research and teaching activities. Predictively, this could negatively affect the learning experience of students. One example may be a clever ‘division of labour’ between co-
operating academics to divide the twelve week long semester into shorter periods in order to liberate themselves from burdening teaching duties so they could perhaps concentrate more on research. It is not known to what extent this is a widespread phenomenon among academic staff, but it certainly does not appear to be a practice warmly embraced by students, as evident in the following example.

Sometimes the lecturers went on holidays which was really strange: they taught one part of the course, and then you could not find them anymore, they were just gone. So if you had any problems, and you tried to ask the next lecturer, he would be like “what, I do not teach that part of the course, you have to ask such and such”. Over one paper there were usually about three lecturers; sometimes two, but usually three. I had at least three such papers in Computer Science (…) The lecturers came back just one week before the end of the semester; they just popped up then. Then you had all these questions to ask them, and they were only like, “well it is the exam, just try to do your best” (…) I kind of gave up asking them after a couple of emails. It just did not seem like that they were willing to help much (Monica, 20yr, female, Asian–New Zealander, 3rd year, Accounting and Computer Science).

6.7.2 External aspects of student socialisation

There are aspects of undergraduate socialisation that do not automatically occur during the student years and therefore they may be challenging to measure in standardized ways. The student-run social club network of the university offers a relevant example here. Any students could join a club, but not all do. Like most large universities, The University of Auckland, too, has an extensive social club network that is to enrich the overall student experience. Students have the option of joining the many available (around 120) social clubs that cover a variety of activities, or they can start a new club relatively easily. Club membership is voluntary; the existence of such a large club network does not necessarily affect students’ overall university experience in many ways.

It is similarly unclear to what extent the forums of student interest, in their institutionalized forms (AUSA, the student association and Craccum, the student magazine), have the capacity to influence the undergraduate experience. While the limited number of student interviews does not allow general conclusions to be drawn regarding the influence of student advocacy forums on student life, the students interviewed appeared to be unaffected by the work of AUSA and Craccum.

I usually read some of the articles, and recently, even the letters. There is some obscene photography stuff, but I just ignore that, because I guess that is just some of the culture here (…) I am not upset by those pictures, I am pretty tolerant to different views and stuff. I could always just write an article in the magazine if I disagreed with something. It is pretty free; free speech, I like that (Monica, 20yr, female, Asian–New Zealander, 3rd year, Accounting and Computer Science).

It’s a bit stupid, and too alternative. Some of the things are funny, but I am a bit over it now (Nicole, 22yr, female, NZ-European, 5th year, Law and History).

I do not like Craccum, it is a nonsense (Susan, 21yr, female, Chinese/Indian, 4th year, Psychology, Economics, Management, Marketing).
Living arrangements are also among the external aspects of undergraduate socialisation. The survey results indicate that the overwhelming majority of undergraduate students live with their parents (57.1%), while the second most common living arrangement is flatting (16.6%). The remaining categories account for only a little over a quarter of the survey participants.\(^{123}\) While some experience no changes in their living conditions as they enter the university, for others these times may be life-changing. In particular, the flatting experience has potential to alter and transform previous patterns of social interaction. This is because changes in behaviour patterns as well as in cultural preferences (for example, due to being exposed to diverse musical preferences, or to previously unfamiliar cuisines, and so forth) can impact upon the ways these students interact in the academic environment which can lead to the gradual attitudinal changes of students. Although the overall net positive effects of the interpersonal encounters in a flatting setting cannot be assumed automatically (for example, new stereotypes and dislikes may develop), the interview participants of this study tended to describe their flatting experience in a positive light. The example that James offers is worth presenting in full.

Coming to university was a kind of cultural shock for me. You would meet people who do not speak English as a first language. You saw an Asian person, and develop these things that they are very very smart and they could not speak English well. I found a bit difficult to understand, like I started as “what are you doing in my country” -type of thing [laughs], and then only later it turned into more of an understanding. It was purely because of my upbringing: there was not a diversity of students where I came from [Tauranga], there was not an understanding of different cultures, there were labels and generalizations. The school system did not teach you a lot about other cultures (…) The concept we had when we left high school was that all Asians were bad drivers, they did not speak the language, but they all spoke the same language, and they “all are the same”. The friends I made tended to be from ‘Kiwi culture’, or others from Western countries (…) [When] I needed to move out from the hostel, I had to find a flat. I moved in with a Japanese, a Filipino, and a ‘Kiwi’ guy (…) The Filipino guy and I just did not get along, but we got to a truce in about 2 or 3 months. But he liked cooking and he was into food. Sometimes he cooked dinner for me, but I was like “I do not want to eat your Asian food”, but then he would show me how to cook. I guess my introduction to culture was food. He would take me to Indian, Chinese, or other Asian restaurants. I learned different cultures through food (…) Most of his friends were Asian, so there was always this cultural mixture around in the flat. There was this constant thing of ‘being around’ different cultural ethnic groups, like having to live with them. It was a very difficult year for me, [to go through] this transition. Then it just became easy to make friends with anyone at the university. My group of friends grew from 90% ‘Kiwis’ with a couple Europeans (German and French) to almost the opposite, 90% Asians and non-New Zealanders (James, 26yr, male, NZ-European, 4th year, Civil and Environmental Engineering, [previously completed a Bachelor of Science degree]).

This example is not simply yet another confirmation of the positive effects of the ‘theory of intergroup contact’ (Allport 1954; Pettigrew 1998; Dovidio et al. 2003; Kenworthy et al. 2005), it also demonstrates the shifting nature of key socialising agents influencing students’ socio-cultural views throughout the life course. While family and secondary schooling are among the most

\(^{123}\) The corresponding question is Q#66 in the questionnaire which is included in Appendix A4.
powerful agents of socialisation of students prior to university, other factors (for example, the flatting experience) can become influential to a comparable degree.

It is a challenging task to disentangle the effects of different socialising factors since the diverse set of influences that shape individuals are partly due to changes in personal networks as well as to natural ageing. However, certain attitudinal preferences tend to stabilize at an early age. For example, it is discussed in the interdisciplinary academic literature on ethnocentrism (Sumner 1906; Adorno et al. 1950; LeVine and Campbell 1972) that this socially as well as politically important attitude tends to crystallize early in the life course, from which point it remains remarkably persistent throughout later life stages (Sears and Funk 1999). However, the direct comparison of family and secondary schooling, as two key agents of socialisation of young adults that affect attitude formation reveals that the latter seems to make a considerably stronger impact on ethnic distancing than the former (Hello et al. 2004). Indeed, one facet within the broader ‘liberalizing effect’ of education refers to its capacity to reduce ethnic intolerance and prejudices in society (Hyman and Wright 1979; Vogt 1997). It is in this context that James’ example can be appreciated. His account documents how the flatting experience can, under certain ‘optimal conditions’ (most notably, the ‘friendship potential’ of the contact situation [Kenworthy et al. 2005]), weaken the initially strong ethnocentric sentiments. The end result may not be simply a more ‘ethnically tolerant’ student who can manage living together with dissimilar others reluctantly, but rather a genuine attitudinal ‘transformation’ of the self that actively seeks opportunities to engage with those outside of one’s socially generated, initial ‘comfort zone’.

Arguably, the theoretically most captivating aspect of the aforementioned flatting example is that it captures the process of habitus transformation of a student, demonstrating that an individual can regain control over socially produced and gradually hardening attitudes. In this respect, the flatting experience of James can perhaps shed some light on how PRD (‘Propensity for Relational Diversity’) can be generated in specific interactional situations in which exposure to unfamiliar socio-cultural habits, and under favourable conditions (for example, by adapting productive coping strategies to manage interpersonal conflicts) can result in positive attitudinal changes. There are good reasons to believe that emerging social networks in a student hostel setting may have similar, positive over-spill effects with respect to cultivating not only a tolerant but a more open, diversity-embracing attitude. Over time, such attitude could perhaps influence broader patterns of social interactions outside the university context, too.
6.8 Educational credentialing, postgraduate study and career plans

The student interviews provided invaluable insights on the expansion of higher education in contemporary New Zealand, as well as on the intricate factors that influence students to choose between further studies or paid employment. The interviews illustrate that these two choices are by and large mutually exclusive for university students. The main drivers of postgraduate study plans appear to be the poor job climate, combined with students’ tendency to delay career-related decisions, while both of these factors seem to be influenced by the academic field of study. Students studying in the ‘General’ academic fields appear to consider postgraduate studies to be the direct result of the limited employment prospects that their degrees provide them with. In contrast, students in the ‘Professional’ fields tend to opt for work over further studies. However, even when the postgraduate study option is in fact seriously considered by students in the latter group, it does not appear to be as a career-delaying ‘escape route’ but rather as a conscious decision, well-integrated into long term career plans. Below are eight interview excerpts, four from each of the two main clusters of students based on the field of study: ‘General’ and ‘Professional’.

I am quite unsure about the future. I have hopes to travel to Europe for few years, or do postgrad in Germany, Belgium, or Ireland because I have relatives there. I want to go to South-America, too, but I kind of want to go ‘everywhere’. I might do a postgrad in teaching so then I will be able to teach Spanish and possibly English overseas. I have a lot of ideas, but not really any ‘plan’ as such. After uni, or after postgrad I would like to travel for a large period of time, maybe for 3 years (Linda, 20yr, female, NZ-European, 3rd year, Spanish and Political Studies).

I will do Honours in Psychology after Summer school. One of the reasons I am happy about getting into the Psych Honours is because I do not have to think about further plans for a while (…) Other reason to do Honours is that it will give me a step up in the marketplace as I might work in HR. No definite plans, just see what happens (…) My brother is also doing postgrad, MA in biomedical science. In my lab [in Psychology], we are doing experimental analysis of behaviour. It is interesting, but it is also really boring; kind of ‘fifty-fifty’. They are people in the lab who are really enthusiastic about it, but I cannot get myself that enthusiastic about it. It is about working with pigeons. We do experiments with them (…) I would rather study experimental analysis because it is more interesting than doing something in Commerce (…) I was going to travel in Brazil, but now that I will be doing Honours I won’t. Maybe next year, but who knows. I may end up doing Masters, I am not sure [laugh] (Lucy, 22yr, female, NZ-European, 4th year, Psychology, Marketing and Management).

Because I do not have a student loan, travel is definitely something I want to do maybe in the next 5 or 6 years. I was thinking about doing postgraduate study in Physiology, maybe. But I do not know. It is all very much up in the air. I would seriously consider doing the Masters; my friends are doing it which probably influenced my decision. I would probably choose to do the Masters, because that would mean that I could stay in New Zealand, as family is really important to me. I would definitely stay in New Zealand for the next 3 or 4 years. I could try getting a job, but the current climate ‘says no’ to that. Couple of my friends have recently graduated are going back to university because they cannot get a job (Sylvia, 22yr, female, NZ-European, 4th year, Physiology and Pharmacology).

I am definitely looking at doing postgrads, maybe honours. Possibly changing university, and go to Victoria in Wellington for a MA in creative writing, or maybe a postgrad diploma in journalism. I think I will probably end up studying again [laugh] (Sara, 23yr, female, Canadian/New Zealander, 3rd year, English and Film, Television, Media Studies).
I definitely want to work after I finish. If I cannot find a job, then I maybe do Masters but it is just a ‘back up plan’ (Barbara, 20yr, female, Chinese, 3rd year, Environmental Engineering).

I can honestly say I have not considered doing a postgrad. I think research is interesting and I don’t mind reading about results, but I would rather work with people. I understand that you can do research with people, too, like this, but I would rather be working clinically, like treating people rather than trying to find out about ‘things’ (…) I think research helps, but just for me, I would prefer to work (Kelly, 21yr, female, Chinese-New Zealander, 3rd year, Medicine).

Not that many students are thinking of doing postgrad. All that a lot of my friends want to do is graduating, getting a job and getting more work experience. Only the really keen students continue to postgraduate studies. When I was working at a company in Korea [as an intern], other engineers did say that getting the postgraduate knowledge will put you in a higher place in the company. You will get more knowledge, and it is beneficial to you in many ways, so I am looking forward to that. I will definitely do postgrad, but I will see later whether I go into academic work or start working for companies (Adam, 21yr, male, Korean-New Zealander, 3rd year [class rep.], Civil Engineering).

I plan on working for six months in New Zealand, and then off to China next year. Either as a working Engineer or teach English. The teaching is because I want to stay there long enough to learn the language. I study Chinese now, but that is not enough. And I think that is being a real switch from where I came from. China would have been the last country I would have picked to go, but because of the influence of the university and making more friends from different countries my views have changed. And now for me, Asia is where the cutting edge of engineering is. (…) I know the university does not relate perfectly to the world, but postgraduate study is a way of pushing the boundaries, and do something different. Also, being able to do it without having to answer to a lot of people, like in a corporate environment, so I would be able to see something through completion. In a lot of engineering you very rarely get to see something from start to finish. So an MA could give me something that I could start and complete. I guess it is about a sense of ownership, responsibility and challenge. So postgraduate study is something that I would definitely want to do, just not straight away; I want to get some experience. I would probably do an MA, but not a PhD (James, 26yr, male, NZ-European, 4th year, Civil and Environmental Engineering, [previously completed a Bachelor of Science degree]).

These excerpts provide a qualitative context for the findings previously reported in section 5.8.3 in Chapter Five. It was demonstrated there (see Table 5.32) that Arts and Science students are the most likely to enrol in a postgraduate degree which is comparatively a less popular option for those studying in the ‘Professional’ fields. Findings from the interviews allow us to see what roles travel, paid employment and postgraduate study aspirations play in students’ strategic decision making regarding post-university life plans. For example, as the account of Sylvia attests, labour market entry-difficulties for ‘General’ degree holders indeed cause students to return to the university for further education. For others, the intention to do postgraduate studies is intertwined with vague travel plans (Linda) or it appears as the ‘least worst’ option (Lucy). In contrast, the postgraduate study option is not considered at all for some students in the ‘Professional’ group (Barbara, Kelly) who would opt for work instead. Whereas others in the same group (Adam, James) are clearly motivated to enrol in advanced degrees in order to enhance their career prospects.
6.9 Work experience differentiation based on academic fields and its implications

The field of study differences also influence the type of jobs students do during the student years which in turn affects post-university career prospects. As evident from the following excerpts, students in the ‘General’ group tend to work in positions that are not related to their study areas. In contrast, those majoring in ‘Professional’ programmes seem to have the option of gaining career-relevant experience through internships prior to graduating. The former group is represented by seven examples, followed by four students from the latter. The talks with students over jobs also revealed that regardless of their background and the field of study, they value the social aspects of the work environment at least as much as the financial rewards.

I started working when I was 15 at New World [supermarket]. That sucked. I have been working in a woman’s clothing store on Saturdays for 5 years. During holidays I work more, 8 hours per day, 3 days a week. My job sucks, because of the money [$12.50 per hour, the minimum wage in 2009], the hours. What makes it bearable is the people I work with; they are all right. My manager is quite inappropriate though. I think she is quite racist towards Indians, and I have two close Indian friends. But they let me have time off when I need that for uni which is quite nice (Lucy, 22yr, female, NZ-European, 4th year, Psychology, Marketing and Management).

First I worked in retail, then I had an insurance job for 9 months which I got through family. Then I was unemployed for 6 months, and now I work for Auckland City Council. I started as a temp, and stayed, and now I have had a contract for over a year (…) I like the people, but not so much the job. It is a very mindless job. You do not have to think at all. I work for the parking services. I process all of the incoming customer complaints. I now work 40 hours a week (…) It is pretty difficult to study like this. My grades are probably a bit lower than they could be if I had more time for study. They are not bad grades though. I have always pretty much had a B/B+ average, if I am pretty lucky. I always aim for the As though [laugh]. Even working full time I have pretty much the same grades (Sara, 23yr, female, Canadian/New Zealander, 3rd year, English and Film, Television, Media Studies).

I work at the Sky City Convention Centre, waiting tables, but occasionally do shifts in the casino, too. It is a casual work, 8-16 hours a week. I got it through Seek.com (…) It was easy to get in. It has been pretty good, the people are really nice. I am not really that good of a waitress though, I am a bit forgetful [laugh] (Linda, 20yr, female, NZ-European, 3rd year, Spanish and Political Studies).

I have been working at [a small burger restaurant] for two years. At the beginning I was working 16 hours a week, then at exam times I went down to 6 hours a week on a Friday, and every now and then I would take up another shift. Overall, I really enjoy working with the people there (Mark, 19yr, male, NZ-European, 2nd year, Biomedical Science).

I have a weekend job during uni at [a petrol station], but now it is practically 7 days a week. But busy is good, I would get $700 a week. It is also good to meet new people, because I work at the café (Bill, 20yr, male, NZ-European, 2nd year, Environmental Science).

I have been working as an usher in the Maidment Theatre on campus for almost a year. I applied online through SEEK.com (…) I don’t know, but like 550 people applied for 7 jobs [laugh]. I went through two interviews. I am satisfied with the job. I work 12-15 hours a week, 3 evenings. The pay is $16.50 per hour, so it is a lot better than the minimum wage [laugh]. I like the flexibility, and I have a really good team of people so we get along well (Mike, 20yr, male, NZ-European, 2nd year, French and Accounting).

I do work in every holiday. Throughout the semester I do a lot of nanny work, too, because I find it fits really well with my timetable, and it pays quite well. For a few years I worked at the Body Shop as a sales assistant in the summer. I did some receptionist work at a law firm through a job agency. I liked
that job, because I was treated with respect. I have also done other, random little jobs, but I never had the same job for a few years (…) I do want to get a ‘law-sort of job’ though. International commercial law firms offer internships, but in 2008 there were 30, this year [2009] just 3, so I did not really expect getting one. I think now, I have to really get on with getting some more law-work experience, maybe through dad’s contacts. He is an environmental engineer, and maybe I want to get into environmental law. I sort of would like to get it myself, you know, through my own merit, but I realized that in this area, everybody is using their contacts, so I would be sort of stupid not to (Nicole, 22yr, female, NZ-European, 5th year, Law and History).

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I started working part time as a book shelve in the General Library at uni 2 hours a day, so 10 hours per week. This was my first paid, official job. I was so glad to get it. It was actually pretty random because I just emailed the library directly, and got lucky. I just felt that having a job would be great. It pays well; it is now $14.40 per hour before tax. The job is pretty causal, I could listen to music, so it is like a de-stressing thing, and I like that (…) Just two weeks ago I started a full time job [as an intern at a major international accounting firm]. It was quite hard to get the job. I have done interviews and tests earlier in the year. They [the recruiters] came to uni for the Accounting and Finance Careers day at the beginning of the year. So many people applied, but they screen you out in each stage, like the CV stage, then the psychometric stage, with lots of maths and reading related questions. There are only 20 interns in the Auckland office, but thousands of people applied. I am in the auditing line, working in a team, with two senior auditors (…) We interns got only about 4 hours of actual training before we were ‘thrown out into the deep’ to the clients, so it was quite challenging. But because they have already screened us out, they expected us to be really good at improvising, and fitting in, so it has been good, everyone has done well. It is a good experience to really see what an auditor does. (…) The money is really good [laugh]. We get the same pay as a graduate, so that is $40,000 a year before taxes, but we only work for 3 months in the summer. I can’t do summer school, but that is fine (…) Because it was so hard to get in, and once you are in, it is highly likely that you will get a graduate job offering. So I am just reassured that I will be able to get a job when I graduate, because you know the market is really tight right now. It is just so competitive to get into a [stressed:] good firm, especially the top four [in accounting], so I am just really relieved (Monica, 20yr, female, Asian-New Zealander, 3rd year, Accounting and Computer Science).

I used up my savings in the first year [of the Science degree]. Then I started doing McDonalds, 20-30 hours a week. It was not something that would motivate me, or something I would be passionate about. After that I realized that student loan was the only option. I was working in a café for 8 months after quitting Mcdonalds, and then I started working in a video shop (…) In the last three years, I have been working in engineering consultancy (…) I have had student allowance in my last two years. I started with $150 a week with my science degree, and now it is $230 with engineering. I basically could live off that and not work. The only reason I work is because I enjoy what I am doing, I like the people I have interactions with, and because it gives me the experience I will need later (…) After my first degree I came out with about $35,000 student loan debt which is not bad. I paid back $10-15,000 over 18 months. With the engineering degree, I will walk out with about $40,000 debt in total. Having student allowance basically saved me about $15,000, because when I work I can automatically pay back some of the student loan (James, 26yr, male, NZ-European, 4th year, Civil and Environmental Engineering, [previously completed a Bachelor of Science degree]).

I was teaching guitar to family friends during the holidays on Saturday mornings at home, but I have not worked during uni (…) I take out a student loan to cover tuition. I have always had student allowance, about $120 per week. It is definitely a good help (…) I want to stay in New Zealand. At one time I would want to study overseas just to check it out, but I want to come back. I feel like that I owe something to the country. I am the way I am because I was here. So I should be able to give something back (…) In 5th or 6th year we have to do rural areas as well as one international experience as part of the degree [1 year clinical practice must be spent outside the Auckland region]. It is interesting to see the choice of countries different students have made. Some Koreans went to Korea, some went to Fiji, so it is like half holiday, half-study. Some of the Christian students go to African countries, so they take a kind of missionary approach which is really inspiring when they write all
those reports and then we look at them, so it is very-very interesting (Nick, 20yr, male, Korean-New Zealander, 3rd year [class rep], Medicine).

I do a voluntary work for St John [ambulance services] in one of the hospitals, in the emergency department. I just talk to people, because some of them do not have family, so just keep them company, or bring the meals or a cup of coffee to patients. I do this in every second Saturday evening (...) But I do not work during uni. In my first and second year I used to work full time in the holidays at Starbucks, but not anymore. I quite liked it; the people were really cool so I liked the environment (...) I have the student loan for the fees. I will pay it back, just not now. I don’t like being in debt so I would like to pay it back as soon as possible. It is the taxpayers’ money, so I want to pay it back. I do not have student allowance, because I am the only child and I live with my parents (Kelly, 21yr, female, Chinese-New Zealander, 3rd year Medicine).

The most apparent difference between students in the ‘General’ and the ‘Professional’ fields is the type of jobs they do while studying toward their degrees. It is clear that the former ones appear to be ‘trapped’ in positions that have limited convertible ‘currency value’ outside their immediate environment. Although this is a clear disadvantage, it is also understandable, since these degrees may have few practical requirements in them which could enable students to link course material to practical application. In a vivid contrast, students studying toward ‘Professional’ degrees are granted opportunities to accumulate a complex set of experience that have high convertibility value insofar they endow students with indispensable skills that later can signal the individual’s ‘potential’ for employers throughout the process of post-university job seeking. As the last two accounts attest, medical students seem to be in a particularly advantageous position in comparison to other undergraduates insofar as their degree integrates several elements from the contemporary, generic student ‘life goals’ into the programme, including ‘overseas traveling’, ‘working in a socially enjoyable environment’, or ‘helping others’. Although students in the ‘General’ fields can be assumed to aspire to the aforementioned ‘achievements’ arguably just as much as their peers in ‘Professional’ degrees, they have very limited opportunities to do so prior to graduation.

The institutionally sponsored disintegration between academic skill-acquisition and degree-relevant (or practical) work experience is then arguably among the fundamental reasons that prevent a significant segment of the New Zealand tertiary education sector (in particular, those with ‘General’ curriculum profiles) from becoming effective facilitators of upward social mobility. The chances of status attainment are not expected to differ considerably between tertiary education institutions in the New Zealand context; rather, they depend on the particular subjects students major in. In other words, the roles higher education institutions play in influencing the broader dynamics of social stratification may be better understood through the systematic interrogation as well as the decomposition of intra-institutional differences rather than paying excessive attention to inter-institutional differences. Although the latter may affect the working conditions of staff to a considerable degree, the educational and employment outcomes of students are more likely to
remain a condition of degree choice (Grubb 1992; Thomas 2000a; van de Werfhorst 2002, 2004; Reimer et al. 2008; Wolniak et al. 2008), which is arguably among the most reliable predictors of the types of jobs students would gain access to by graduation.

6.10 Chapter summary

The interviews proved to be an indispensable part of the mixed-method investigation of the student experience. An undoubtedly positive feature of a semi-structured interview study is that it allows a flexible discussion of social processes in contrast to the correlation and covariance based linear statistical techniques in which the interpretation of ‘relationships’ are rarely trivial. Arguably, quantitative and the qualitative findings complement each other and overall they contribute to the better understanding of the many issues that this study has set out to explore, including those related to the interplay among the study and work experiences of students along with their post-university plans. In particular, the interviews could reveal the significant socialisation differences between students studying in the two main fields of study (‘General’ and ‘Professional’) as shown in sections 6.8 and 6.9. Moreover, the strengths of the quantitative and qualitative investigations have been found to compensate well for the weaknesses inherent in each method which ultimately allowed a reasonably thorough interrogation of a broad set of complex social phenomena, all pertinent to the contemporary undergraduate student experience in New Zealand. As indicated in the opening of the chapter, the results presented here were not meant to be the qualitative ‘variants’ of the previously presented quantitative findings. Instead, by exploiting the attractive features of the embedded mixed methods research design employed in this study (see section 4.3.1), a series of themes were interrogated through student interviews. These illuminate various aspects of undergraduate student socialisation that are not always easily accessible through conventional quantitative approaches. For example, the flatting experience of James (in section 6.7.2) provided invaluable insights for the understanding of how mechanisms behind ‘Propensity for Relational Diversity’ (PRD), a key construct in the thesis, could develop in a particular ‘social microcosm’, but only over an extended period of time, and not in a linear fashion. It is barely imaginable that this uniquely rich finding could have been captured through a few survey questions. In the next chapter the relevance of the findings are discussed, drawing heavily from both analytical phases of the research.
Chapter VII — Discussion

7.1 Chapter overview

The main focus of this study was to find empirical evidence for the main research hypothesis which stated that conventional socio-economic status (SES) background variables have relatively smaller impacts on the selected important aspects of the university student experience in comparison to socialisation diversity–related measures which were collectively referred to as ‘Propensity for Relational Diversity’ (PRD). The supporting theoretical arguments of this hypothesis have been outlined earlier in Chapter Three, while the empirical evidence in both quantitative and qualitative forms have been reported in the previous two chapters. In this chapter the relevance of the findings is discussed, drawing on the survey and the interview data results interchangeably. Throughout this demonstration, the interdisciplinary academic literature on higher education is consulted frequently in order to put the various findings into theoretical contexts. The wide-ranging topics discussed in this chapter are all related to intersecting social, political and economic phenomena that exert significant influence (directly or indirectly) on the socialisation of undergraduate students. The chapter concludes with a discussion of the various limitations of the research.

7.1.1 The main arguments

While the detailed arguments are outlined at various places in subsequent sections, the following key findings of the study are worth presenting here briefly.

First, the empirical results in the research demonstrated that some of the key educational aspects of the undergraduate experience were primarily linked to students’ socialisation characteristics rather than to their SES-related ones. It was argued that the undergraduate student years mark a sociologically unique life stage insofar as this period appears to be less affected by SES constraints in contrast to its adjacent life stages, namely, secondary education and full-time employment.

Second, a plausible model of the undergraduate student experience was proposed with ‘Satisfaction with Facilitating Employability’ being the main dependent construct which was predicted by other fundamental aspects of tertiary education. This ‘Base model’ was gradually extended to accommodate different model specifications which concerned the ‘sociological sources’ of the student experience on the one hand and its effects on several measures of plausible educational ‘outcomes’ on the other.
The third area of focus concerned differences between academic fields with respect to their employment potential. It was found that, for a number of reasons, certain educational qualifications offered at The University of Auckland endow students with more employment-related skills while there appears to be little curricular focus on similar practical outcomes in some other degrees. It was argued that the field of study differences could be captured by examining the degree to which academic teaching contributed to the facilitation of employability.

Furthermore, it is argued that the gap between skills learnt within academia and those sought by employers would possibly be narrower than it currently is if the curricula of courses in respective academic fields are imbued with a portfolio of mixed skills (academic and practical) that are needed in the contemporary labour market. Students equipped with such a complex set of skills are arguably the core parts of the educated and politically active citizenry which is essential to any progressive democracy. However, the failure to change the status quo allows the continuation of the institutional exploitation of university students. Among the key facilitators of this exploitation is the nearly unchallenged, indeed doxic, societal belief in the net benefits of higher education which is reflected in the more or less continuously rising student enrolment numbers. The trend of educational credentialing is simultaneously driven by professionalized university marketing and the prevalent ‘status-seeking’ (in the Weberian sense, see Chapter Two) rationale of the public, which assumes a mechanical relationship between educational credentials and ‘decent living’. An additional facilitator of the educational expansion is the progressive and generous financial support scheme in New Zealand (with the interest-free student loan and the student allowance in its centre).

The student-supporting policy tool is designed to minimize the impacts of financial barriers on tertiary participation, which is an undoubtedly commendable collective goal. A negative consequence of the support scheme, however, is that when it is coupled with low merit-based entrance thresholds, it can generate an incentive for educational institutions to pull even the academically least prepared segments of the population into higher education. Once admitted, this infinitely diverse social group will need constant ‘managing’ within the institution in order to retain governmental financial support, thus further advancing inflationary tendencies of grades.\[124\] These trends will eventually lead to the devaluation of higher education credentials in the labour market.

At first glance, the rapidly increasing participation in higher education in New Zealand could be celebrated in certain ways. However, this expansion may also produce a glut of graduates, further inflating educational credentials in a small labour market where the earning premium of a tertiary

\[124\] Grade inflation is a result of the mutually lowered expectations between instructors and students whereby a “nonaggression pact occurs with each side agreeing not to impinge on the other. The glue that keeps the pact intact is grade inflation” (Sperber 2005: 138).
degree has already been the lowest among the developed world (those countries in the OECD). Predictively, these developments are expected to put tremendous financial burdens on future generations of New Zealand university students.

### 7.2 Higher education ‘Base model’

In this thesis a hypothetical conceptual model of the undergraduate student experience was proposed. This was labelled the ‘Base model’. The relevant conceptual framework and research hypotheses of this model were introduced in Chapter Three (section 3.3.3.1), followed by rationales given for methodological considerations and preferences in Chapter Four while the empirical support for the hypothetical model was presented in Chapters Five and Six. This section draws on some of these previous parts of the thesis but it also expands upon them in important ways.

A significant aspect of the ‘Base model’ is that it proposes a plausible causal order among the four distinct dimensions (these were labelled as: SQT, SFID, ETS and SFE) of the undergraduate student experience. Previous university surveys routinely explored the complexity of the student experience in remarkable breadth through the use of extensive questionnaires but they generally stopped short of proposing any plausible ‘causal’ order between the emerging dimensions (see section 3.5.1 in Chapter Three). There may be conceptual as well as methodological considerations behind this reluctance on the part of higher education scholars or university management teams who usually devised these surveys. For example, it could be argued on conceptual grounds that the relationship between factors within the student experience is ‘infinitely complex’ to a degree that prevents the systematic disentanglement of the identified dimensions. The logical endpoint of this argument would be that the aforementioned dimensions can only be correlated with each other which can graphically be represented with six bidirectional arrows between the four latent constructs.

A different and perhaps a more methodology-based concern may revolve around the discomfort of attributing causal meanings to correlational findings in a non-experimental study, following the mantra whereby ‘correlation does not imply causation’. Arguably, warnings of this kind have served the social scientific community well by prompting researchers to adopt a cautious attitude in

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125 Prominent SEM methodologists repeatedly counter this claim, including the biologist Bill Shipley: “[i]n fact, with few exceptions, correlation does imply causation” (2000:6), or the quantitative psychologist, prominent SEM researcher and software developer Peter Bentler: “[i]t may be that correlation does not determine causation, but causation does determine correlation” (quoted in Mulaik 2012: n.pag.). More recently, the mantra has been thoroughly scrutinized by Bollen and Pearl (2013) who emphasise that “researchers do not derive causal relations from an SEM. Rather, the SEM represents and relies upon the causal assumptions of the researcher. These assumptions derive from the research design, prior studies, scientific knowledge, logical arguments, temporal priorities, and other evidence that the researcher can marshal in support of them (…) Fitting the data does not ‘prove’ the causal assumptions, but it makes them tentatively more plausible. Any such positive results need to be replicated and to withstand the criticisms of researchers who suggest other models for the same data” (ibid. 309).
their interpretations of correlational findings, especially from cross-sectional studies. One possible drawback may, however, be that a self-censoring attitude taken to the extreme would limit the prospects of progress of social scientific fields. That is because categorically excluding potential ‘causal’ explanations from interpretations of correlated social phenomena likely results in a scientific stalemate in which research conclusions rarely go beyond acknowledging the complexity of the research subject. The present research attempts to achieve more than declaring the seemingly ‘non-disentangleable complexity’ of components of the undergraduate student experience. The hypothesized ‘Base model’ is therefore a cautious step toward the better understanding of that experience by offering a falsifiable (testable) model, but by no means does it claim to be a ‘final’ or ‘sufficiently complete’ model of it.

The selection of the four dimensions of the undergraduate student experience was based on conceptual grounds. The specification of the ‘Base model’ drew on several prominent theories from the higher education research field that are more sociological in nature as opposed to psychological, educational, developmental, person-environment interactional and so forth. These include the ‘general causal model of student change’ proposed by Pascarella (1985), the ‘conceptual model of undergraduate socialisation’ outlined by Weidman (1989) and the model of ‘student engagement’ articulated by Astin (1993). Although each of these intuitive models has contributed enormously toward a more complete and sociological understanding of undergraduate student experience dynamics, the extent and the complexity of model components make a comprehensive and methodologically sophisticated assessment practically impossible. Undoubtedly, models like these have inspired and influenced theoretical developments within the broader field of higher education research, yet there is virtually not a single study that could manage to test any of these models without sacrificing conceptual thoroughness or methodological rigour.

Throughout the development of the research it has been of paramount importance to keep the number of model components to a reasonable minimum. Failure to do so would have rendered chances of proposing an operationally manageable and conceptually stimulating quantitative model of the undergraduate student experience unrealistic. At the same time, it needed to be ensured that important factors identified by prominent researchers (mentioned above) were not excluded in the process. For these reasons the ‘Base model’ is perhaps best located at the meso-level research space, bordered by macro-sociological models that are notoriously difficult (or impossible) to

126 There are arguably many perspectives that would make a study on the undergraduate student experience ‘sociological’. Notwithstanding the merits of alternative approaches employed in sociological studies (for example those focusing on power, or the structural interconnectedness of actors that generate collective action, and so forth), this investigation is sociological inasmuch as it seeks to understand the undergraduate student experience through uncovering the extent to which it is affected by salient social forces (most notably: those characteristics related to socio-economic background and socialisation).
operationalize\textsuperscript{127} and by the often narrowly-focused micro-sociological studies in which findings can rarely be generalizable beyond the specific sample. It is therefore evident that a guiding principle behind the research efforts in this thesis was based on the ‘middle-range theory’ approach (Merton 1968) which has generally been adapted in the sociology of higher education (Bills 2003).

Theoretical considerations play a crucial role throughout the entire modeling process, including what constructs can be reasonably considered as exogenous (‘independent’) and which ones can be more appropriately proposed as endogenous (‘dependent’). As explained earlier in Chapter Three, SQT and SFID were specified as predictors of ETS and SFE with the latter proposed as the main dependent measure which is also influenced by ETS. This specification recognises SQT and SFID as non-ignorable and thus fundamental ‘building blocks’ of the academic experiences of students, without which a sufficiently comprehensive account of the undergraduate experience would arguably be overly limited. In other words, it is an inherent part of the university experience that students assess both the ‘quality of teaching’ and the socialisation-interactional aspects of it inasmuch as academic learning takes place in diverse social settings. Based on these considerations SQT and SFID were specified as exogenous constructs in the model that were hypothesized to have impacts on the other, causally downstream dependent ones. Although ‘student engagement’ has been recognised in the academic literature as a crucial component in the undergraduate experience early on, in the ‘Base model’ it was not specified as an independent predictor of the ‘outcome’ construct. Rather, it was hypothesized that ETS is itself influenced by SQT and SFID. This specification considers the dependence of ETS on SQT and on SFID in that students’ engagement with their instructors is only an optional part of the student experience (since it may or may not develop) in contrast to SQT and SFID which are virtually inseparable from it. Neither was ETS hypothesized as a main dependent construct in the study since there was no compelling reason to consider it as ‘the main outcome’ of the student experience. That is, ‘engagement with teaching staff’ is unlikely the main reason students would take on significant burdens (financial and time investments) to learn in an academic setting. At the same time, it is reasonable to assume that ETS is influenced by SQT and SFID since aspects of ETS are partially rooted in them.

The last construct in the ‘Base model’ is SFE and it is specified as the main dependent latent variable. This specification is based on the transitional nature of undergraduate education from a life-course perspective (Shanahan 2000; Person et al. 2005; Arnett 2007; Mayer 2009). SFE is conceptualized as an important ‘outcome measure’ of tertiary education inasmuch as ‘facilitating employability’ is arguably amongst the key reasons why students opt for higher degrees. A recent

\textsuperscript{127} Such difficulties have been contemplated on in a personal account given by Dore (1997: 202-205), himself a prominent educational scholar.
report on the engagement of undergraduate students in the New Zealand context made this point explicit whereby “the main purpose of a university qualification is to prepare students for their future career and for the workplace. One would then expect that by their later years of study, as students prepare to graduate from university, they would be prepared to look for jobs and to have set goals for their future career” (Poskitt et al. 2011: 73). Accordingly, the report mentions “career readiness”, which is referred to as “preparation for participation in the professional workforce” as one of the main “outcome measures” of higher education (Radloff and Coates 2011: VII). As facilitating the education-to-work transition is among the fundamental legitimating functions of tertiary education, it is not surprising that such a promise has an enormous public relations potential which is carefully exploited by well-designed marketing techniques employed by university management. For example, the development of “practical”, “professional”, “research” and “transferable” skills (and their synonyms) are frequently promoted as educational outcomes in high profile university documents. Understandably, the creating as well as the maintaining of an institutional image that promises ‘practical knowledge’ to students is a crucial managerial tool to ensure the uninterrupted flow of students to the institution. The institutional-bureaucratic rationale that aims for the maximisation of student intake has been well known and discussed in the sociology of higher education, including the works of credentialing theorists (Miller 1968; Berg 1970; Dore 1976, 1997; Collins 1979, 2000a, 2002; Brown 1995, 2001). These factors necessitate the empirical assessment of a limited higher education model that aims to explore sources of students’ satisfaction with employability-facilitating aspects of their learning experience.

The conceptual arguments behind the proposed ‘Base model’ are, however, only speculations that may resonate with some or can be dismissed by others. The plausibility of the ‘Base model’ therefore needed systematic empirical assessment in order to remain compelling. Structural equation modeling provided the rigorous mathematical machinery to make this assessment. The statistical fit of the ‘Base model’ can be deemed as reasonable ($\chi^2_{[WLSMV]}[71]=256.035 \ p<0.001; \ RMSEA=0.037; \ CFI=0.980; \ TLI=0.975$), although ‘perfect fit’ (for example, a non-significant $\chi^2$)

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128 The report uses data of the Australasian Survey of Student Engagement (AUSSE), see section 3.5.1 in Chapter Three. It is worth nothing that the AUSSE study, like similar assessment projects described earlier, was designed for descriptive, ‘benchmarking’ purposes that reflect managerial logic, rather than hypothesis testing. No efforts have been made in it to explore potential ‘predictors’ of the ‘outcome measures’. Nonetheless, a methodological shortcoming in the presented findings of that report is that summated scores were created without prior assessment of the factorial structures of the items that were supposed to form a given construct such as ‘job readiness’. Also, as a summary report, it is not suitable to compare New Zealand universities against each other. Although this fact is portrayed in a positive light whereby the “confidentiality of university responses” (page VIII) needed to be ensured, one can suspect that such a motive is based rather on a latent managerial consensus that is arguably most concerned with the preservation of institutional reputation in order to maximize student enrolment in a competitive higher education market.

129 Some of these include: The University of Auckland 2010 Annual Report; The University of Auckland Undergraduate Prospectus 2013; The University of Auckland Strategic Plan 2005-2012, and so forth.
was not achieved. Nonetheless, it is encouraging to reach ‘conditional acceptance’ of the proposed model given the enormous heterogeneity within the target population and in the large sample.\textsuperscript{130} Another useful feature of the SEM methodology is that it provides tools for model diagnosis. The diagnostic procedure did not reveal either theoretically compelling or empirically substantial (for example, based on the modification indices)\textsuperscript{131} reasons for rejection of the final model thus allowing the interpretation of the structural regression coefficients among the four constructs.

The interpretation of the six structural coefficients between the four ‘Base model’ constructs provide evidence for the tenability of hypotheses H2-H7 as outlined earlier and visually depicted in Figure 3.3 in Chapter Three. The interconnectedness of SQT and SFID received empirical support whereby their relationship is strong and positive (H2). They both make significant, positive and comparable impacts on ETS, suggesting that both are successful predictors of ‘engagement with teaching staff’ (as per H3 and H4) while the difference in their respective contributions is practically negligible (β4-β3=0.06). Although the impacts of SQT and SFID accounts for about eight percent variance shared among the five observed variables comprising ETS, there is no unambiguous way to declare this ratio as either ‘low’ or ‘high’. Given the lack of comparable studies in the New Zealand or in the international higher education research context, and by considering the diverse sample, this finding may be accepted as a reasonable approximation of the effects of SQT and SFID on ETS in the contemporary undergraduate student population of The University of Auckland. To a lesser extent, these effects may be generalizable to other university students within New Zealand. Ultimately, it is only further research that can explore student engagement dynamics in more breadth and depth which would grant the scientific community a better understanding of this phenomenon. Model assessment also revealed that SFE (‘facilitating employability’) as the main ‘outcome’ construct in the ‘Base model’ is influenced by both SQT and SFID (as per H5 and H7) as well as by ETS (H6). Each of the three structural coefficients is positive and highly significant. Overall, SQT, SFID, and ETS account for over forty percent of the shared variance among the three observed variables comprising SFE. It appears that the strongest predictor of SFE is SFID (β=0.41), followed by SQT (β=0.26) and ETS (β=0.17).\textsuperscript{132} This result indicates that the socialisation diversity-related aspects may be important for the understanding of student ‘outcomes’ in general and of the sources of acquiring employability skills in particular.

\textsuperscript{130} The phrasing “conditional acceptance” acknowledges temporality and falsifiability as inherent traits of any social scientific model and theory. In other words, such models and theories can be accepted only until better-fitting comparable models are established (Lakatos 1970).

\textsuperscript{131} Modification indices for the ‘Base model’ are included in Appendix C.

\textsuperscript{132} Both SQT and SFID have significant, although small indirect effects on SFE. The former effect is β=0.024 while the latter one is β=0.035. The corresponding bias-corrected, 95 percent confidence intervals (0.009\textsubscript{LO}–0.039\textsubscript{HI}) and (0.018\textsubscript{LO}–0.052\textsubscript{HI}) do not contain zero which indicate that these indirect effects are indeed significantly different from zero.
Student opinion on employability-facilitating aspects appears to be affected by network dynamics considerably stronger than by either satisfaction with the quality of teaching or by the extent of engagement with the teaching staff. There are compelling reasons to expect a somewhat different order among the three predictors of SFE whereby its most influential predictors are engagement (ETS) and academic learning (SQT) in comparison to socialisation-interactional dimensions of the student experience (SFID). These arguments would be based in part on general expectations of students that academic learning grants them field-relevant employable skills. This image is also carefully maintained by the university’s own marketing mechanisms as described earlier. Indeed, it appears that by appealing to the institutional ethos of ‘practical learning’, the university management has been very conscious in their efforts to pre-empt the revival of dormant accusations that once depicted the academy as a disconnected ‘ivory tower’ institution. Yet, the empirical results reveal that the ‘satisfaction with the quality of teaching’ appears to make a smaller impact on the ‘satisfaction with facilitating employability’ aspect of the student experience than does ‘satisfaction with facilitating interactional diversity’. This finding may be interpreted as students’ successful and ‘creative’ capitalization of social-network resources. While being connected with others, students are able to receive emotional and cognitive support through both strong-ties (for example, students doing the same degree) and weak-ties (for example, students studying in different academic fields) within their social networks with respect to assessing the ‘employment potential’ of their degree(s). However, social embeddedness may have negative undercurrents, and its potential disadvantages are widely discussed in the social networking literature (Putnam 2000; Lin 2001; Burt 2005; Warren 2008). For example, positive assessments of degree-employability among students may have their roots in various rumours and ‘myths’ that circulate within student networks and which may be based on unverified claims. The unreflective reliance on these and similar student myths may have undesirable consequences insofar as they do not aid the development of critical analytical skills that students need in order to realistically assess the extent to which their academic learning provides them with a complex set of skills that can be utilized outside academia, as per the promise of education explicitly outlined in official documents mentioned previously.

It is difficult to find reasons to defend the generally not particularly strong effect of ‘satisfaction with the quality of teaching’ on ‘satisfaction with facilitating employability’ in the undergraduate experience. Arguably, the genuine — not merely public relations-driven — strengthening of the

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133 Some student interviews demonstrated the presence of these mechanisms. Examples include an environmental science student (Bill who was cited in Chapter Six) whose degree choice was based on a somewhat vague belief in a trend whereby “as global warming is becoming a hot topic these days, a lot of companies are employing people with environmental science degrees (…) Environmental is slowly becoming a ‘big thing’”. Similarly, law degree considerations may arguably be greatly influenced by the perceived (or real) prestige value of this credential.
relationship between these dimensions (SQT and SFE) remains one of the main challenges that plague “accrediting institutions”, a characterization of contemporary universities given by Smith and Webster (1997: 14). However, there may be significant forces within the credential-focused higher education that resist critical inquiries that would challenge entrenched positions of academics, regardless of the source of such criticism. It is therefore understandable that the common denominator in academics’ reaction to external pressures (structural, financial, political, and so forth) is framing these as aggressive acts aiming to endanger their ‘autonomy’ and ‘freedom’. However, we know from Collins (2002: 33) that

the expanding credential system made the professors much more autonomous from outside commercial concerns. Credential inflation has been good to scholars, because it gave scholars a material base and insulated them from other pressures; as long as the numbers of students seeking job credentials went up, and those numbers were able to pay for themselves, academic specialists could go their own way.

Arguably, in an academic environment that promises the acquisition of ‘practical’ and ‘transferable’ skills, it is expected that the degree to which students’ satisfaction with the facilitating employability aspects stems from their satisfaction with the quality of teaching reflects, to a certain extent, a professional, reflexive, and ‘employment market-conscious’ academic as well as managerial attitude, or the lack thereof. The empirical assessment of the link between SQT and SFE is therefore important, especially so when considering the enormous financial burdens undergraduate students have been experiencing as a result of their investment in pursuing educational credentials that are guarded by higher education institutions.  

7.3 The presence of SES in the undergraduate experience

The conventional SES variables have been serving key research areas within empirical sociology since at least the works of Blalock (1960), Duncan (1961), Kluegel et al. (1977) and their transplantation into neighbouring social sciences has been undoubtedly successful as well. However, it has been suggested by prominent contemporary empirical sociologists (for example, Bollen et al. 2001) that the selection of research-relevant SES variables need to be based on the actual research topic, rather than the universal (context-independent) application of the classic SES-variable trio, namely income, occupation and education.

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134 The student loan debt in New Zealand grew from an already staggering 10 billion NZD in 2008 to 12 billion by 2012 (New Zealand Union of Student Association 2012b). By 2013 it reached 13 billion NZD, and it is estimated to grow roughly by 1 billion NZD each year (Meadows 2013). The student loan-associated debt has been increasing in other countries, too. In the United States, student loan debt surpassed $1 trillion USD by May 2012 (Brown et al. 2012; Nazari 2012); it is currently over $15 billion AUD in Australia (Maslen 2011); it is estimated between $15-20 billion CAN in Canada (The Canadian Federation of Students 2012).
The methodological approach in this thesis reflects this consideration in two ways. First, considerable emphasis has been placed on the comprehensive evaluation of student SES background in both the quantitative and the qualitative phases of the study. This meant that a variety of questions have been asked on the survey questionnaire and in the semi-structured interviews, all to gain a better understanding of the socio-economic backgrounds of students. Second, a diverse range of social background-related questions were asked from research participants in order to ensure that ‘student SES’ was being measured, not something else. For example, asking exclusively family SES-related questions may deliver rich new data to the researcher, but arguably such variables can reveal more about the ‘parental SES’ rather than that of students. An even more problematic aspect of such practice is that it carries the deterministic assumption whereby student SES is a direct derivative of parental SES. In the context of higher education, this assumption is untenable. Indeed, the quantitative analysis revealed that the ‘frequency of financial problems’ variable was the most informative SES-related background measure insofar it had the strongest (and negative) effect on ETS, while the parental SES-constructs had virtually no practically significant effects on any of the four ‘Base model’ constructs (see sections 5.3.1 and 5.3.3 in Chapter Five).

It has been explained earlier in Chapter Three (section 3.3.3) that one useful way of evaluating the core of the undergraduate university student experience is to assess student satisfaction in three areas (‘Satisfaction with the Quality of Teaching’, SQT; ‘Satisfaction with Facilitating Interactional Diversity’, SFID; and ‘Satisfaction with Facilitating Employability’, SFE) along with the exploration of the degree of students’ ‘Engagement with the Teaching Staff’ (ETS). These four key dimensions were arranged in a plausible ‘causal’ model which was denoted as the higher education ‘Base model’. It has been demonstrated in Chapter Five (section 5.3.1) that SES-related variables make only modest impacts on the four higher education constructs in either an index form or as observed variables. The relevance of this finding was demonstrated by contrasting the effects of SES-related variables on the ‘Base model’ with the ones of the socialisation-related constructs. The latter ones comprise the umbrella measure which is labelled as ‘Propensity for Relational Diversity’ or PRD (see sections 3.2 in Chapter Three and 4.8.3.1.2 in Chapter Four). PRD was found as a plausible alternative to the more conventional SES measures in exploring the ‘sociological origins’ of the higher education student experience.

The extension of the ‘Base model’ with the simultaneous inclusion of SES as well as PRD constructs allowed the assessment of their relative impacts (or the lack thereof) on the student experience. This comparative analysis revealed that the student experience was more closely related to socialisation-related constructs while it appeared to be less affected by SES indicators (see
This finding provides empirical support for the claim (as formalized in H1a-d and outlined in section 3.3.1 in Chapter Three) that socialisation characteristics of students are likely better predictors of each of the four aspects of the undergraduate experience than are the socio-economic background ones. Only the student-centred ‘frequency of financial problems’ SES variable was found to have a significant effect on the ‘Base model’ constructs while the overall SES-index and the conventional and parent-centred SES measures did not make any impacts on the undergraduate experience. This finding fits to the suggestions of contemporary empirical sociologists who emphasise that researchers need to operationalize SES in context-specific ways (Bollen et al. 2001).

It is important to remember that the student experience has been conceptualized in this research as a transitional life stage that is not particularly affected by SES effects, in contrast to pre-university and post-university life stages (see Figure 3.2 in Chapter Three). It was the transitional nature of the undergraduate experience that called for a novel research strategy that proposed students’ socialisation characteristics (as operationalized through PRD) as background measures with ‘sociological potentials’. In other words, it is assumed that PRD is a social background construct that could offer a viable alternative to SES, yet it is still firmly grounded within the discipline of sociology. Rediscovering the relevance of the concept of socialisation to the present research context this way can therefore be seen as an attempt to draw on recent interdisciplinary advances of the concept (see Grusec and Hastings 2007).

Although SES-related variables, by and large do not seem to influence the ‘Base model’ constructs, this does not mean that the undergraduate experience is entirely ‘free’ from SES-effects. It has been demonstrated earlier (see section 5.6 in Chapter Five) that SES does make an impact on a number of aspects of the undergraduate student life. Perhaps most notably, there is a strong and positive relationship between SES and academic performance (measured as ‘grades’), although this effect appears to be primarily driven by the ‘frequency of financial problems’ variable (see Table 5.22). This finding is fairly trivial, it is still important in that it specifically locates which SES variable affects what aspect of the student experience. Moreover, the ‘frequency of financial problems’ was also found to have impacts on a number of aspects of the student experience, while the other five conventional SES variables and the overall SES-index did not affect those dimensions. More specifically, it was found that students having more frequent financial problems (1) spend less time on studying, (2) are more likely to work, (3) work more hours per week, (4) are more likely to work in non-major-relevant jobs and (5) are less satisfied with their work. Finally, the ‘frequency of financial problems’ measure was found to have a hindering effect on all of the ten failure and
underperformance-related variables that were assessed in this research, while most of the conventional SES-indicators made little if any impacts on the same items (see Table 5.23).

The study also revealed that Māori and Pacific Islander students were more likely to come from families with disadvantageous socio-economic backgrounds in comparison to Caucasian/European participants. This finding was evidenced by the negative and significant relationships between five of the six SES-related measures and the ‘ethnic background’. In particular, both the student-focused ‘frequency of financial problems’ and the family-oriented, conventional SES measures appeared to be related to ethnicity.

As demonstrated so far, a considerable advantage of using the population-specific ‘frequency of financial problems’ SES variable in this study was that it could capture significant effects which the conventional SES measure failed to do. It could be argued that the reason for this is that this ‘customized’ SES variable can capture effects that are related to transitional social phenomena, such as satisfaction dynamics in the student experience. In contrast, conventional SES-variables appear to be more suited to capture relationships with variables — like ethnicity — that have a robust, largely continuous impact on individuals. The relationship between socio-economic background and ethnic affiliation (as per being Māori or Pacific Islander in the New Zealand context) is however a complex one that can be understood as manifestations of an on-going reproduction of social disadvantage (Chapple 2000; Kukutai 2004). Even so, in the context of this research it is more appropriate to conceptualize ethnicity as a predictor of other measures of socio-economic status of students rather than vice-versa, considering the number of initiatives at The University of Auckland that aim to help students with Māori and Pacific Islander backgrounds (for example, the Tuākana mentoring service programme; the various scholarships offered to Māori students; and the targeted-admission schemes). Although ‘affirmative action’ programmes can potentially become subjects to political and legal controversies, there is a significant amount of empirical evidence supporting the generally positive effects of an ethnically diverse student body on various educational as well as broader attitudinal outcomes (see Pascarella and Terenzini 2005: 279-280, 290-291; 296-299, 309-317 and numerous works cited therein).

135 The targeted admissions schemes also aim to help students with disabilities, a group that is specifically mentioned in the relevant policy context (University of Auckland 2012d: 2). Moreover, it has been a specific objective of the institution to “develop and implement policies and processes which promote Māori presence, participation, and achievement in all aspects of University life” (University of Auckland 2012b: 6).

136 There are a number of supporting arguments for ‘affirmative action’, including those aiming to ensure the equality of opportunity as well as outcome. In addition, the diversifying student body is recognised as a facilitator of democratization of society in its own right, considering that “affirmative action policies may no longer be implemented to redress past discrimination or to counter current discrimination, the only remaining legal justification for affirmative action policies governing college admissions is to establish a multicultural or diverse student body” (Hallinan 2000: 80).
7.4 Academic learning and employment ‘outcomes’

The difference between academic fields is arguably among the key institutional factors that affect the student experience as well as its employment outcomes. The proposed classification of academic fields is described earlier in the thesis (see section 3.3.6 in Chapter Three). The new classification draws on earlier works yet it is modified to serve the present research purposes better, given that the main dependent construct in the proposed ‘Base model’ concerns students’ satisfaction with the employment facilitating aspects of their learning experience. Focusing on the transferability of academic knowledge into employable skills endows the present research a practical orientation which recognises the multidimensional investment of students as an exchange aiming not only to the alleged pursuit of ‘pure knowledge’ but rather to the acquisition of a set of complex skills which could ultimately help them attain status. By focusing on the ‘facilitating employability’ aspect of the university experience and by making it the main dependent construct in the study, this research positions itself against the naive belief that sees ‘l’art pour l’art’ learning as the main purpose of higher education. The ‘origin myth’ behind such a belief can be historically located more or less precisely in the New Zealand context.

The concept of ‘learning for the sake of learning’ in a structured academic setting has shown a remarkably robust capacity of survival, as evident by the nearly unchallenged status it enjoys both among students and the general public, regardless of the changing economic climate in recent decades since the introduction of a flat fee of $1250 tuition fees in New Zealand in 1990. It is unlikely that this is a coincidence. Rather, as a series of sociologists of higher education have pointed out, it is a result of the interplay of complex social, political and economic interests that assigns multiple, conflicting tasks to tertiary education (Brown 1995, 2001; Labaree 1997; Collins 2000a; Brown and Hesketh 2004; Brown et al. 2011), leading to what Shore (2010: 15) described as the rise of the “schizophrenic university paradigm”.

These complications have accumulated historically as different ideological functions became attached to higher education which therefore could simultaneously be seen as (1) a promoting device for upward social mobility, (2) a demand-driven supplier of skilled workers in the era of ‘technological advances’ and the ‘knowledge economy’ and (3) a socializing agent of broader democratic, civic and multicultural values. Although sociologists with different theoretical orientations, for example theories of ‘cultural capital’ (Bourdieu and Passeron 1977) and

137 This is clear in the following excerpt taken from the Governor, Sir William Jervois’s address at the opening ceremony of Auckland University College (the predecessor of The University of Auckland) in 1883: “I trust that the ambition of all who enter it will be the true philosophy, the pursuit of learning valued for its own sake, not merely as a means to some other end” (The University of Auckland 2009b: n.pag.).
‘credentialing’ (Berg 1970; Collins 1979), have been persistent in giving critical accounts of the first two ideological functions for decades, these still provide academic management with the bulk of legitimating arguments in the pursuit of the ever-growing student enrolment. The remaining legitimizing argument of tertiary education emphasizes its ‘public good’ nature whereby it is the site of transmitting invaluable critical, democratic and civic values to current students thus ultimately producing a better citizenry. The tenability of this argument, however, has been weakening in recent decades as the pedagogic concept of ‘citizenship education’ has been progressively implemented into teaching practices at the secondary and even primary educational levels. Despite these criticisms and recent developments, the prevalent managerial logic in contemporary higher education appears to consider the general population (domestic and international) as a virtually infinite supplier of prospective students. Since status attainment is increasingly tied to postsecondary qualifications, the expansion of higher education is beneficial to the academic management, including scholars and the professional staff (Collins 2002). On the other hand, massification is accompanied by increased administrative efforts to measure research and teaching performance. Consequently, these developments could be perceived by a considerable portion of academic staff as managerialist intrusions which could erode the professional work ethos (Becher and Trowler 2001; Curtis and Matthewman 2005). This is because academics working in an increasingly massified and commercialized higher education sector have less freedom, administrative support, and research time than their predecessors did in earlier eras.

While the ‘academic nobility’ benefits from the trend of an increasing proportion of the population being driven deeper into education, students would need to come to the sobering realization that the possibility of achieving upward social mobility largely depends on the degree to which their chosen academic field(s) can help them develop a set of genuinely transferable and practical (problem solving) skills. This is because subject areas differ significantly with respect to their economic returns which can be measured by economic analyses, concentrating on subject-specific median wages (Carnevale et al. 2011) and on the associated unemployment-risk of a particular degree (Carnevale et al. 2012). Questions around occupational outcomes of higher education degrees certainly deserve more attention in the New Zealand context than what they received in the past. This is because tertiary education in New Zealand has the lowest “earning premium” among all of

138 Although ‘citizenship education’ was not specifically made a compulsory ‘curriculum area’ even in the most recent curriculum in New Zealand (Ministry of Education 2007), local educational scholars have argued that it in fact has been an integral part of the broader pedagogic practice that ultimately permeates educational outcomes (Barr 1998; Mutch 2004, 2008). The notion of ‘citizenship education’ is especially accentuated in the social science part of the curriculum, albeit Mutch is certainly right in observing that “citizenship ideals are a focus in all areas – for example, in science” (Mutch 2011: 192). It is worth noting that ‘citizenship education’ has become part of the formal curriculum (like in the United Kingdom), or the ‘informal’ one (like in Australia and in the United States) since at least the 1990’s. For overviews, see Osler and Starkey 2006; Kennedy 2008; Scott and Cogan 2008.
the 32 countries evaluated in recent Organisation for Economic Co-operation and Development (OECD hereafter) reports (see OECD 2010: 126-127; OECD 2011: 138; OECD 2012: 140; OECD 2013a: 100). These documents also show that the rampant inflation of educational credentials in New Zealand is not a new phenomenon, rather, it has been going on for over a decade, as evident from the tables titled as “[t]rends in relative earnings” (see for example, OECD 2013a: 113-118). Although the very low ‘earning premium’ is briefly covered by the mainstream media upon the release of the annually published OECD reports (for example, Edmunds 2012; Backhouse 2013), it is unlikely that a constructive discussion could evolve around the question of credential inflation in New Zealand in the foreseeable future. Instead, the government and different interest groups select highlights from various reports that best fit their ideological profile and serve their group interests. For example, tertiary education minister Steve Joyce welcomed the report in a generic, self-congratulating manner which would be expected of any senior governmental official. The Tertiary Education Union (TEU), too, used the opportunity to selectively highlight findings from the report in an attempt to negotiate more funding for the ‘sector’ (and themselves in particular), while being careful to avoid parts of the document — including the sections discussing the shrinking ‘earning premium’ — that could jeopardize growth in tertiary enrolment in any way (TEU 2013a). As a response to the OECD reports, the Treasury released its own critical analysis on the ‘earning premium deficit’. Although this report identified several contributing factors to the phenomenon, it confirmed that “New Zealand’s low returns to tertiary education are primarily due to comparatively small increases in earnings from gaining a tertiary qualification (...) Other components are far less important in determining the overall difference in private returns relative to the OECD average” (Zuccollo et al. 2013: 30). Upon the release of the Treasury report, the TEU described it as “bizarre” and which “misses the point of tertiary education” (TEU 2013b: n.pag.). None of this is surprising. In an era of massified higher education, it is indeed difficult if not impossible to rigorously and dispassionately interrogate critical questions around its outcomes. One can only agree with Parker and Jary (1995: 334) who noted that “[i]f processing large numbers of products (graduates, publications, cars, hamburgers) is the over-riding goal then questioning the means is difficult and questioning the ends almost heretical”.

139 The OECD releases its Education at a Glance report annually. Currently, the first available report is from 1998.
140 An illustrative example of this reads as follows: “Tertiary Education, Skills and Employment Minister Steven Joyce and Education Minister Hekia Parata today welcomed the OECD’s latest education report, saying the findings show New Zealand continues to deliver a world-class education” (Joyce and Parata 2013: n.pag.).
7.5 Academic field differences and the student experience

The comparison of the academic experiences of students along two major subject areas (labelled as ‘General’ and ‘Professional’ fields of study) is an important objective in this research (see section 3.3.6 in Chapter Three). It was demonstrated (see section 5.4.1.1.1 in Chapter Five) that the ‘overall academic satisfaction’ (SatAc) of students was driven by different factors in the ‘General’ and the ‘Professional’ fields. The analyses revealed that although students in both groups were generally satisfied with their overall academic experiences at the university, the primary driver of this ‘overall satisfaction’ differed in the two groups. Students studying in the ‘General’ fields were more satisfied with the quality of the teaching than they were with the employability facilitating aspects of their degrees. In contrast, the ‘overall academic satisfaction’ of students studying in the ‘Professional’ programmes originated first and foremost in their positive assessment of the employment facilitating aspect of their learning experience, while satisfaction with the quality of teaching appeared to have a smaller contribution in that respect.

These findings may be used to locate curriculum areas in the ‘General’ and the ‘Professional’ programmes that could perhaps benefit from improvements in order to increase overall academic satisfaction of undergraduate students. Since satisfaction with the quality of teaching is generally already high in the ‘General’ degrees, programmes in these fields could primarily focus on maintaining their good teaching record which should be accompanied by increased efforts to implement more practical components throughout the subsequent stages of these undergraduate degrees. On the other hand, academic programmes in the ‘Professional’ fields may have a different route to improve overall academic satisfaction of their students. Since these programmes teach applied knowledge and they tend to provide students with practicum and internship opportunities by design, there is little prospect of achieving improvement over the already good record that they have in that respect. The main curriculum areas that could be improved in the ‘Professional’ degrees are therefore the ones associated with the quality of teaching. The need for improvement of this kind was further supported by the interview data (see the critical remarks of Adam, described in section 6.7.1.1.2 in Chapter Six).

7.5.1 Degree migration between academic fields

If the teaching is generally less practical in the non-professional academic fields, then it is plausible that students majoring in them may have difficulties finding major-relevant paid employment after graduating. Students may respond to that by adjusting their study areas to follow broader job-
demand trends, regardless of whether such demands are real or perceived. However, a degree that is popular in the present will likely produce a graduate ‘glut’ in the future which can lead to dire socio-economic consequences for the students involved, especially those most heavily indebted (Martin and Lehren 2012; Rampell 2013). The student interviews showed that inter-degree student migration fluctuated from the ‘General’ fields to the ‘Professional’ ones, while the reverse virtually never occurred. Examples include the following cases of degree migration: from science to engineering, from arts to commerce, and from arts to law. Each of these students has described their experiences with their first (‘General’) academic degree very positively which indicates that they had been satisfied with the quality of teaching in those programmes. Taking on a second degree in one of the ‘Professional’ fields is therefore likely motivated by students’ desire to obtain educational credentials as well as practical skills that are in comparatively higher demand (or perceived as such) in the job market than those available through learning in the ‘General’ fields. Although this may lead to the desired outcomes for some, such students are also more likely to accumulate a substantial student loan debt by the end of their extended studies. Students from the Faculty of Arts may be exposed to relatively higher risks than are students from the general science fields. In part, this is because the proportion of students who pay for their studies (primarily) with the student loan is somewhat larger in the Humanities and Social Sciences than in other groups. If these students pay for the first degree — in which employable skills have not been transferred effectively, if at all — with the student loan, it is likely that they would also need to pay for the second one in the same way which could leave them with a substantial debt by graduation.

7.5.2 Control mechanism differences between academic fields

The vulnerability of arts students can also be demonstrated by contrasting the admission requirements between study programmes. These requirements are listed in the annually published Undergraduate Prospectus in which the entire admission procedure of The University of Auckland is explained in detail (The University of Auckland 2013a: 56-65; 70-71). This reveals the unique position of a Bachelor of Arts (BA) among all the degrees that can be obtained at The University of Auckland. With respect to student enrolment, it is by far the largest programme among the seven

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141 A law degree has been generally held in high regard by students which led to continuously raising enrolment numbers in this study programmes in the United States. More recently, however, the overproduction of law graduates brought the enrolment levels down which could be interpreted as “the bursting of the law bubble” (Harper 2013: B6).

142 According to the survey data, 71.1% of students in the Faculty of Arts pay for their studies with a student loan, which is the highest proportion across the eight faculties at The University of Auckland, with 68.5% being the ‘grand average’. In contrast, the Business School has the lowest proportion of students (64.2%) drawing on the student loan scheme. It is worth noting that the average percentage of eligible students paying for their studies with student loan was 71% in 2009 in New Zealand (Ministry of Education 2010: 4).
‘bachelor programmes’ with the lowest admission requirements.\textsuperscript{143} It is however the only programme within this group with virtually no ‘gatekeeper’ mechanisms implemented in the admission process to assess the person-to-degree fit of prospective students.\textsuperscript{144} Although flexibility may be among the advantages of a ‘General’ degree, students studying in these fields may have difficulties structuring their degrees effectively.

In contrast to many ‘General’ educational fields, the ‘Professional’ programmes tend to have various ‘gatekeeping’ mechanisms to filter students’ suitability to their chosen degree as well as to their prospective career. For example, being admitted to the ‘Bachelor of Medicine and Bachelor of Surgery’ programme in the School of Medicine requires not only the achievement of excellent grades on eight prerequisite courses in the two previous semesters and performing well on a three hour long specialized aptitude test, but also the passing of an interview during which experienced academics assess the suitability of students to the medical profession. The interview is the final component in the sequential procedure of assessing the person-to-profession fit. However, it is also the most important one as students who passed the previous steps can still be denied admission to medical school based on their interview performance. Interviews with medical students have confirmed that the admission interview has a crucial role in the overall assessment procedure. Other ‘professional’ fields may be less selective at entry (for example, an interview is not required); instead, they tie degree completion to internships and practicums. For example, engineering students are required to gain 800 hours of practical work experience, while nursing students need to gain at least 1100 hours of clinical practice prior to graduation. Students in the Bachelor of Education programmes also need to complete several weeks of teaching practice in order to secure their credential. Majoring in the ‘Professional’ fields is therefore beneficial for students not only because more practical skills are transferred via academic teaching but also because of the invaluable opportunities internships and practicums provide them where these skills can be utilized in ‘real world’-like settings thus facilitating an effective education-to-employment transition (Teichler 2000; Harvey 2003; Cranmer 2006; Victoria University of Wellington 2006; Briggs and Daly 2012; High Fliers Research 2012).

\textsuperscript{143} The other six programmes are: Bachelor of Education, Bachelor of Human Services, Bachelor of Music, Bachelor of Physical Education, Bachelor of Social Work and Bachelor of Theology.

\textsuperscript{144} With the exception of the Bachelor of Theology, which was integrated into the Faculty of Arts in 2010, all the other Bachelor programmes mentioned above have a variety of such mechanisms implemented in the admission procedure, including interviewing, auditioning, or requiring a particular background statement and prospective study-related previous experience. It is worth noting that the majority of the Bachelor of Science degrees have the second lowest admission requirements which are only slightly higher than in the aforementioned group of Bachelor programmes. Finally, the general science degrees also do not have ‘gatekeeping’ procedures implemented in the entry procedures (The University of Auckland 2013a: 60-61).
The academically more challenging environment in these programmes, however, does not necessarily impair students’ social life at the university. It is worth mentioning that the three separate revues at The University of Auckland are organised annually by only engineering, law and medical students whose curricula are arguably more challenging than those in the general learning areas. Students reported that organizing the revues had required a lot of extracurricular efforts but overall it was a very rewarding experience that provided them with a variety of useful skills (for example, organizational, marketing, financial, communication and social networking). The active participation in extracurricular activities of this kind is very beneficial insofar as it strengthens the social cohesion and the sense of professional identity of the students involved while it is also an important factor in the hiring decisions of employers (Albrecht et al. 1994; Reardon et al. 1998; Heckman 1999; Stuber 2009; Lehmann 2012).

Given the considerations outlined thus far it is apparent that students studying in the ‘Professional’ fields have multiple advantages over those in more ‘General’ areas, with arts students having arguably the least opportunities to acquire employable skills during their studies. Students studying in the ‘General’ fields are likely exposed to increased risk of accumulating student loan debt with limited prospects of timely repayment without making sacrifices unknown to previous generations in New Zealand (for example, those who completed their university studies by the early 1990s). The associated difficulties of student loan repayment have indeed been making severe impacts on the quality of life of graduating students (New Zealand Union of Student Association 2012a).

### 7.6 The economic potential of the managed student experience

The interdependency of the university and its social environment influences the reproduction patterns of the student body. As the intensifying competition of the global higher education sector is driving comparable universities toward convergence in which similar services and programmes are offered in exchange for comparably priced tuition packages, universities increasingly draw on attractive ‘selling points’ of their social environment to boost enrolment. Once again, the official university documents and the website have many references of this kind, such as one in the Undergraduate Prospectus 2013: “[w]e are certain that you will love New Zealand. It is one of the safest and most beautiful countries in the world and the city of Auckland is ranked as one of the world’s best cities for quality of living” (The University of Auckland 2013a: 11). This and similar sorts of phrasing illustrate that the marketing of an urban university is virtually inseparable from the selective representation of certain positive features of the city in which the institution is embedded. University management therefore increasingly utilizes what Harvey (2012: 102) would call
“uniqueness claims” for its own purposes to attract more, and preferably, international (full fee paying) students. In so doing, it draws heavily on urban governance which is mostly oriented to constructing patterns of local investments not only in physical infrastructures (...) but also in the social infrastructures of education, technology and science, social control, culture, and living quality. The aim is to create sufficient synergy within the urbanization process for monopoly rents to be created and realized by both private interests and state powers (ibid. 102-103).

Capitalizing on attractive socio-ecological features in this regard therefore is a logical move that fits well into the ‘marketing machinery’ of the university management. Even so, efforts of this kind underscore a valid point whereby the university student experience is affected not only by internal-institutional and academic characteristics but also by the capacity of university’s broader socio-cultural environment to maximise students’ ‘quality of life’. Student satisfaction with both the university and the city could arguably have a positive impact on the recruitment of prospective students, based on personal recommendations disseminated through social networks. Several participants revealed during the interviews that their parents’ positive student experience at The University of Auckland influenced their decisions of choosing UoA to do their preferred degrees.

In the era of global competition between higher education institutions student choices have concrete and measurable economic consequences. This is especially the case for international students (including those not in the tertiary sector) whose overall contribution to the New Zealand economy is significant, as noted in a recent report:

[t]he international education industry in New Zealand accounts for 11,900 full-time equivalent staffing positions. This sector is estimated to contribute in excess of $2 billion annually to the New Zealand economy and is ranked as one of New Zealand’s most valuable service exports, along with tourism and commercial services. It equates to wood, fuels and mining in terms of overall contribution to the economy (Education New Zealand 2012: 9).

The economic significance of the education sector is also highlighted in a report by the Ministry of Business, Innovation and Employment (MBIE hereafter). It is indicated that education, with its 14% share within the $13.5 billion worth of export service sector, is the fourth largest, after travel (37%), commercial services (29%), and transportation (18%) (MBIE 2012: 8). Moreover, the same report illuminates that the revival of ‘export education’ is an integral part of the ‘Christchurch rebuild’ programme in an effort to regain the $140 million which is estimated to represent the “reduction in direct spending by foreign students” after the earthquake in February, 2011 (ibid. 23).

145 The Ministry of Education and satellite governmental organisations have been actively developing plans in recent years to attract more international students. Countries are “profiled” based on the exploitable marketing potential as most evident in a report titled as “Prospects for International Student Enrolments in New Zealand: Profiles of 13 source countries” (Ministry of Education 2011b). This is barely surprising given the aforementioned MBIE report in which international education is named among the seven major “export markets” that are expected to generate economic growth for the country. With respect to education, this growth is expected to be achieved by way of “doubling the...
Based on the above, a clear trend emerges whereby education is viewed through a ‘fiscal lens’ by policy makers. The university management appears to do little to counter the aforementioned financial narratives of education; instead, it deploys the very same language in ‘negotiations’ at various forums for an increase in (or, at least the maintaining of) governmental funding. For example, the vice-chancellor of The University of Auckland highlighted that “export education [is] now this country's fourth largest export business and one attracting over $2 billion in export revenue each year” (The University of Auckland 2010: 7). While this episode illuminates the operating ethos of the corporate public university, the surrendering to the logic of financial interpretation of educational ‘outcomes’ will open up the possibility of governmental ‘reprisal’ of tertiary education providers if they do not meet certain ministry-prescribed quotas, such as attracting a sufficient number of full fee paying international students. In fact, such a possibility is very real, as evidenced by the criticism University of Otago received from Tertiary Education Minister Steve Joyce for the drop in international student enrolment, from 2050 in 2007 to 1664 in 2011 (Elder 2012).

In an account of tracing the development of ‘export education’ and ‘international education’ as parts of an overall, revenue-generating political project, Lewis (2011: 227) also notes that “the selling of places in NZ educational institutions to fee-paying foreign students was heralded as the fourth largest export earning activity”. In the light of such developments, Gürüz (2008:211) is indeed correct in arguing that New Zealand has “embarked on an active policy of recruiting foreign students at all levels, driven almost entirely by the revenue-generating rationale”. There are no reasons to assume that governmental fascination with international student enrolment ‘targets’ will decline in the foreseeable future in New Zealand.

Moreover, and in the context of The University of Auckland, international students, who comprise about 12% of the student body, contribute 8% of the overall university budget, compared to the financial-contribution of domestic students which is about 15% (The University of Auckland 2012c: 5-14). It was therefore expected that in the process of revising its Strategic Plan in 2012 The University of Auckland identified international students as the ideal exploitable (‘targeted’ would be a more euphemistically put variant of this) group to increase revenues. This intention is most evident in a supplementary document (titled as: Supporting Document Strategic Plan 2013–2020) which was made publicly available on March 7, 2012 on the main university website.146

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146 The publication of this document allowed a rare opportunity to gain insights into the driving rationales of university budgeting in a nearly raw, that is, almost ‘public relation rhetoric’-free form. The document revealed that the top senior
7.6.1 Policy environment and its academic discourse

The trend toward an increasingly commercialized higher education sector arguably offers very few advantages (Bok 2003). When tertiary education is seen as a revenue-generating tool, policy makers will gradually internalize the profit-maximizing rationale into their operational (administrative) routine in order to reduce all ‘production costs’. It is through such internalization of the logic of ‘efficiency’ and ‘productivity’ into the everyday practice of administrative workers on all levels that neoliberalism could establish itself as a chief managerial technique. As Amable (2011) argues, the thoroughgoing advance of institutional transformations along market-favouring neoliberal principles is in part due to the self-asserted moral superiority of these principles over alternatives. Neoliberalism this way manages to link the “ethos of competitiveness” (ibid. 3) to individual and ultimately broader societal benefits which would presumably not be generated otherwise.

Based on similar rationales, the international competition of tertiary educational institutions, too, is assumed to be beneficial insofar as it would lead to the supervised crafting of the ‘knowledge economy’. As governments increasingly recognise the broader ‘macroeconomic potential’ of post-secondary education, it is virtually unavoidable that the university becomes “the new star ship in the policy fleet for governments around the world [since it is] seen as a key driver in the knowledge economy (...) [H]igher education institutions have been encouraged to develop links with industry and business in a series of new venture partnerships” (Olssen and Peter 2005: 313). In New Zealand, too, universities have been trying to develop strong financial links with industries, in an effort to counterbalance the government’s continuous disinvestment in the university sector since 1991 in terms of tuition subsidy per student (The University of Auckland 2007).

Successive governments have been reluctant to increase tuition subsidy in recent decades, regardless of their ideological orientations. The 2008 global financial recession provided a politically defendable justification for the rolling-out of a mix of public spending-reduction as well as ‘pro-business’ policy initiatives for the incoming National Party–led (centre-right) government which was re-elected in 2011. The ideological profile of this government may be understood through the outcomes of the various policy programmes, which led, as Roper suggests, to the “implementation and entrenchment of neoliberalism from 1984 to the present” (Roper 2011: 36). Similar narratives on the social and economic transformation of New Zealand (and other Western

management had a reasonably precise dollar figure estimate on the “surplus” value for each international student: “[b]ecause they are not subject to Government price controls, as domestic students are, international students can be charged and will pay a higher level of fees. Although they do incur some additional costs over domestic students, this also means that the contribution (surplus) generated by international students over domestic students is considerable, and at Auckland is estimated to be $6,982 [NZD] per EFTS per annum” (The University of Auckland 2012c: 15).
countries) in the last three decades have increasingly adapted a critical standpoint in direct opposition to ‘neoliberalism’, often coupled with variants of more generic ‘anti-capitalist’ sentiments (Duncan 2011; Neilson 2011).

After noting the central place of ‘neoliberalism’ in the conceptual apparatus employed by contemporary social scientists in policy-related discourses, Nicholls (2011) cautions against the overzealous use of the term in critical analyses. Similarly, policy-explanations given by prominent governmental officials (for example, in the media) should be considered carefully so that “traditional centre-right justifications of centre-right policies [which are] driven by austerity and budget-balancing concerns [are not confused with] neoliberal justifications [of a] neoliberal ideology” (ibid. 78-86). There may be various reasons for social scientists’ apparent preference for framing their analyses as parts of broader critiques of neoliberalism. Barnett (2005) offers a plausible explanation for such development when he contends that “[t]heories of neoliberalism provide a consoling image of how the world works” (ibid. 7). He elaborates further by arguing that

[...] or all its apparent critical force, the vocabulary of “neoliberalism” and “neoliberalization” in fact provides a double consolation for leftist academics: it supplies us with plentiful opportunities for unveiling the real workings of hegemonic ideologies in a characteristic gesture of revelation; and in so doing, it invites us to align our own professional roles with the activities of various actors “out there”, who are always framed as engaging in resistance or contestation (...) The radical academic discourse of “neoliberalism” frames the relationship between collective action and individualism simplistically as an opposition between the good and the bad (...) [Such discourse] reiterates a longer problem for radical academic theory of being unable to account for its own normative priorities in a compelling way. And by denigrating the value of individualism as just an ideological ploy by the right, the pejorative vocabulary of “neoliberalism” invites us to take solace in an image of collective decision-making as a practically and normatively unproblematic procedure (ibid. 9-11).

The nearly-doxic acceptance of ‘anti-neoliberal’ metanarratives among social scientists is arguably concerning insofar as it could effectively marginalize scholars who doubt that “all reforms to the state in the last 25 years are most helpfully understood as neoliberal”, let alone those who might even be willing to consider some of the “progressive spaces of neoliberalism” (Lewis 2009: 3). As Larner and Le Heron (2005) posit, the institutional changes of the New Zealand higher education sector in recent decades have aspects that may be “more liberating than previously anticipated” (ibid. 858). Moreover, they contend that university managers’ primary rationale for benchmarking can be understood mainly from the perspective of “overall resourcing [aiming to] improve overall outcomes for the sector” (ibid. 858). Finally, they remind their more concerned academic peers that

[i]nternationally, there is nothing unique about efforts to improve efficiency, accountability and performativity in a national tertiary education system, and the use of quality control mechanisms to induce these characteristics (…) Indeed, it could be argued New Zealand was a late starter, and is only now catching up to rest of the world in terms of tertiary sector reform (ibid. 844).
7.6.2 University financing from an economic perspective

Given the developments outlined above, it can be clearly seen that the politically as well as economically viable financing of the tertiary education sector poses an extremely intricate policy-problem, one to which virtually all arguments and interpretations of ‘educational outcomes’ can ultimately be reduced. Arguably, there may be several economic cost-theories of higher education, with Baumol’s ‘cost disease’ (Baumol and Bowen 1966) and Bowen’s ‘revenue theory of cost’ (Bowen 1980) being among the most prominent ones.

Baumol’s thesis posits that the seemingly endlessly raising cost of higher education, like in other labour-intensive service industries (most notably, health care), is caused by the separation of productivity and wages whereby the latter can and will increase even when the former does not, due to broader macroeconomic forces that affect the fluctuation of labour in the job market. Bowen (1980) argues that higher education has been increasingly expensive mainly as a result of decisions made within the academy. The pursuit of ‘excellence’ offers university administrators a robust justification for embarking on a never-ending series of ‘quality enhancing’ projects. By operating in a permanent fundraising mode, the universities raise all the money they can, and will spend it all. Hence ultimately the costs are primarily driven by revenues. Both theories have solid economic foundations, and a comparative analysis between the two by Martin and Hill (2013) reveals that the Bowen-effect is stronger in that “for every $1 in increased cost due to Baumol effects there are over $2 in Bowen effects” (ibid. 3).

Exploring further the causes behind the aforementioned Bowen-effects, Martin (2011) identified a number of contributing factors to the growing costs in higher education. In his detailed account, the ballooning costs are due to the non-profit nature of the complex set of services universities provide, coupled with the lack of reliable performance measures and a “serious unresolved principal/agent problem” (ibid. 84). The revenue-maximizing projects within higher education are almost always framed as necessary steps (‘investments’) toward securing a ‘world class’ reputation. University management has become increasingly reliant upon the tool of public relations to ensure that a favourable institutional image is maintained under any circumstances. Reputation could become a central theme in managerial efforts because it is a suitable instrument to attract potential students who are targeted to consume the services (bundled together into the ‘student experience package’)

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147 ‘Principal/agent problem’ (alternatively, ‘agency problem’) is a term widely used in economics. It refers to potential for abusing the trust of others when a party is placed into a position to make decisions ‘in the best interest of others’ while in reality he/she could pursue his/her own interest. Martin (2011) argues that the agency problem is not specific to specific institutions: “[n]o institution or group of institutions is immune to the principal/agent problem. Human weakness and self-interest insure agency problems occur wherever individuals make decisions on behalf of others” (ibid. 83). Indeed, the author takes the agency problem as “capitalism’s ‘Achilles’ heel’” (ibid. 6).
offered by tertiary institutions. These services are examples of what Martin and his economist colleagues would call ‘experience goods’. Such goods require customized marketing, because “[r]eputations matter only in markets for experience goods where consumers are uncertain about product quality prior to purchase” (ibid. 164). The lack of quantifiable measures of the ‘good reputation’ leads to the mystification of quality in higher education whereby a higher price becomes a proxy measure of ‘excellence’ “in a competition with no upper bound on expenditures, and the uncertainty enables acute principal/agent problems” (ibid. 171). Uncertainty about the quality of service is therefore an essential component in enrolment-maximizing marketing strategies, which explains why some scholars would habitually resist metrics of performance-assessment (often deplored by insiders as ‘excessive bureaucratic burdens’) and standardized rankings in general. This is how “quality uncertainty creates a financial advantage” (ibid. 170) for higher education.

Finally, Martin dismisses the commercialisation case as an attempt by academics to blame ‘home grown’ problems on the allegedly corrupting effects of ‘outside influence’. He notes that

> [t]here is an exquisite irony in the commercialization story. The corporate sector wrestle[s] with adverse incentive effects constantly. They are honest and pragmatic with themselves, however. They know the problems are internal and not imposed on them by some outside influence (…) Modern management professionals understand incentives and they know how to organize an ‘incentive compatible’ system. In its arrogance and bias, higher education assumes it has nothing to learn from institutions outside the academy; worse still, higher education blames its internal problems on the very people who could help (ibid. 124).

7.6.3 Commercialization of higher education from sociological perspectives

It is perhaps not surprising that in a mostly accurate, albeit a characteristically economic account of contemporary higher education the negative effects of commercialization are underestimated or even dismissed as mere ideological tools employed by the academic left. Such a deficiency in a sociological analysis, however, would barely be tolerable insofar as the penetration of a market-driven rationale into the working practices of teaching and research indeed poses a range of real, as opposed to ‘imaginary’ problems which are well documented (Readings 1997; Slaughter and Leslie 1997; Smith and Webster 1997; Bok 2003; Curtis and Matthewman 2005; Ginsberg 2011). The commercialization of academia is a complex social phenomenon that can be interpreted by drawing

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148 The recent reform to the funding and governance of the higher education sector in the United Kingdom in 2010 offers an excellent example in this regard. When universities were allowed to charge substantially higher tuition fees than before (raising the £3000 fee cap set in 2006 to £9000 effective from 2012), the overwhelming majority of the institutions opted for the government-imposed maximum, without hesitation (Sedghi and Shepherd 2011; Shepherd and Rogers 2011). This was expected since “charging lower fees risks being identified as a low quality or low prestige institution” (Thompson and Bekhradnia 2010: 15; also see Richardson 2010). In a similar fashion, but in the New Zealand context, the leaders of The University of Auckland declared that “world-class research universities cannot be achieved ‘on the cheap’” (The University of Auckland 2012c: 5).

149 However, it is speculative when Martin notes that academics dislike managerial efforts to assess their performance because “teaching careers self-select for people who do not want their productivity measured” (ibid. 118).
on different social theories, including the general system theory of Luhmann (1989, 1995) and the concepts of the bureaucratic field and symbolic violence articulated by Bourdieu (1994).

Luhmann (1995) argues that subsystems in society (for example, economy, law, mass media, science, religion, education, and so on) emerge from their environment through a process of progressive differentiation. This is achieved through a series of selective communicative actions within each subsystem, based on a subsystem-specific principal operative logic, or ‘binary schematism’. The concept of meaning is central for the understanding of the selective communicative process insofar as “communication is always a selective occurrence. Meaning allows no other choice than to choose. Communication grasps something out of the actual referential horizon that it itself constitutes and leaves other things aside. Communication is the processing of selection” (ibid. 140). Throughout this process, the aforementioned logic is employed for the sorting and the interpretation of information in a binary fashion (for example, relevant/irrelevant) to reduce complexity thus ensuring that a system can operate with a relative degree of autonomy in society. From the perspective of general system theory, the commercialization of higher education can be understood as the penetration of the logic of financial economics into the working practices of the university which operates by the logics of education (through teaching) and science (through research). Education, as a social subsystem, functions comparatively insofar as it sorts students based on individual performance. The comparison concerns whether a “person can do well or poorly in exams, be commended or rebuked, receive good or bad grades, be promoted or not, be admitted to advanced courses or schools or not. Finally, he or she can graduate or not” (Luhmann 1989: 101). On the other hand, academic research operates based on the “code of scientific truth or falsity” (ibid. p 77). Taking these considerations together, it can be argued that the commercialization of higher education can intensify to the extent to which the logic of ‘profitability’ (the calculation whereby something is worth the purchase) of for-profit firms could make inroads into the practices of academic teaching and research. However, notwithstanding the merits of the general system theory of Luhmann, it offers little guidance in the understanding of how exactly mediation occurs between the macro (system) and micro (practice) social realms.

Bourdieu developed the concepts of the ‘bureaucratic field’ and ‘symbolic violence’ in relation to the state in an effort to account for its emergence and operation. Nonetheless, they provide invaluable insights for the better understanding of contemporary universities insofar as it is ultimately the state that sets the policy environment in which the tertiary education sector
From a Bourdieuian perspective, the commercialization of higher education is achieved over time through the thoroughgoing internalization of the managerial logic (which is concerned with the incessant estimation of ‘profitability’) into the everyday functioning of the institution. A key feature of such managerial technique is that it operates through a specific ‘bureaucratic field’ in which the habitus of agents (administrators) have been progressively altered so that ‘financial considerations’ are not only considered in virtually every task, but they are elevated into expectations, further supported by incentives. Ultimately, educational management exercises its power in ways similar to that of the state, which could hardly be understood without considering the “specific functioning of the bureaucratic microcosm” (Bourdieu 1994: 16). Once the new managerial imperatives become fully encoded into the professional bureaucratic habitus, they can be deployed within the institution with little resistance, in contrast to the hierarchical organizational models where administrative ‘targets’ are prescribed in a top-down fashion. Over time, the once ‘new’ managerial practice can establish itself as ‘the ordinary’ way of handling tasks whereby it is no longer perceived as ‘foreign’ and incompatible with conventions of an earlier period. Symbolic violence is therefore marked by the elimination, or at least, the marginalization of alternatives of the commercially-focused managerial practice. Following Bourdieu, and by transplanting the concept of ‘symbolic violence’ from the context of the state into that of organizational management, it becomes clear that the new educational managerialism is able to exert symbolic violence, (…) because it incarnates itself simultaneously in objectivity, in the form of specific organizational structures and mechanisms, and in subjectivity in the form of mental structures and categories of perception and thought. By realizing itself in social structures and in the mental structures adapted to them, the instituted institution makes us forget that it issues out of a long series of acts of institution (in the active sense) and hence has all the appearances of the natural (ibid. 3-4).

7.7 Practical research orientation

A strong relationship between university and community implies that research, wherever possible, involves some level of community engagement which could benefit all parties, including the students. By participating in research, students could develop invaluable skills through the linking

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150 Bourdieu discusses the relationship between the state and academia more extensively in The State Nobility, where he describes their relationship largely as a co-operation between two ‘nobilities’. For example, he argues that “[i]n fact, the top academic nobility is a state nobility. It is in league with the state, whose ‘higher interests’ it serves - in the name of the concept of devotion to ‘public service’ - insofar as in so doing it serves its own interests. There is thus indeed a relationship between the academic title and the great state bureaucracy” (Bourdieu 1996: 375). Moreover, “[t]he academic title is indeed the manifestation par excellence of what must be called (…) state magic: the conferring of a diploma belongs to the class of the acts of certification or validation through which an official authority, acting as an agent of the central bank of symbolic credit - the state - guarantees and consecrates a certain state of affairs (…) with, for example, the stamp and the signature that authenticate an act or a document as attested and true, a copy as genuine, a document as valid, a warranty as good (ibid. 376). This is why Bourdieu concludes that “[t]he educational institution is thus one of the authorities through which the state exercises its monopoly on legitimate symbolic violence” (ibid. 377).
of theoretical concepts with solving concrete practical problems. Not all types of research are equally suitable to fulfil such tasks, however. While the university actively projects a community-benefiting image toward the outside world by using phrases such as “work-based learning”, “community-based research projects”, or promising “opportunities to develop your practical skills” (The University of Auckland 2013a: 7) in official brochures, it is unclear to what extent these ideals have been converted into academic realities. Understandably, syllabi, curricula and official documents can hardly provide comprehensive lists of the many benefits of higher education. However, creating a ‘community-benefiting’ institutional profile may be especially important in the social sciences where the ‘public good’ nature of the research is not always as self-evident as, for example, in the medical and engineering fields.

In the context of educational research, Burkhardt and Schoenfeld (2003) distinguished between the following three traditions: humanistic, scientific and engineering. The ordering of these approaches was to reflect their progressively increasing capacity to influence educational practice. It is posited that the ‘engineering approach’ may be of the most interest to policy makers because it is very directly concerned with the practical implications of research findings. Investigations that adopt the ‘engineering approach’ can also be important vehicles for scientific advances as long as the works they present are based on sound theoretical grounds and generalizable findings. In addition, practical research orientation is also a matter of civic duty since public research universities are mainly funded by the government.151 Lastly, a research culture that seeks active involvement in socially, politically or culturally important issues could perhaps positively influence the public perception of the social sciences.152 Similar proposals have been put forward previously in sociology, for example Burawoy (2005) called for “public sociology” and Treviño (2012) examined the ways through which the discipline could become a “service sociology”.

7.8 Limitations of the study

This research employed an embedded mixed method design in which a large scale surveying of students was followed by in-depth interviewing. By integrating findings from the quantitative and

151 Although exact budgetary details of The University of Auckland are not available, it has been revealed by the institution that about 66% of its budget is controlled by “government policy” and 31% of the overall budget consists of governmental tuition subsidy of domestic students who represent about 88% of the student body (The University of Auckland 2012c: 5).
152 The involvement of the American Sociological Association (ASA) in a famous legal case may offer a good example of academics’ engagement in an important social problem (gender-based discrimination at work) that received considerable attention from the media and from the public. An entire issue (November 2011) of Sociological Methods & Research was devoted to the academic discussions of ASA’s handling of the case, with many of the arguments revolving around the role of scientific research and expert opinion in influencing political-legal debates.
the qualitative phases the research has important contributions to make to the sociology of higher education, including the proposal of a limited model of the undergraduate experience as well as an alternative measure of social background which was based on the concept of socialisation. This novel measure was found to be a relatively better predictor of the student experience than were conventional sociological indicators of parental socio-economic status. At the same time, the study has several limitations that need to be taken into consideration in the interpretation of the findings.

First, the convenient sampling method employed in the study limits the generalizability of the survey findings. Although a more sophisticated sampling technique (for example, stratified random sampling of students from each of the eight faculties of The University of Auckland) could not be achieved due to time and resource constraints, the data obtained through convenience sampling can be considered as the realistically most feasible one in the given research context. In contrast, the distribution of the interview participants can be accepted as approximately representing the student population of the university. Nonetheless, the limited number of interview participants (twenty students) prevented efforts toward achieving further dimensions of representativeness of the student body (for example, based on age, ethnicity, seniority, residency status as well as the combinations of these). A larger number of interviews would have arguably allowed a more fine-tuned analysis of the influential factors of student life in order to attend to the vast heterogeneity of the student body in the aforementioned aspects.

Second, as in the case of most survey data, this research, too, suffers from “common method bias” which is an inherent part of most if not all opinion-based research. This bias — also referred to as ‘method variance’ — comprises of several potentially confounding effects (for example, leniency, social desirability, acquiescence and so forth) that can “bias results by inflating or deflating the correlations among constructs” (Bagozzi and Yi 1991: 426). Although every effort has been made throughout the preparation of the survey phase of the study to develop conceptually valid as well as topic-relevant constructs, it is likely that the confounding effects mentioned above could not be removed completely from the study.

A third limitation concerns the validity of self-reported information in general. Drawing on previous methodological literature on the subject, Hu and Kuh (2003) identified the following five conditions of survey responses to be valid in a given context: (1) if the respondents have sufficient knowledge on the information requested; (2) if the questions are phrased clearly; (3) if the questions ask about recent activities; (4) if the respondents perceive the questions as worthy of a thoughtful response; and (5) if “answering the questions does not threaten, embarrass, or violate the privacy of the
respondent or encourage the respondent to respond in socially desirable ways” (ibid. 322-323). It is assumed throughout this study that both the survey and the interviews were carried out in a way that satisfies these conditions. Although validity of student survey responses can rarely be guaranteed (Porter 2011), the collected survey data was thoroughly scrutinized in a comprehensive process of data screening which was described in depth in Chapter Four.

Fourth, the cross-sectional nature of the study design means that the implied causal links (for example, represented by regression coefficients) are plausible speculations. Replications of the findings in further research that employ a longitudinal or an experimental approach could contribute to the significantly clearer understanding of the relationships between the constructs investigated in this project. Although truly experimental research is rarely achievable in the social sciences, longitudinal design has become an invaluable methodological tool that has a certain capacity to deliver causally interpretable findings (Halaby 2004; McArdle 2009; Bollen and Brand 2010). For example, a carefully designed longitudinal study that would start in the last year of secondary school and would finish a few years after graduation from the university could arguably reveal more about the intertwined factors that affect the student experience than any cross-sectional investigation.

Fifth, the multivariate statistical analyses in the study focused on linear techniques which cannot capture the potentially non-linear nature of some of the relationships examined in the project. In particular, the various structural equation models (SEMs) proposed throughout the study may be limited by the linear nature of the specified relationships between constructs and items. Although as a flexible research tool, SEM is suitable for capturing non-linear relationships (Lee and Zhu 2002; Wall and Amemiya 2007), the application of non-linear SEM techniques is still relatively rare in sociology or in higher education research. Future research efforts that utilize non-linear statistical techniques could uncover relationships that may have remained undetected in this study. Moreover, a number of advanced methodological techniques and novel statistical measures can benefit prospective studies in the context of higher education as these tools are progressively becoming part of the methodological repertoire of social scientists.

It is worth noting that previously the same authors, writing in the context of the same student survey (CSEQ – “The College Student Experiences Questionnaire”), but on an earlier version of it, listed only the first three of these necessary validity conditions (Kuh and Hu 2001: 312). Arguably, the addition of the last two conditions in their later work marks the evolution and improvement of this influential student survey.

For example, these techniques include Bayesian analysis (Gelman et al. 2004; Lee 2007) and automated causal discovery methods (Spirtes et al. 2000; Landsheer 2010; Shimizu et al. 2011) while the “Brownian covariance” (Szekely and Rizzo 2009) and the “maximal information coefficient” (Reshef et al. 2011) offer examples of recently developed statistics. It is plausible to assume that these and similar emerging methods and statistics will receive increased attention in scientific research in the future. Analysis of the present data by using these new techniques could perhaps yield different interpretations.

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The sixth limitation is about the interpretability of a model which always depends on the particular variables selected for the research. Indeed, the omitted variable bias may be present in this investigation which needs to be taken into consideration when interpreting any findings and ‘outcomes’. Caution is therefore warranted when drawing various conclusions from this data since one can never exclude the possibility that some of the perhaps most important explanatory variables that operate in the social world have been omitted from the analyses.

Another set of limitations can be accounted for by the geographic and time specificity of study sample. Students were surveyed and interviewed at a time that coincided with the latest wave of global financial crises that started in 2008. Moreover, higher education research in the New Zealand context needs to take into account that “the student support system is among the most generous in the world when compared to other OECD countries (…) New Zealand is the only country in the OECD that charges no interest, including no CPI [Consumer Price Index] adjustment” (Ministry of Education 2012b: n.pag.). Arguably, the reasonably generous financial support system that is available to most undergraduate (domestic) students during an economic downturn may impact upon the composition of the student body. For example, the shrinking employment opportunities could drive some people with no previous plans to pursue postsecondary qualification to enrol in one of the credentialing institutions, while students already within could start a second undergraduate degree or opt for postgraduate studies. A recent governmental report implicitly links the financial crisis with the increase in both domestic student enrolment and in the uptake of student loans whereby “domestic enrolments increased from 2009 to 2010. That is, domestic students took on considerably higher study loads in 2010 (on average), a trend which began in 2008” (Ministry of Education 2012a: 10).

Despite these limitations, it can be assumed that the findings can approximately be generalizable to undergraduate students of The University of Auckland who are the target population in the study, as outlined in Chapter Four. The applicability of the results to university students from other tertiary institutions in New Zealand largely depends on the degree of similarities in institutional characteristics as well as in the socio-economic environments between The University of Auckland and the other tertiary educational providers in the country.

**7.9 Chapter summary**

The main objective of this chapter was the interpretation of the findings from the quantitative and the qualitative phases of the research. In doing so it drew on various branches of sociological and higher education research. The main theoretical contributions of the project concern these two areas.
First, it was empirically demonstrated that a set of socialisation diversity-related background characteristics are more suitable to capture the sociological underpinnings of the undergraduate student experience in comparison to conventional measures of socio-economic status. Although this hypothesized finding can tentatively be accepted, further studies are needed to confirm its reliability. Beyond the specific research goals and hypotheses that were outlined throughout the thesis, the theoretical implication of this finding for the sociology of higher education is that the multifaceted nature of one’s ‘socialisation background’ is a potential research direction for uncovering aspects of social background that may not be directly related to traditional measures of SES. Based on established conceptual grounds, the study also aimed to advance higher education research by proposing a limited yet plausible model of the student experience. While the benchmarking of different ‘performance areas’ has become a fairly routine managerial exercise in contemporary academia, empirically assessed models that are concerned with the complex relationship between the different aspects of the student experience are still relatively rare, particularly in the New Zealand context. The last major finding concerns the occupational ‘outcome-potential’ of the different educational qualifications. It was demonstrated empirically that educational fields of study could be classified into two distinct groups (‘General’ and ‘Professional’) based on the requirements for practical applications in them. It was also shown that the primarily sources of overall academic satisfaction differ in these two study areas.

The implications of these findings have been discussed throughout the chapter. It is hoped that this work could advance the sociological understanding of the undergraduate student experience. While numerous critical points were made throughout this chapter, the main rationale was the exploration and exposition of areas that could be improved. The chapter concluded with a discussion of the various limitations of the study which need to be kept in mind when interpreting the findings. The next chapter concludes the doctoral project as a whole.
8.1 Thesis summary — main contributions

This thesis presented new ways of conceptualising the undergraduate student experience in early 21st century New Zealand. Drawing on the life course perspective, higher education is understood as a unique life stage which is firmly anchored between compulsory education and paid employment while it remains analytically inseparable from them. It follows that transitionality is a fundamental feature of the university learning environment insofar as its diverse outcomes are external to ‘pure’ learning for its own sake. However, outcomes are to be understood in the broadest possible sense since they include not only monetary and employment-related benefits, but also a series of private and public ‘goods’. Examples for the former are cognitive and intellectual development, while the latter may comprise various social benefits, commonly associated with psycho-social attitudinal changes, moral development, civic and political socialisation, health risks awareness, and so forth. Focusing on these complex sets of outcomes are undoubtedly worthwhile research goals in their own right. However, for such research to be meaningful, they would need to employ a sufficiently comprehensive, and a preferably longitudinal research design. Time and resource constraints rendered data collection at multiple time points unfeasible for this project. In order to compensate in some measure for this limitation, a mixed methods research design was utilized. The rationale for doing so originated in a fundamental assumption whereby the infinitely complex nature of the undergraduate experience could not be grasped through any single methodology in sufficient breadth and depth. The mixed methods research design allowed for a reasonably comprehensive exploration of the ‘sociological determinants’ of the undergraduate student experience by way of a student survey and semi-structured interviews. Overall, the project’s contribution to the academic body of knowledge on the sociology of higher education is threefold. These concern the interrogation of the undergraduate student experience by (1) contrasting the influence of two sets of social background measures affecting it, (2) specifying an empirically assessable model of it, and (3) comparing its internal dynamics in two distinct fields of study.

The main aim of the project was to compare the influence of two distinct sets of social background characteristics on the university student experience. It was argued that the transitional nature of tertiary education and the multicultural composition of the student body necessitate an analysis that incorporates a reasonably comprehensive set of social background measures. The review of the interdisciplinary, academic literature of higher education revealed that socio-economic status (SES) was a commonly employed background construct in empirically-oriented social scientific
investigations. However, it was not uncommon that researchers operationalised students’ social background through parental and family-related measures, carrying an untenable assumption whereby these individuals were mere dependants of their immediate family. Moreover, a related limitation in these studies was that the unique, transitional character of the higher education life stage remained unacknowledged as it was implicitly treated as a largely indifferent, near-automatic extension of secondary education. In order to overcome these twin limitations, this research complemented conventional, family background-focused socio-economic measures with a student-centred one (‘frequency of financial problems’). More importantly, however, this research incorporated a new set of social background measures into the analysis. This focused on students’ pre-university socialisation which was considered a promising, alternative measure of social background in that it was presented as sufficiently distinct from those commonly associated with SES. The new measure was labelled ‘Propensity for Relational Diversity’ (PRD). It drew on the ‘contact hypothesis’ (Allport 1954) as well as the concept of ‘openness to diversity’ (Pascarella et al. 1996). PRD was developed for this study to empirically assess the assumption that diverse, multifaceted, and largely pre-university socialisation of students could more successfully predict some of the core aspects of the undergraduate experience than could SES. This initial idea was formally expressed in hypotheses H1a-d which jointly described the main research question in Chapter Three, while the corresponding empirical analyses were presented in Chapter Five. Evidently, PRD was emphasized in the project as a set of promising predictors of some of the key aspects of the undergraduate student experience. However, it was not suggested that the student experience was ‘free’ from conventional SES effects. It was demonstrated in Chapter Five (section 5.6) that particular SES measures indeed affected certain aspects of academic learning. Most notably, academic performance, and several dimensions of ‘reasons for underperformance’ appeared to be related to some SES constructs.

In order to make the empirical comparison of the SES and PRD effects in the student experience feasible, a limited model of the latter needed to be presented. This was labelled as the ‘Base model’ and it drew on established measures of student satisfaction and engagement that have been widely used in higher education studies. The ‘Base model’ was comprised of the following four latent variables: SQT, SFID, ETS, and SFE, with the latter as the main dependent construct. Rationales for the proposed relationships among these measures were presented in Chapter Three where the corresponding hypotheses (H2-7) were described. The choice of Structural Equation Modeling (SEM) as a research tool to analyse the predominantly quantitative data in the project was motivated by one of its distinct features — and perhaps main strength — which allowed the empirical assessment of a proposed model through model fit measures. This is of considerable
importance from a modelling perspective. Seemingly plausible statements can easily be made when describing relationships among certain social phenomena of interest, but without the concrete evidence which is delivered through a well-established research technique (one with solid mathematical foundations), the extent to which they indeed reflect the social reality remains uncertain. Arguably, even well-fitting models (in a statistical sense) are incapable of uncovering ‘true’ social relationships in their full complexity, yet they can give researchers reasons for ‘cautious optimism’ regarding the plausibility of their research hypotheses. While hypotheses can be evaluated in a single study, the robust confirmation of scientific discoveries can only be achieved by the wider researcher community, and over time. The sentiment of ‘constant uncertainty’ that is ingrained in social scientific modelling efforts was famously noted by George Box. In his presidential address to the American Statistical Association, he pointed out that “[m]odels, of course, are never true, but fortunately it is only necessary that they be useful. For this it is usually needful only that they not be grossly wrong” (Box 1979: 2). It is clear therefore that statistical modeling cannot be divorced from expert judgements which have always been central to the interpretations of any quantitatively delivered findings. Keeping the remark of Box in mind, it is hoped that the ‘Base model’ proposed in this research is not ‘grossly wrong’ and it could present the relationships among some of the core aspects of the contemporary undergraduate student experience in a ‘socially realistic’ way.

Given the infinitely heterogeneous nature of the contemporary undergraduate student population, several subgroups could be subjected to empirical comparison in this project, based on field of study, ethnicity, age, gender, programme advancement, residency status, working status, and so forth. Although most of these categories were explored in the project at various stages, the fields of study differences were compared most systematically. This comparison is important since employment prospects vary among undergraduate degrees. In New Zealand as elsewhere in the developed world, higher education appears to have become a fundamental factor in setting the emerging patterns of social stratification. The key driver within this stratifying process is the earning premium differential which is produced by the horizontal stratification (field of study) of the higher education system itself. Given these considerations, this project compared study areas based on their “requirements for practical application” (Biglan 1973: 196). Two main academic study areas were distinguished which were qualified as ‘General’ and ‘Professional’ fields. It was demonstrated through multivariate statistical analysis in Chapter Five that this classification scheme is a viable — indeed, a superior — alternative to the conventional typology based on the ‘Social versus Natural’ sciences distinction. More importantly, however, it was demonstrated that the student experience differed between the ‘General’ and ‘Professional’ educational fields in two
important aspects. These were formally expressed in hypotheses H8a and H8b. First, SQT was found to be a better predictor of SFE — the main dependent latent measure in the ‘Base model’ — in the ‘Professional’ field of study group than in the ‘General’ one. Second, the analyses also revealed that ‘Overall Academic Satisfaction’ was driven by different factors in the two fields of study. While SFE was the main contributor to ‘Overall Academic Satisfaction’ in the ‘Professional’ group, the primary facilitator of this dependent construct was SQT in the ‘General’ fields.

8.2 Policy implications

The contributions outlined in the previous sections are based on the main empirical findings of the study while additional analyses and discussions are included in Chapter Five, Six, and Seven. The interpretations of the several research findings were carried out with particular attention to the relevant academic literatures, including higher education, the sociology of higher education, socio-economic status, socialisation, and job values. Although the main objective of this project is to advance the sociological understanding of the higher education student experience, the emerging findings may also allow the proposal of certain recommendations. These are pertinent to some of the main themes of the thesis and can be arranged thematically into two areas. The first is about ‘diversifying’ student socialisation. The second theme revolves around the broader question of facilitating students’ employability. The rationale behind the various suggestions outlined in the following sections is to provide the interested readers with arguments that could be discussed broadly which would ultimately benefit the next generation of undergraduate students in New Zealand. Notwithstanding the limitations of the study (see section 7.8 in Chapter Seven), it is believed that contemplating on the suggestions that are highlighted below may have merits, despite the fact that these recommendations are not based on a longitudinal, comprehensive, multi-institutional study.

8.2.1 Diversifying undergraduate student socialisation

As mentioned above, one of the main contributions of this thesis to the sociological higher education literature is having empirically demonstrated that socialisation-based social background characteristics can be more viable predictors of certain key aspects of the undergraduate student experience than can conventional measures of socio-economic status be. Exploring socialisation dynamics this way could therefore expose aspects of social background characteristics that thus far appear to be underutilised by social scientists in the broader field of higher education research. The umbrella construct of ‘Propensity for Relational Diversity’ and its components are assumed to
reveal students’ preference for diverse social encounters which itself may be a consequence of ongoing exposure to a wide range of stimuli throughout one’s social and personal development. This thesis demonstrated that some of the core aspects of the undergraduate student experience are positively related to the extent of diversity in one’s socialisation. Since mass undergraduate education — as a transitional life stage between compulsory schooling and paid employment — takes place in a uniquely rich social environment, it could be argued that fostering students’ intercultural understanding through curricular and administrative means would be advantageous not only for the students, but for the greater public, too. In the following two sections such programmes are discussed.

8.2.1.1 Diversity programmes

The research findings revealed that students’ satisfaction with the interactional diversity aspect of the social life experiences at the university has a positive effect on a number of educational ‘outcomes’. Since academic learning takes place in a very diverse social space, it can be argued that students may be able to develop skills that are invaluable in a democratic, multicultural society. By taking the key recognition of this study further, it can be argued that ‘socialisation diversity’ (the central component of the PRD construct) may have implications for educational managers inasmuch as several programmes could be developed to enrich the social experience of university students. Since socialisation is recognised by contemporary theorists not only as a condition of early childhood experience, but rather as a life-long developmental and social process (Grusec and Hastings 2007), it is possible to envision that the already multifaceted student socialisation can be further diversified through policy initiatives in order to genuinely accentuate the public good nature of tertiary education.

Throughout the 1990s, higher education institutions in the United States have developed a variety of ‘diversity requirements’ (or diversity programmes) in an effort to “encourage students’ encounters with diversity through more formal, often curricular approaches” (Pascarella and Terenzini 2005: 312). A large body of academic research has shown since that these diversity programmes generally have positive effects on a range of educational and attitudinal outcomes, such as openness to diversity, multicultural understanding, ethnic tolerance and so forth (Gurin 1999; Gurin et al. 2002; Gurin et al. 2004; Nelson Laird et al. 2005; Locks et al. 2008). Moreover, it has been well established in the academic literature that those with university education are more likely to become politically active citizens who are also more likely to appreciate the ethnic, cultural, socio-political and religious differences that are inseparable components of a contemporary, multicultural society.
than those without such educational qualifications (Thornton and Jaeger 2007; Brand 2010; Thomas and Hartley 2010; Marginson 2011; Hout 2012). Although the internalization of many of these social skills can arguably be seen as a by-product of tertiary education, this is by no means an automatic process since multicultural differences can still be sources of various conflicts on campus (Levine and Cureton 1998).

As the increase in proportion of international students within the undergraduate student population has been an explicit goal in New Zealand, the maintenance of an ethnically genuinely inclusive campus climate may require managerial efforts in the foreseeable future. In particular, it may be important to ensure that the rationales and implications of the various ‘University Targeted Admission Scheme’ programmes are well understood among those perhaps less familiar with the colonial history of New Zealand, including recent immigrants.

**8.2.1.2 Student-centred internationalisation of the educational experience**

‘Internationalisation’ is a burgeoning subfield within the higher education research literature (Stier 2010; Lewis 2011). From a research perspective that focuses on the student experience, the change in terminology from ‘export education’ toward its more euphemistic variant ‘internationalisation’ in the related discourses appears to be a stylistic maneuver to present international students in positive contexts as opposed to seeing them primarily as GDP contributors to the host country’s economy. Arguably, this makes the targeting of international students a considerably less complicated managerial exercise which in turn allows the continuation of the phenomenon. Following Bourdieu, the aforementioned shift in terminology can be interpreted as a manifestation of symbolic power whereby “[d]omination must gain recognition, that is, it must be known and recognized for what it is not (…) all genuine power acts as symbolic power, the basis of which is, paradoxically, denial. It carries with it a demand for recognition that is a demand for misrecognition” (Bourdieu 1996: 383).

In order to genuinely break with the academic as well as policy tradition that revolves around the financial profiting from international students, universities could do more to demonstrate that they indeed follow a “moral imperative of engaging international students in educative processes” (Sidhu and Dall'Alba 2012: 428). For example, steps could be taken at New Zealand universities so that a significant proportion of the profit that was generated by the tuition-premium of international students is diverted back toward student-supporting initiatives which could further ‘internationalize’ the student experience. In particular, a fund could be allocated to support domestic students who would like to participate in study abroad and exchange programmes (for example, “360° Auckland Abroad”), but are unable to do so due to financial difficulties which is the most common reason,
noted by over 27% of the survey participants in this study who have not participated in exchange programmes (96% of the sample). The latest available Annual Report of the institution notes that 267 students (130 from the Faculty of Arts) studied for “at least one semester overseas” at a partner institution in the 2012 academic year (The University of Auckland 2013b: 31). Providing financial support for domestic students in this form is clearly aligned with the intended purposes of ‘international education’ while it would prevent that the student-generated extra revenue would be ‘absorbed’ in the black hole of university budgeting. More importantly, however, such an initiative would reflect that the university genuinely values ‘internalization’ of education and therefore it would indeed be committed to ‘make an investment’ in its students. The State University of New York (SUNY) system has launched a similar program (Global Reinvestment Fund) recently, aiming to “dramatically expand need-based study abroad scholarships” (Thompson 2012: 10). More details on the background of the program are outlined in Leventhal (2012). Moreover, if more domestic students are given a chance to enjoy the benefits of overseas study before graduation, this would allow a more strategic management of their participation in the global labour market. Finally, and in the New Zealand context, it may be expected that the initiative could perhaps decrease the overall proportion of new graduates to embark upon their ‘OE’ (‘Overseas Experience’), with often admittedly vague plans, as the accounts of several interview participants attested.

8.2.2 Facilitating the employability of graduates

Higher education has a diverse set of functions, with the facilitation of employable skills being amongst the most important ones. Although this is an easier task to implement in the curricula of certain applied fields, there are no reasons to argue that the lack of employment prospects can be an ‘inherent’ trait of even the more abstract study areas. It was demonstrated that the main dependent construct in the study, ‘satisfaction with the employment facilitating aspect of the learning experience’ was not only higher among students undertaking studies in the ‘Professional’ fields than it was in the ‘General’ group, but it was also better predicted by students’ ‘satisfaction with the quality of teaching’ (see H8a in section 3.3.6, and the related analysis in section 5.4). It was also shown that ‘overall academic satisfaction’ had different drivers in the ‘Professional’ and the ‘General’ groups. While ‘satisfaction with the employment facilitating aspect of the learning experience’ was the main driver of ‘overall academic satisfaction’ in the ‘Professional’ group, ‘satisfaction with the quality of teaching’ turned out to be the key influential factor for those studying in the ‘General’ academic fields (see H8b in section 3.3.6, and the corresponding analysis in section 5.4). Moreover, it was demonstrated through interviews (section 6.8) that ‘General’
students were often limited to employment opportunities that had little or no relevance to their study areas. It appeared that the more confined ‘General’ students were to non degree-relevant jobs the more likely they would consider postgraduate studies (see Table 5.31 in section 5.8.3). On the other hand, students studying in the ‘Professional’ academic fields often had the option of gaining degree-relevant work experience through internships which is undoubtedly an attractive feature of these programmes. Arguably, the availability of degree-relevant employment opportunities could make students in the ‘Professional’ fields less inclined to doing postgraduate studies (see section 6.8). Based on these findings, it can be argued that study areas within the ‘General’ fields could perhaps benefit from implementing certain curricular changes so that their students — who otherwise tend to be very satisfied with the quality of teaching they experience — would be better prepared to enter the labour market than they currently are. For this reason many of the recommendations outlined below are perhaps more applicable to the ‘General’ academic fields.

8.2.2.1 Cooperative education

Cooperative education programmes have been integral parts of North American higher education throughout the 20th century (Johnson and Johnson 1999; Garavan and Murphy 2001; Haddara and Skanes 2007). Cooperative education is also known as “cooperative learning”, “industry engaged learning”, “professional development”, and most recently, “work integrated education” (Coll and Zegwaard 2012). Garavan and Murphy (2001) define cooperative education as a “unique form of education and experimental learning, which integrates classroom study with paid, planned and supervised work experience in the private and public sector” (ibid. 281). The proliferation of definitions and descriptions of cooperative education in the last decade led to the proposal of a new typology by Groenewald et al. (2011). Its success is explained by Johnson et al. (2007a: 15) whereby “[o]ne of the most distinctive characteristics of cooperative learning, and perhaps the reason for its success, is the close relationship between theory, research, and practice”. It is also an important facilitator of institutional socialisation during which crucial employment skills are transmitted, as emphasized in organizational psychology (Nicholson and Arnold 1991).

Although the academic literature of cooperative education (published in dedicated journals, for example The Journal of Cooperative Education and Internships) appears to be dominated by North-American and European studies, the topic has recently received more attention in Australasia as well. The first issue of the open-access Asia-Pacific Journal of Cooperative Education was published in 2000 and it has become an important forum of cooperative education-related studies.
and reports in the region since. However, not all New Zealand tertiary educational providers are represented according to their size within the sector among the authors publishing in this journal. The absence of the two ‘flagship’ universities of New Zealand (The University of Auckland and the University of Otago) is noticeable, especially so when many other higher education institutions listed as employers of the authors publishing in this journal. In a similar manner, none of the 37 members of the editorial board work at either The University of Auckland or the University of Otago. More importantly, however, there appears to be no cooperative education programmes or initiatives at place within the ‘General’ academic fields at The University of Auckland. While this is unfortunate, it is also understandable as the main guiding document of the institution that has been in effect at the time of data collection for this study (The University of Auckland Strategic Plan 2005-2012) does not mention or make reference to cooperative education, internships and practicums at all. Taken together, these developments indicate that cooperative education is a vastly under-utilized employment facilitating tool at The University of Auckland. An active and well-organized cooperative education program would be beneficial not only to the participating students, but also to the higher education sector which could gain a better understanding of the demands for and the intake of graduates with field-specific skills.

8.2.2.2 Tracking of graduates’ career destinations

Tertiary education is an important facilitator of the early career transition. The development of various transferable skills is a recurrent theme in many official university documents. One way of measuring success of the tertiary educational sector is assessing the degree to which the promise of employability is fulfilled. This evaluation can be carried out by tracking employment destinations of recent graduates. The University of Auckland used to be a part of the ‘Graduate Destinations Survey’ project that was initiated by the New Zealand Vice-Chancellors’ Committee and which was carried out in each of the eight government-funded universities in the country. However, the halting of the programme in 2008 meant that there was no institution-wide tracking in place until 2011 (Universities New Zealand 2012). However, even during this hiatus efforts have been made to track career plans of students in at least one faculty at The University of Auckland. Since 2006, the

155 Even before the foundation of the journal, the New Zealand Association of Cooperative Education has held annual conferences, since 1998.
156 For example, among the more than 80 papers published in the last five years (2007-2012), only one lists the organisational affiliation of the authors as The University of Auckland.
157 The suspension of the ‘Graduate Destinations Survey’ did not have to result in the complete abandonment of graduate tracking, however. For example, the Victoria University of Wellington continued carrying out this kind of research on its own even between 2008 and 2010 (Victoria University of Wellington 2012). The University of Otago has an even longer history of conducting similar surveys insofar as it has run its own ‘Graduate Opinion Survey’ annually since 1998 (University of Otago 2012).
Faculty of Health and Medical Sciences [FMHS] has been tracking its students through a longitudinal study (The FMHS health professional student and graduate tracking project 2012). This undertaking is unique insofar as the part of the university that offers degrees that have arguably the highest employment potential seems to show more interest in tracking the employment outcome of their students than faculties with academic programmes with comparably lower career prospects, such as those in the ‘General’ fields. This is unfortunate insofar as the lack of a good overview of the graduate destinations of students prevents teaching units in the ‘General’ fields from making adjustments to their curricula.

The ‘Graduate Destinations Survey’ project was restarted in 2011 as the ‘Graduate Longitudinal Study New Zealand’ (GLSNZ hereafter). Unlike its predecessor, GLSNZ is a comprehensive project that aims to compile a high quality longitudinal data set to track graduates’ employment destinations over an extended period of time (GLSNZ 2012). The initial release of the baseline report in April 2012 revealed that a thorough consultative process had taken place between the research team and each of the eight participating universities which is undoubtedly among the main strengths of the project. The report also gives a very detailed description (running to 60 pages of a nearly 300 page long report) on how each of the core question blocks was constructed for the baseline questionnaire. The long consultative process allowed each of the universities (as well as governmental organizations) to provide their inputs by requesting specific questions to be included on the questionnaire. While many universities have used this opportunity to get actively involved in the making of the questionnaire, The University of Auckland has not been mentioned throughout the relevant part of the document which can be safely interpreted as a sign of little interest taken by the institution in the project. Although the GLSNZ fills an important research gap, it only traces a particular student cohort: those in the last year of their study in 2011. Since in the GLSNZ survey participants have not been tracked since the beginning of their studies and because there were no questions in the questionnaire that would reveal more about students’ ‘degree history’, the amount of information that can be extracted from this data on the education-to-work transition is considerably limited. A more positive interpretation of these events is that the omitted areas from GLSNZ leave The University of Auckland (and other tertiary educational providers) with an undoubtedly important research opportunity to track its students throughout their degree completion as well as a few years after graduation. This could be achieved by a limited longitudinal, cost-effective study, drawing on the university’s own, highly reliable academic records of students. In order to collect an even more comprehensive dataset, the longitudinal tracking of students could already commence in the last year of secondary school. The findings emerging from such study could provide the educational management as well as the broader public with reasonably accurate
pieces of information on the occupational outcomes of the different academic fields at The University of Auckland. This is an important goal, given the increasing financial burden of current and recent students who will likely have accumulated a significant student loan debt by graduation. The consequences could be even more severe for students who graduate after an extended period of full time study as a result of degree migration.

8.2.2.3 Career advisors

Career advisors can also play an instrumental role in facilitating the education-to-work transition of graduating students. Given the large, and increasing, number of graduates at The University of Auckland in recent years, it is unlikely that a single unit designated to inform students of career opportunities (University Careers Services) could effectively serve a diverse student body. Rather, career advice could operate on a level that considers the more specific skills that are transmitted in distinct study areas within the university. An effective and reflexive career advisory service could arguably work in the institutional middle level, that is, within faculties. The Faculty of Engineering offers a good example. Here, a dedicated employee (Engineering Employment Manager) is assigned to the task of advising students on career-related issues. The students interviewed from this faculty have been very satisfied with this service. There are no reasons for why similar initiatives could not be implemented elsewhere within the university, especially in faculties that comprise the group of ‘General’ academic fields.

8.2.2.4 Developing assessment tools of academic degrees

While the tracking of graduates’ employment destinations is a commendable project in itself, there has been an increasing interest in assessing the job prospects of different study areas a priori. However, the development of genuinely informative programme-comparison tools is an extremely delicate matter that tends to draw political controversies. The disagreements arise because the arguably legitimate aim of such comparisons (informing prospective students, their families, and the broader public) cannot be achieved through purely technical means. This is because methodological considerations (for example, what data to use, whom to survey and through what instruments, how to present the data and so on) severely limit the context in which the comparison tools can be used for in a responsible manner. Despite these limitations as well as general operationalizational difficulties, the development of genuine comparison tools to assess employment outcomes of academic programmes is a worthwhile policy aim. Governmental and academic efforts could be combined in this regard so that the reliability of the new tools can be improved over time.
There are several overseas initiatives which are commonly referred to as ‘league tables’ in the media (for example, see *The Guardian* 2012). The Australian Government launched the *MyUniversity* website in April 2012 and in only five months it “received more than one million page views. The website gets up to 800 hits every day” (Department for Tertiary Education, Skills, Science and Research 2012). The website was welcomed by the National Union of Students which noted that “[w]ith the publication of teaching satisfaction data on an easy-to-access site, universities will no longer be able to hide behind their brand. They will have to deliver for their students” (National Union of Students 2012: n.pag). In the United States, the Department of Labor maintains the *Occupational Outlook Handbook* website (Bureau of Labor Statistics, U.S. Department of Labor 2012) while the same governmental unit also sponsors the *Occupational Information Network* (O*NET ) database (O*NET Resource Center 2012). Lastly, the Department of Education launched the *College Scorecards* website in 2013 in order to help those interested to “find out more about a college’s affordability and value” (U.S. Department of Education 2013: n.pag).

Similar initiatives are currently in their embryonic stages in New Zealand. The Ministry of Education released a report in January 2013 on the employment outcomes of different higher education subject areas, although the analysis was solely based on median earnings in the first five years after graduation (Mahoney et al. 2013). At the same time, several career-planning, interactive online tools have been introduced to the public, all hosted by Careers New Zealand, a governmental agency (Careers New Zealand 2013). Moreover, the first of the annually planned *Occupation Outlook* report series (Ministry of Business, Innovation and Employment 2013) was released around the same time. Undoubtedly, these steps are parts of a coordinated move by the government to steer prospective students away from what it perceives as study areas with low ‘in-demand’ career prospects. It is not surprising that the governmental agencies approach the question of tertiary study choices predominantly from a financial perspective insofar as considerable tax revenue can be expected only from prospective high wage earners. In contrast, low-income workers appear to the ‘bureaucratic imagination’ as a group that will need costly ‘managing’ (for example, through various social welfare ‘payouts’) hence the government’s keen interest in funnelling prospective students toward ‘promising’ careers. However, a more informative

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158 Tertiary Education minister Steve Joyce hinted that more reports are to be expected in the coming years: “[t]he Government has committed to provide better information to assist in making those choices, for the benefit of students and for the very significant investment taxpayers make in tertiary education. Over the course of 2013, I will be asking government agencies to dig further into the data and produce more information that will help young people make more informed choices about their careers” (Joyce 2013).

159 Such a motivation is clear from the minister’s commentary to the release of the first report: “[w]hat I think [the report] will do is you will see a move away from fine arts and performing arts in to a stronger demand for more career-oriented areas. [The report is] good for the economy, and (…) the higher level of study students [complete], the better it [is] for their prospects and earnings” (Joyce cited in O’Callaghan 2013).
comparison of subject areas should include additional areas beyond those currently used in the various online tools operated by Careers New Zealand. In a similar vein, it is commendable that The University of Auckland offers a genuinely helpful ‘Programmes and Courses Finder’ on its website, but the scope of information provided through the main three search options (based on ‘subject’, ‘career’, and ‘programme title’) could be extended significantly.

8.3 Concluding remarks

Contemporary higher education can be characterized simultaneously by continuity and change. Massification, commercialization, and internationalisation are key trends which received considerable attention by the research community across a range of social science disciplines. The growth of publications on tertiary education-related topics is due in part to the globally increasing participation in postsecondary education systems. An undoubtedly positive aspect of this development is that a large proportion of the population can be exposed to a stimulating academic as well as socially diverse learning environment. However, the continuous expansion of higher education is also expected to lower the socio-economic returns of educational credentials even further than they already are in New Zealand.

Assuming no drastic policy change that would alter the current funding scheme of the tertiary education sector, a sudden fall in the participation rate in postsecondary education institutions will be unlikely in the foreseeable future. The demand for higher educational credentials will not weaken significantly since it is largely driven by the near universally shared, indeed, doxic, societal belief in its exclusively positive outcomes. The ‘presentational imbalance’ of educational outcomes — of which abundant examples can be found in university programme brochures — has not been produced ‘accidentally’, rather, it can be partly attributed to successful and ongoing university marketing efforts. Yet these increasingly sophisticated public relation-efforts can only be successful — and celebrated within the academy as the reaching of ‘admission targets’ — because their presentation of a mechanistic relationship between education and employment “fell on willing ears” in society, as a classic theorist of educational credentialism put it (Berg 1970: 9). However, there is a growing demand to demystify the ‘learning outcomes’ of higher education, since vague references to being a ‘world class university’ (a claim primarily based on bibliometric measures of research outputs) may no longer be overly convincing. Efforts to develop standardized, cross-cultural measures of a range of ‘learning outcomes’ of higher education are currently underway by the OECD. Motivated by the success of the ‘Programme for International Student Assessment’ (PISA) project, the ‘Assessment of Higher Education Learning Outcomes’ (AHELO) aims to “assess what
students in higher education know and can do upon graduation” (OECD 2013b: n.pag.). It is an ambitious evaluation-oriented undertaking which aspires to be “[m]ore than a ranking” and it “aims to be [a] direct evaluation of student performance at the global level and valid across diverse cultures, languages and different types of institutions” (ibid: n.pag.). Given the immense difficulties of developing valid, standardized measurements of higher educational ‘learning outcomes’, the project has been surrounded by controversies since its inception, as one could expect (for preliminary expert commentaries, see Guttenplan 2013).

Conceptual as well as technical difficulties inevitably arise in large-scale educational projects such as the AHELO. On the other hand, standardized educational evaluation is also a political matter, too. It can be argued that a salient contributor to the current extent of educational expansion is the political elite, largely irrespective of in-group, ideological ‘differences’. The simplistic causal assumptions behind the popular ‘knowledge economy’ argument — which states that labour productivity and economic growth are to be achieved through increasing participation in higher education — have been critiqued for several decades by sociologists of higher education (as shown in Chapter Two). Contrary to the aforementioned assertion about the underlying logic of the ‘knowledge economy’, it is generally accepted that “[w]hen the economy is poor, more seats in institutions of higher education are sold” (Farenga and Ness 2005: 595). Conversely, under improving economic conditions, young people may prefer employment opportunities over higher education (for an example, see Mangan 2012). It can come as no real surprise then that the slowly recovering economy after the 2008 recession appears to threaten to end “the long enrollment boom” which poses concerns to academic industry insiders (Pérez-Peña 2013: n.pag.). Nonetheless, the aforementioned mechanistic view on the education-to-employment transition is not entirely without merit, since it can help individuals mobilize efforts necessary for succeeding in the tertiary educational environment which in turn can be beneficial in subsequent life stages.

It needs to be kept in mind, however, that a higher educational credential can have a rather limited socio-economic currency value in certain contexts. This is because a credential — as Collins (2004: 261) suggests — may be “valuable in specific circuits of exchange but not outside of those circuits” (also see Collins 2000b). Far from being a ‘master key’ to fulfil status aspirations, a higher educational credential in an era of mass-produced degrees has variable convertibility value across different ‘markets’. This is to say, educational credentials may bring considerable benefits (financial, social prestige, and so forth) to some individuals under certain circumstances while their effects may be muted in other situations. A rather unsurprising corollary of these developments is the decreasing financial return of certain tertiary educational qualifications.
It is difficult to imagine wide-ranging, positive outcomes of rampant educational credentialism. Following Labaree (1997), it can be argued that the most immediate outcome of tertiary education is the raised expectations of graduates, some of which remain unrealized for some time. Securing ‘degree-appropriate’ employment can be a challenging task since it is influenced by a range of factors, including those external to the general tertiary educational experience of graduates. Policy makers may periodically aim to ‘synchronize’ credential production with the presumed ‘need of the economy’\textsuperscript{160}, while trying to keep the associated costs to a minimum. Although such efforts can be expected from any government, higher education can hardly be degraded to the status of ‘handmaiden’ to satisfy labour market needs. Predictably, direct policy intervention in this respect will always face formidable challenges, with a negligible prospect of meeting the desired ‘political outcomes’, not to mention those unintended — and possibly, harmful — social consequences.

In the current global socio-political environment it is difficult to see the trajectory of the New Zealand higher education sector. Perhaps the best that one can hope for is that an intensive, ongoing and democratic discourse would emerge over the values and purposes of higher education. This could allow prospective students to enter as well as leave the university with realistic occupational expectations which fit the complexities of the education-to-employment transition of their time. Ideally, such discourse should not be solely dominated by educational interest groups, business organizations, or lawmakers. Operating as occupational status groups, the former ones have a ‘self-preservatory’ interest in the prolonged expansion of the higher education sector, so long as the affiliated costs are duly paid by funding agencies as well as incoming — and increasingly indebted — students alike. By frequently reminding the public that the university is primarily a production site of long-term ‘social goods’, higher education activists manage to present themselves as ‘public servants’ who therefore need to be insulated from outside financial (market) pressures. In a similar vein, business leaders and politicians, too, have their own agendas whereby they see educational policies (still) as scaffoldings to the ‘knowledge economy’. Arguably, the prevailing ‘policy logic’ that focuses on cost reduction of credential production cannot be understood adequately purely from a ‘budget-balancing’ perspective. It can be argued that policy makers are inclined to favour study areas (most notably, the STEM fields) that can produce graduates who could be expected to maximize prospective ‘returns’ to the state in the form of high income-based tax revenue.

Notwithstanding the potentially severe social impacts of the intertwined phenomena described above, the discussions on educational outcomes need to be broadened so they could be emancipated

\textsuperscript{160} One characteristic example for this view is expressed by Tertiary Education Minister Steve Joyce who noted that “[e]quipping our students with a high level of knowledge, skills and qualifications means they will be best placed to contribute to our society through better jobs and higher wages” (Joyce and Parata 2013: n.pag.).
from the predominant and excessive concerns on ‘monetary returns’. In addition, the ‘sociological components’ of academic satisfaction and performance in higher education can be approached through conceptually unorthodox ways. This includes challenging the conventional sociological wisdom which tends to eagerly emphasize SES as the principal (or exclusive) causal driver of a broad range of social phenomena. Of course, such orientation may be well justified in many research contexts. However, this thesis demonstrated that a multifaceted socialisation history (those captured by the umbrella construct of PRD) is a more viable ‘sociological predictor’ of some of the key aspects of the undergraduate student experience than is SES. In addition to this hypothesised finding, the project also revealed relationships through ‘data exploration’. Most notable from these was the positive, strong relationship between ‘having many friends doing the same major’ and ‘academic performance’. The theory of interaction ritual chain by Collins (2004) was suggested as an innovative micro-sociological explanation to this link which perhaps operates as a ‘feedback loop’, rather than in a strictly unidirectional manner.

In a sense, both the hypothesized and ‘discovered’ findings highlight that much of the contemporary undergraduate student experience in New Zealand can be understood through socialisation dynamics. The expansion of higher education has been discussed mainly through its alleged negative aspects throughout the thesis. However, an undoubtedly positive — although largely unplanned — consequence of the increased participation in higher education is a student body which is now diverse to an extent that is historically unprecedented. In an increasingly globalizing world in which social tolerance and intercultural competence are invaluable assets, the aforementioned development may hold several advantages which are not to be underestimated.

Interrogating socialisation in a social scientific investigation is fundamentally a research endeavour trying to explain the mediating mechanism between the macro and micro social realms. The macro-micro link has long captivated the imagination of social scientists and it remains an important avenue for sociological research (Alexander et al. 1987; Merton 1968; Collins 1981, 1988; Kemper and Collins 1990; Coleman 1990; Sawyer 2003; Hedström 2005). The thesis aspires to make a contribution to the accumulated collective knowledge in this respect. Scientists can be engrossed in the incessant pursuit of novel discoveries, an activity which is increasingly characterized by the compulsion of offering readily applicable ‘practical recommendations’. Although this project gathered preliminary support for the main research questions, we know from Weber that scientific discoveries are destined to be “surpassed and rendered obsolete” (Weber 1917/2004: 11). This is sobering advice which sets the limits to a priori expectations regarding the realistically achievable goals in any research. The failure to do so may well lead one in the academy to surrender to extreme measures, such as Goethe’s Faust:
And see, that nothing can be known!
That knowledge cuts me to the bone.
I’m cleverer, true, than those fops of teachers,
Doctors and Magisters, Scribes and Preachers;
Neither scruples nor doubts come now to smite me,
Nor Hell nor Devil can longer affright me.
For this, all pleasure am I foregoing;
I do not pretend to aught worth knowing,
I do not pretend I could be a teacher
To help or convert a fellow-creature.
Then, too, I’ve neither lands nor gold,
Nor the world’s least pomp or honor hold —
No dog would endure such a curst existence!
Wherefore, from Magic I seek assistance,
That many a secret perchance I reach
Through spirit-power and spirit-speech,
And thus the bitter task forego
Of saying the things I do not know,—
That I may detect the inmost force
Which binds the world, and guides its course;
Its germs, productive powers explore,
And rummage in empty words no more! 161

The desperately sought ‘ultimate knowledge’ and the confirmation of the validity of scientific findings cannot be obtained by making a self-defeating pact with the Devil. Instead, any degree of ‘certainty’ regarding the accuracy of the presented findings can be granted only by the research community. Since such endorsement may be temporal at best, one cannot disagree with Weber on the inevitable ‘demotion’ of even the most celebrated scientific findings. It is hoped that before that time comes, others can find some of the materials presented in this thesis insightful and therefore worthy of further exploration through any available means.

161 The passage is from the translation of Bayard Taylor which was published in 1871.
Appendix A2 - UAHPEC: Description of the online survey within CECIL

Student Networks Survey

Dear Auckland Uni undergrads,

Would you like to be a research participant in a student survey? Many of the surveys that we fill out nowadays appear to be little more than cleverly disguised market research. This is your chance to give meaningful feedback on your university experience in order to improve the quality of your own education. Your answers can make a difference, so please consider spending 20 minutes to fill out an online, anonymous questionnaire. You may even be lucky enough to win one of the prizes from the $500 prize pool.

Please click on the following link to enter:

https://www.surveymonkey.com/s.aspx?sm=_2bCZ88Vd494CEf8O1WTvk8w_3d_3d

The survey will inform university staff members about how the undergraduate student-experience could be improved. This will be for your benefit, as well for others coming after you.

With best wishes,

Bert Magyar,
Researcher, PhD student,
Department of Sociology
The University of Auckland
Assessing capacity, student networks, and career expectations among undergraduate students at The University of Auckland

Researcher: Bertalan Magyar

Participant Information Sheet

Hi,

My name is Bertalan Magyar. I am enrolled in a PhD degree with the Department of Sociology at The University of Auckland. With the financial support of ‘The Faculty of Arts Doctoral Research Fund’, I am conducting this research for my PhD thesis. I am interested in how university students connect to one another, and how they form various social networks. I would like to collect information on what creates student life, and what your expectations are about life after university.

Your opinion is very valuable to this research, so I would like to invite you to participate in it. **If you agree, you can enter a prize draw worth $500!** Participation in this research is entirely voluntary.

The research simply involves you filling in an online questionnaire that is hosted by SurveyMonkey.com, which is a professional service-provider widely used in academic research. Data transmission is encrypted, so the information you provide for this research is secure. If you agree to participate in the study, you can proceed through the link to the start the survey. Please note that you cannot withdraw yourself or any information provided in the questionnaire after submitting the survey. The online questionnaire takes approximately 20 minutes to complete.

Information from the completed questionnaire will only be used for the purpose of this research. Print-outs and electronic files will be securely stored in a locked cabinet in my office at The University of Auckland, and all data will be destroyed within six years of the start of this research project.
Appendix A3 – UAHPEC: Participant Information Sheet - page 2/2

I would also like to compensate you for your time and effort in helping me with this research! You can indicate on the last page of the questionnaire whether or not you would like to participate in a prize draw (worth $500), and whether or not you would like to be considered to participate in an interview with the researcher at a later date. Such an interview will take no longer than an hour. Those students interviewed will be rewarded with a $25 book voucher! You will be reminded at the end of the survey to contact the researcher with an email sent from your university email address (this is done to ensure that you are actually a student at The University of Auckland).

Thank you in advance for your time. If you have any questions about this research please do not hesitate contact me at:

<table>
<thead>
<tr>
<th>Bertalan Magyar</th>
<th>Dr. Bruce Curtis is the HOD in the Sociology Department. He can be contacted at:</th>
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<tbody>
<tr>
<td>Department of Sociology</td>
<td>Department of Sociology</td>
</tr>
<tr>
<td>The University of Auckland</td>
<td>The University of Auckland</td>
</tr>
<tr>
<td>Human Sciences Building, Level 9</td>
<td>Private Bag 92019</td>
</tr>
<tr>
<td>10 Symonds St</td>
<td>Auckland 1142</td>
</tr>
<tr>
<td>Private Bag 92019</td>
<td>Email: <a href="mailto:bmag011@aucklanduni.ac.nz">bmag011@aucklanduni.ac.nz</a></td>
</tr>
<tr>
<td>Auckland 1142</td>
<td>Telephone: (09) 373 7599 ext. 84519</td>
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<table>
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<tr>
<th>Dr. Bruce Cohen is my main supervisor. He can be contacted at:</th>
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<tbody>
<tr>
<td>Department of Sociology</td>
</tr>
<tr>
<td>The University of Auckland</td>
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<tr>
<td>Private Bag 92019</td>
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<td>Auckland 1142</td>
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<tr>
<td>Email: <a href="mailto:b.cohen@auckland.ac.nz">b.cohen@auckland.ac.nz</a></td>
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<tr>
<td>Telephone: (09) 373 7599 ext. 89497</td>
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<th>Dr. Steve Matthewman is my assistant supervisor. He can be contacted at:</th>
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<tr>
<td>Department of Sociology</td>
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<tr>
<td>The University of Auckland</td>
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<td>Auckland 1142</td>
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<tr>
<td>Email: <a href="mailto:s.matthewman@auckland.ac.nz">s.matthewman@auckland.ac.nz</a></td>
</tr>
<tr>
<td>Telephone: (09) 373 7599 ext. 88616</td>
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</table>

For any queries regarding ethical concerns you may contact:

The Chair
The University of Auckland Human Participants Ethics Committee
The University of Auckland
Office of the Vice Chancellor
Private Bag 92019
Auckland 1142
Telephone: (09) 373 7599 ext. 87830

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE on 10/06/2009 for a period of three years, Reference 2009/192
1. About the survey

1. This research is concerned with the success and satisfaction of undergraduate students, and what issues influence students in their decisions about careers and post-graduate study.

If you are an undergraduate student at The University of Auckland the researcher would like to invite you to participate in this anonymous questionnaire. The usefulness of this survey entirely depends on your thoughtful responses. It is important therefore to answer all questions; if you are not sure about what a question means, use your best judgement.

Your participation is very important and greatly appreciated!

When in the survey you are asked your opinion about ‘your major’, or ‘your department’, and if you are a Conjoint student, please answer those questions on the basis of your experience with only one of your degrees (e.g., the BCom of your BCom/LLB).

Please write here the degree to which your answers refer: →

2. Friends

2. Please rate the level of your agreement with each of the following statements that are about whom you have made friends with since the beginning of your university studies at The University of Auckland.

(A ‘friend’ could be anyone whom you could introduce to a third person as a ‘friend’.)

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

- I have made many friends with students who are doing the same major as I am at The University of Auckland.
- I have made many friends with students who are doing a different major, but in the same faculty as I am at The University of Auckland.
- I have made many friends with students who are doing a major in a different faculty than mine at The University of Auckland.
- I have made many friends with others who are not students at the University of Auckland.
- I have many friends at the University of Auckland whom I knew prior to enrolment.

3. Please indicate the level of importance of each of the following aspects that may influence your decision in making new friends.

<table>
<thead>
<tr>
<th>Importance</th>
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<tbody>
<tr>
<td>Very unimportant</td>
</tr>
<tr>
<td>Unimportant</td>
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<tr>
<td>Neutral</td>
</tr>
<tr>
<td>Important</td>
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<tr>
<td>Very important</td>
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</tbody>
</table>

- Ethnicity
- Age
- Gender
- Sexual orientation
- Physical appearance
- Personality
- Socio-economic background
- Socio-political view
- Religious beliefs
- Other, please specify:

4. Are you a member of any clubs, societies or organizations at The University of Auckland?

- No
- Yes

3. UoA clubs details

5. Please list up to the 3 most important clubs that you are a member of at The University of Auckland:

- Club 1:
- Club 2 (if applies):
- Club 3 (if applies):

6. Do you agree with the following statement: “I participate in the activities this/these club(s) organize(s) very often”?

Please tick ‘N/A’ in appropriate row(s) in accordance with your answer to the previous question.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>N/A</th>
</tr>
</thead>
</table>

- Club 1:
- Club 2 (if applies):
- Club 3 (if applies):

4. non-UoA clubs
7. Are you a member of any clubs, societies or organizations outside of The University of Auckland?

- No
- Yes

5. non-UoA clubs details

8. Please list up to 3 most important clubs outside the University of Auckland that you are a member of:

#1 club: ____________________________
#2 club (if applies): ____________________________
#3 club (if applies): ____________________________

9. Do you agree with the following statement: "I participate in the activities this/these club(s) organize(s) very often? Please tick 'N/A' in appropriate row(s) in accordance with your answer to the previous question.

<table>
<thead>
<tr>
<th>club #1</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly agree</td>
</tr>
<tr>
<td>disagree</td>
</tr>
<tr>
<td>neutral</td>
</tr>
<tr>
<td>strongly disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>club #2 (if applies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly agree</td>
</tr>
<tr>
<td>disagree</td>
</tr>
<tr>
<td>neutral</td>
</tr>
<tr>
<td>strongly disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>club #3 (if applies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>strongly agree</td>
</tr>
<tr>
<td>disagree</td>
</tr>
<tr>
<td>neutral</td>
</tr>
<tr>
<td>strongly disagree</td>
</tr>
</tbody>
</table>

6. Social networking websites

10. Do you use online social networking website? (e.g. Facebook, MySpace)

- No
- Yes

7. Online social networking

11. Please list below your favourite online social networking websites (up to the top 3) that you use, in the order of importance to you.

#1 website: ____________________________
#2 website (if applies): ____________________________
#3 website (if applies): ____________________________

12. Do you agree with the following statement: "I consider myself a very active user of my favourite social networking website"? (e.g. in posting blogs, links, media files)

- strongly agree
- disagree
- neutral
- agree
- strongly disagree

13. What are the three most important reasons for you using social networking websites?

<table>
<thead>
<tr>
<th>reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>keeping in touch with family and relatives</td>
</tr>
<tr>
<td>keeping in touch with friends</td>
</tr>
<tr>
<td>seeking what my friends are up to</td>
</tr>
<tr>
<td>letting others know what I am up to</td>
</tr>
<tr>
<td>browsing, or posting photos/videos</td>
</tr>
<tr>
<td>doing games, quizzes</td>
</tr>
<tr>
<td>being curious, or finding out more about someone</td>
</tr>
<tr>
<td>finding out about events</td>
</tr>
<tr>
<td>meeting new people</td>
</tr>
<tr>
<td>tracking down people from a previous event</td>
</tr>
<tr>
<td>chatting</td>
</tr>
</tbody>
</table>

If other, please specify: ____________________________

8. Websites and Music

14. Other than social networking websites, and besides checking emails and searching for assignments, what are the top 5 websites that you browse the most often? Please list them in the order of importance for you.

#1 ____________________________
#2 ____________________________
#3 ____________________________
#4 ____________________________
#5 ____________________________
**15. How often have you listened to the following types of music in the last three months?** (‘Listening to music’ can refer to any situation when you can choose a particular type of music, and you listen to it for any purposes, regardless of other activities that may accompany it, e.g. driving, jogging, cooking, etc.) Please tick one box in each row.

<table>
<thead>
<tr>
<th>Type of Music</th>
<th>Never</th>
<th>Very rarely</th>
<th>Occasionally</th>
<th>Often</th>
<th>Very often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electro (house, trance, techno)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Folk (Traditional/ethnic)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Film music / Soundtrack/Bollywood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jazz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pop/J-pop/Disco</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hip-hop/Rap</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhythm and blues (“R&amp;B”)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>World-music (“reggae, latino, salsa”)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If other, please specify:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**16. Is there a kind of music that you particularly dislike?**
- [ ] Yes
- [ ] No

**9. Musical dislike**
18. There is more to student life than studying. Listed below are some activities that you may have done. How often have you done each of the following activities in the last three months? Please tick a box in each row.

- reading books (not textbooks)
- reading magazines / newspapers / comic books
- spending time on-line (not study related)
- playing video games
- watching sport games (either live or on TV)
- watching TV (other than sport)
- going to the cinema / watching movies at home
- going to museums / exhibitions
- going to concerts / to the theatre
- going to pubs / bars / nightlife / parties
- eating out / going to restaurants / cafes (not fast-food)
- socialising with friends
- cooking / baking / preparing meals
- shopping (other than for groceries)
- family responsibilities (e.g. housework, childcare)
- doing sport
- doing physical exercise
- doing outdoor activities
- work or paid employment
- doing voluntary, unpaid work
- doing a hobby
- writing own fiction / poetry / blog
- learning another language
- if other, please specify:

11. Affiliation homophily

19. Please indicate the level of your agreement with the following statement by ticking one box in each row in the table below: "If I were making a decision on flatting with someone, it would be very important for me to consider the following aspects of the other person." [See aspects in each row.]

20. Please indicate your level of agreement with the following statement by ticking one box in each row in the table below: "When making a decision on marrying or cohabiting with someone, it is very important to me to consider the following aspects of the other person." [See aspects in each row.]

12. The University of Auckland

21. Do you agree with the following statement: "I like living in Auckland very much"?

- strongly disagree
- disagree
- neutral
- agree
- strongly agree
22. What were the three most important reasons you chose to do your degree at The University of Auckland?

<table>
<thead>
<tr>
<th>Reason</th>
<th>#1</th>
<th>#2</th>
<th>#3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic reputation of the University/Department</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural diversity of students</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proximity or convenience (e.g., campus is close to home)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Range of courses/subjects available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommendation/influence of family or friends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desire to live in Auckland</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability of work in Auckland while studying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offer of scholarship</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was not accepted into my programme of choice elsewhere</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If other, please specify</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

23. Please indicate your level of satisfaction with each of the following aspects of your university experience by ticking the appropriate box in each row.

<table>
<thead>
<tr>
<th>aspect</th>
<th>very satisfied</th>
<th>moderately satisfied</th>
<th>dissatisfied</th>
<th>very dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>The content of courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The quality of lecturing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The quality of teaching assistance (e.g., tutorials, labs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The quality of feedback from teaching staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The verbal skills I am developing as a result of my major</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The skills I am developing to solve real-life problems as a result of my major</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The quality of student - teaching staff relationships in my department</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The variety of activities that university clubs/societies make available for students</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The ability to better understand people who are from very different background (social, ethnic, cultural) from mine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The opportunities to have serious discussions with students whose interest is very different from mine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The transferability of the academic knowledge I learned in my programme to my future employment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How the importance of research or work experience has been emphasized in my studies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The options available to gain work experience in my area of expertise before graduation (e.g., practicum, internship)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My overall academic experience at The University of Auckland</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My overall social experience at The University of Auckland</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix A4 – UAHEC: Online survey questionnaire – page 6/12

24. Have you ever had the following experiences at any time during your university studies?

- working on assignments with classmates, outside class time
- doing volunteer work for the university (e.g., cleaning) for NUSA
- volunteering for research done by instructor(s) within my department
- discussing class-related material with teaching staff outside class time
- discussing career plans with teaching staff
- socializing with teaching staff from my department
- getting help from teaching staff to deal with non-academic responsibilities
- working together with teaching staff from my department on research projects outside of course requirements

25. Have you ever underperformed in, or failed a class at any point during your university studies?

In the list below are statements that indicate possible reasons why you might have underperformed, or failed a class. Please indicate how much you agree with the following statements by ticking the appropriate box in each row.

- I did not prepare well because of poor study habits (e.g., procrastinating till last minute).
- I did not manage my time well because of my heavy workload (e.g., conflicting deadlines with other assignments).
- Distractions in my personal life (e.g., feeling stressed, depressed, upset).
- I could not focus enough on course preparation because of other conflicting responsibilities (e.g., work, family).
- I lost interest in the course.
- I had serious difficulties with assignments and could not get sufficient help.
- Course requirements and expectations were not made clear.
- I do not think I could have achieved a higher grade even under other circumstances.
- My quantitative (mathematical and statistical) skills were not good enough to get a higher grade.
- My English skills were not good enough to manage all the work I was required to do.

If other, please specify:

26. How many hours do you spend on studying and other academic activities outside class time in a typical 7-day week?
33. Do you think this job is relevant to your degree and/or to your future employment?

- No
- Yes

34. What sort of job do you do? Please indicate any ‘title’ or position of the job. (e.g. waiter in a restaurant)

35. How did you get the job?

- sent out my CV
- through friends, who are students of the University of Auckland
- through friends who are not students of the University of Auckland
- through an advert / online job search
- through the ‘Student Job Search’
- through a job agency
- through family/relatives
- through teaching staff from my department
- Other, please specify: ____________________________

36. Is the job mostly a full-time or part-time job?

- Part-time
- Full-time

37. On average, how many hours do you work per week in that job?

38. Are you satisfied with the job overall?

- very satisfied
- dissatisfied
- neutral
- satisfied
- very satisfied

17. Financial problems

39. Have you had a serious financial problem at any time during your studies at the university?

- Never
- Yes, few times
- Yes, many times

18. Resolving financial problems

40. How do you usually resolve your financial problems?

From the following list please choose up to three options that indicate what you would do to overcome your financial difficulties.

<table>
<thead>
<tr>
<th>1st option</th>
<th>2nd option</th>
<th>3rd option</th>
</tr>
</thead>
<tbody>
<tr>
<td>asking parents for direct financial help</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>borrowing money from relatives or friends</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>getting a job through family</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>getting a job through friends</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>getting a job through ‘Student Job Search’</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>getting a job through University Careers Services</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>getting help through a welfare officer from WAVE (AUSA)</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>getting a job through advertisements (e.g. newspaper, online)</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>changing spending habits/spending less</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>applying for a loan</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Other, please specify: ____________________________</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. Further plans

41. Are you planning to leave Auckland after graduating?

- No
- Yes
- Not sure

42. Are you planning to enrol in a postgraduate programme after graduating?

- No
- Yes
- Not sure

20. Postgraduate plans

43. At which university are you planning to enrol in a postgraduate programme?

<table>
<thead>
<tr>
<th>name of university/college</th>
<th>in what country:</th>
</tr>
</thead>
</table>

21. Career decisions
44. Are you planning to get a job overseas after graduation?

- [ ] No
- [ ] Not sure
- [ ] Yes – What countries are you considering?

45. How important would the following factors be in influencing your decision to move overseas or to stay in New Zealand after graduation?

<table>
<thead>
<tr>
<th>Influence of partner/spouse</th>
<th>Very important</th>
<th>Unimportant</th>
<th>Neutral</th>
<th>Very important</th>
<th>Unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family ties and commitments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influence of friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Familiarity with surrounding environment/culture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finding a good work-life balance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prospect of getting a job in my area of expertise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prospect of getting further education in my area of expertise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieving a higher wage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seeing the world</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A specific interest in another country</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If other, please specify:

46. How important would the following factors be in influencing your decision about post-university employment?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Very important</th>
<th>Unimportant</th>
<th>Neutral</th>
<th>Very important</th>
<th>Unimportant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doing a meaningful job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doing a job where I can help others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working with family or friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having a good relationship with colleagues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having a pleasant work environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having a flexible work schedule</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not having to work fewer hours per day</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not being able to work alone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not being able to work as a team</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The geographic location of the job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having a job that provides international opportunities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having an interesting job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having a routine job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having a clear career path</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having a prestigious job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having a secure job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Having a well paid job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting promoted quickly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If other, please specify:

47. What is the exact job you think you will be doing after graduation?

48. Do you expect to be working in New Zealand 5 years after graduation?

- [ ] Yes
- [ ] Not sure
- [ ] No

22. Background - academic
49. What is (are) your major(s), or, if you do not have a major yet, what subjects have you been doing?

50. What Faculty/School/Institute does/do your major(s) belong to? If you have multiple majors and they are in different Faculties please choose only one Faculty where the major that is the ‘most important’ to you belongs to.

- Faculty of Arts
- Faculty of Business School
- Faculty of Education
- Faculty of Engineering
- Faculty of Law
- Faculty of Medical and Health Sciences
- National Institute of Creative Arts and Industries
- Faculty of Science
- School of Theology

51. Since the beginning of your university studies, have you been enrolled mainly:

- Part-time
- Full-time

52. Including this semester, how many semesters do you have left to complete your undergraduate degree?

- eight or more
- seven
- six
- five
- four
- three
- two

53. On which campus is your degree primarily based?

- City
- Grafton
- Manukau
- Tamaki
- Whangarei

23. Background - demographic

54. What is your age?

55. What is your gender?

- Male
- Female

56. Which ethnic group(s) do you most identify with?

- New Zealand
- European/Pasifika
- Samoan
- other Pacific Island
- Chinese
- if other, please specify:

- Indian
- Korean
- Japanese
- Filipino
- Indonesian
- Mauri
- Cook Island Mauri
- Malaysian
- Tongan
- if other, please specify:

57. What is your residency status?

- domestic student / permanent resident
- international student
- exchange student from another university

24. Exchange student

58. From which university are you an exchange student?

name of university / college:

in what country:

25. Country of origin

59. Were you born in New Zealand?

- No
- Yes -- Where in New Zealand were you born?

26. Born overseas

60. What country were you born in?
61. How would you rate your oral English proficiency? Please indicate your level of agreement with the following statement: "I feel that my oral English skills are excellent".

- strongly disagree
- disagree
- neutral
- agree
- strongly agree

62. Did you graduate from high school in New Zealand?
- Yes
- No

27. High School

63. To which high school did you attend?
name of school: 
location (town/suburb): 

28. Social background

64. What is the primary way you pay for your university studies?
- parents
- myself
- student loan
- scholarship
- employer
- if other, please specify: 

65. Do you get student allowance?
- No
- Yes — how much NZD is it per week? 

66. What is your living situation?
- living with parent(s)
- living in dorm/student accommodation
- flatting with others
- living with my partner/spouse
- living on my own, paying rent
- I own the place I live in
- if other, please specify: 

67. Where do you live? (town/suburb)

68. What is your primary means of transportation to get to the campus your degree is based on?
- walking
- cycling
- public transportation
- car / motorbike / scooter
- if other, please specify: 

69. On an average day, how long does it take you - in minutes - to get to the campus your degree is based on? 

70. What is your father's highest level of educational or professional qualification?
- did not finish high school
- graduated from high school
- vocational certificate or diploma (e.g. trade certificate)
- completed a bachelor's degree (e.g. B.A., B.S.)
- completed a master's degree (e.g. M.A., M.S.)
- completed a doctoral degree (e.g. Ph.D., M.D.)
- if other, please specify: 
71. What is your mother’s highest level of educational or professional qualification?
- did not finish high school
- graduated from high school
- vocational certificate or diploma (e.g., trade certificate)
- completed a bachelor’s degree (e.g., B.A., B.S.)
- completed a master’s degree (e.g., M.A., M.S.)
- completed a doctoral degree (e.g., Ph.D., M.D.)
- if other, please specify: ____________________________

72. Please fill out the following fields by typing in what your parents’ occupations are.
Father - OCCUPATION (If he is no longer working, his most recent occupation):

Mother - OCCUPATION (If she is no longer working, her most recent occupation):

73. Which of the following best describes your social class when you were growing up?
- poor or low income
- lower-middle class
- middle class
- upper-middle class
- wealthy

74. Which category includes the total annual combined income of your parent(s) last year, before taxes? Please tick the box that indicates your best estimate.
- under 20,000 NZD
- 20,001-30,000 NZD
- 30,001-40,000 NZD
- 40,001-50,000 NZD
- 50,001-60,000 NZD
- 60,001-70,000 NZD
- 70,001-80,000 NZD
- 80,001-100,000 NZD
- 100,001-120,000 NZD
- 120,001-150,000 NZD
- more than 150,000 NZD
- do not know

75. How many family members were living together in your household, including you, at the time when you graduated from high school?

76. What is your marital status?
- single
- in relationship, living separately
- in relationship, living together
- engaged
- married
- if other, please specify: ____________________________

29. Partner

77. Did you meet your partner/spouse at the University of Auckland?
- No
- Yes

30. Religion

78. Do you have any religious affiliation?
- No religion
- Christian - Orthodox
- Christian - Protestant
- Buddhist
- Hindu
- Christian - Anglican
- Jewish
- Christian - Catholic
- Muslim
- if other, please specify: ____________________________

31. Religious beliefs

79. How important are your religious beliefs in your everyday life?
- very unimportant
- unimportant
- neutral
- important
- very important

32. Atheist
Appendix A4 – UAIPEC: Online survey questionnaire

80. How important is it to you in your everyday life that you are an atheist?
- very important
- unimportant
- neutral
- important
- very important

33. Spoken languages

81. In which language(s) can you have a fluent conversation about everyday things? You can name up to 3 languages that apply. Please put your mother tongue as the first language in the list below:

1st language (mother tongue):

2nd language (if applicable):

3rd language (if applicable):

34. End of questionnaire - contact information

This is the very last page of the questionnaire, it is almost finished!

If you are interested in entering a prize draw worth $500 and/or participating in a face-to-face interview with the researcher on related topics to this survey, please note the following:

- The interview takes approximately 60 minutes, and you will be compensated for your time with a $25 book voucher.
- You will need to contact the researcher via email. Please note that only emails sent from your unique, university email address (ending with @aucklanduni.ac.nz) can be accepted, other email addresses will be ignored. Please write "STUDENT SURVEY" in the subject of your email message in any correspondence.
- ATTENTION: when you write an email, please make it clear whether you are interested in participating in the interview, or in the prize draw, or both.
- Please note that your privacy is fully protected: when you contact the researcher using your university email address, your answers are kept separate from email addresses, so your answers can not be traced back to your email address.
- If you choose not to participate in either the prize draw or the interview, simply tick 'No' to the related questions. In this case you do not need to contact the researcher.

The researcher's contact information:

Bertalan Magyar
email: bmagy111@aucklanduni.ac.nz

82. Please indicate if you agree/do not agree with the following statements:

I am the person that the link or email was originally sent to.
- Yes  
- No

I completed the survey and I would like to be considered to participate in an interview with the researcher later.
- Yes  
- No

I completed the survey and I would like to enter the prize draw worth $500 NZD.
- Yes  
- No

83. This is the end of the questionnaire. Please feel free to write any comments you may have on topics that were addressed in this survey.

We really appreciate your participation in this research!

Please click on 'DONE' below to submit the questionnaire!
Appendix A5 – UAHPEC: Recruitment of interview participants through email

Dear Auckland Uni Student Networks Survey participant,

Thank you for your contribution to the student research that has been going on at The University of Auckland. If you contacted me because you are interested in participating in an interview, please get back to me with the following information about yourself:

1. gender
2. age
3. ethnicity/ethnic background
4. are you a domestic or international student
5. faculty/department of your major
6. how many semesters you have left to finish your undergraduate degree (if you are doing more than one, think of the one you started last): 1 to 8 (or more)
7. have you been in paid employment (currently, or in the past) while studying at the university: yes or no

This information is contained in the attached spreadsheet which you can fill in. Otherwise it is fine to just let me know these details (points 1-7) in an email.

The reason for asking these questions is to ensure that the final interview participants for the study cover students from a variety of backgrounds. That is, I want to avoid a situation where all or most of the interview participants come from, for example, the same faculty or from the same ethnic background.

Finally, this is also a note to those who entered the prize draw. It took place on 21st September, with Sociology HOD Dr. Bruce Curtis, and my main supervisor, Dr. Bruce Cohen present. Winners have been already notified in an email immediately after the prize draw.

With best wishes,

Bertalan Magyar

Researcher, PhD Student
Department of Sociology
The University of Auckland
Appendix A6 – UAHPEC: Interview topics guide

Interview topic guide for the student participants.

Project title: Assessing capacity, student networks, and career expectations among undergraduate students at The University of Auckland

1. Basic demographics, and high school background; reasons/motivation for choosing The University of Auckland; are other family members/friends at the university.

2. Experiences and impressions of life in Auckland, and at the University in general; reflect on challenges relating to integration to university life.

3. Questions regarding size, dynamics, and composition of personal networks; friends, classmates; living situation; weekly ‘routine’.

4. Student-social life components: areas of interest, friends, classmates, benefit of club membership, attendance frequency.

5. Academic performance, satisfaction with teaching and coursework in general; reasons for choosing their major; networking within the department: level of engagements with other students, and with teaching staff; students’ self-evaluation regarding reasons to do well/not so well in courses, or in any other areas that are important for them.

6. Work experiences, frequency, intensity; ways of getting jobs; relevance of employment to major; relevance to post-university life; learned experiences of work.

7. Future plans, regarding job preferences, postgraduate studies, reasons for moving overseas/staying in NZ; foreseen challenges in the transition period from university to professional life.

8. Any other issue/comments they would like to raise on these subjects?

APPROVED BY THE UNIVERSITY OF AUCKLAND HUMAN PARTICIPANTS ETHICS COMMITTEE on 10/06/2009 for a period of three years, Reference 2009/192
Appendix A7 – UAHPEC: Consent form - page 1/2

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**Project title:**

Assessing capacity, student networks, and career expectations among undergraduate students at The University of Auckland

**Consent Form (interview with students)**

THIS CONSENT FORM WILL BE HELD FOR A PERIOD OF SIX YEARS

Reseacher: Bertalan Magyar

I have been given and have understood an explanation of this research project. I have had an opportunity to ask questions and have them answered. I understand that the participation is voluntary and that I may withdraw myself or any information from my interview within four weeks time. I understand that the interview will take approximately 1 hour to complete. I understand that the interview can take place either at the researcher’s university office, or at another place of my choice.

I understand that there may be an entirely optional, and voluntary, second follow up interview at a later stage.

- I agree to participate in this research.
- I agree/ do not agree that the interview will be audio-recorded.
- I agree that the researcher takes hand-written notes during the interview.
- Even if I agree to be audio-recorded, I understand that I can choose to have the recording stopped at any time.
- I understand that the interview may be transcribed by professional transcribers who are bound by a confidentiality agreement.
- I understand that I am not required to answer all questions.
- I understand that all information provided may only be reported or published in a way that will not identify me as its source.
- I agree that all information may only be used for the purpose of this research project.

---

Bertalan Magyar
PhD student
Department of Sociology
The University of Auckland
Human Sciences Building, 926
Private Bag 92019
Auckland, New Zealand
Telephone 64 9 373 7599 ext. 84519
Email: bmag011@aucklanduni.ac.nz
Website: www.arts.auckland.ac.nz/soc
Consent Form (interview with students) - Continued

- I understand that the recording, notes, and related computer files are stored at a locked University office and are destroyed no later than 01/06/2012.
- I understand that I can keep the offered prize even if I withdraw my participation after the interview.
- I agree/ do not agree to be contacted for a second interview at a later stage through my university email address.

Signed: ________________________________________________

Name: _________________________________________________
(Please print clearly)

Date: ___________________
## Appendix B – Correlation and covariance matrices of the ‘Base model’ measures (observed variables)

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1 The polychoric correlation matrix (obtained through the WLSMV estimator) is below the diagonal. Coefficients in the ‘Base model’ are based on this correlation matrix. As a reference, the covariance matrix (obtained through the MLR estimator) is also included in the table, above the diagonal. Variances are listed in the diagonal.

2 Shortened labels of (1) the satisfaction-related observed variables: Sat1 (quality of teaching), Sat2 (quality of tutoring), Sat3 (quality of feedback received from the teaching staff), Sat4 (opportunities to engage with others with different interest), Sat5 (understanding people from a different background), Sat6 (university club variety), Sat7 (transferability of knowledge to future work), Sat8 (work experience emphasis in courses), Sat9 (work experience opportunity); (2) the university experience-related observed variables: Exp1 (talking with a lecturer about career), Exp2 (talking with a lecturer outside class time), Exp3 (socialising with department staff), Exp4 (getting non course-related help from a lecturer), Exp5 (working on a research project with a lecturer). For the exact workings, see questions #23 and #24 in the questionnaire which is included in Appendix A4.
## Appendix C – Modification indices (MI) of the ‘Base model’ (in decreasing order) – page 1/2

<table>
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<th>the suggested relationship between the two variables</th>
<th>M.I. (&gt;10)</th>
<th>E.P.C. (expected parameter change)</th>
<th>Std E.P.C.</th>
<th>StdYX E.P.C.</th>
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<td>-0.116</td>
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<tr>
<td>30</td>
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<td>0.073</td>
<td>0.098</td>
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<td>31</td>
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<td>32</td>
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<td>0.124</td>
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<tr>
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<td>0.124</td>
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<td>35</td>
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<td>36</td>
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<td>-0.214</td>
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<td>38</td>
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<td>14.061</td>
<td>0.067</td>
<td>0.084</td>
<td>0.084</td>
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<tr>
<td>39</td>
<td>SAT3 WITH SFID</td>
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<td>0.084</td>
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### Appendix C – Modification indices (MI) of the ‘Base model’ (in decreasing order) – page 2/2

<table>
<thead>
<tr>
<th>#</th>
<th>the suggested relationship between the two variables</th>
<th>M.I. (&gt;10)</th>
<th>E.P.C. (expected parameter change)</th>
<th>Std E.P.C.</th>
<th>StdYX E.P.C.</th>
</tr>
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<tbody>
<tr>
<td>40</td>
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<td>-0.097</td>
<td>-0.187</td>
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<td>41</td>
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<td>-0.097</td>
<td>-0.097</td>
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<td>42</td>
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<td>-0.097</td>
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<tr>
<td>43</td>
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<td>0.065</td>
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<td>44</td>
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<td>0.127</td>
<td>0.127</td>
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<td>0.127</td>
<td>0.307</td>
</tr>
<tr>
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<td>48</td>
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<td>-0.083</td>
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<td>-0.135</td>
<td>-0.135</td>
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<td>-0.135</td>
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</tr>
<tr>
<td>51</td>
<td>EXP5 ON EXP2</td>
<td>12.199</td>
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<td>-0.135</td>
<td>-0.135</td>
</tr>
<tr>
<td>52</td>
<td>SAT1 ON EXP1</td>
<td>12.113</td>
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<td>-0.060</td>
<td>-0.060</td>
</tr>
<tr>
<td>53</td>
<td>EXP2 WITH SAT3</td>
<td>12.110</td>
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<td>0.087</td>
<td>0.169</td>
</tr>
<tr>
<td>54</td>
<td>SAT6 ON SAT1</td>
<td>11.700</td>
<td>0.054</td>
<td>0.054</td>
<td>0.054</td>
</tr>
<tr>
<td>55</td>
<td>EXP3 WITH SAT3</td>
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<td>0.098</td>
<td>0.221</td>
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<tr>
<td>56</td>
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<td>-0.133</td>
<td>-0.133</td>
</tr>
<tr>
<td>57</td>
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<td>-0.133</td>
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</tr>
<tr>
<td>58</td>
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<td>-0.133</td>
<td>-0.133</td>
<td>-0.133</td>
</tr>
<tr>
<td>59</td>
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<td>10.954</td>
<td>0.072</td>
<td>0.072</td>
<td>0.177</td>
</tr>
<tr>
<td>60</td>
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<td>-0.069</td>
<td>-0.069</td>
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<td>61</td>
<td>SAT1 ON SAT7</td>
<td>10.822</td>
<td>0.054</td>
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<td>0.054</td>
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<tr>
<td>62</td>
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<td>10.690</td>
<td>0.060</td>
<td>0.060</td>
<td>0.060</td>
</tr>
<tr>
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<td>SFE ON SAT8</td>
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<td>0.120</td>
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<tr>
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<td>-0.083</td>
<td>-0.083</td>
<td>-0.083</td>
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<tr>
<td>65</td>
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<td>0.156</td>
<td>0.233</td>
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<tr>
<td>66</td>
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<td>10.486</td>
<td>-0.083</td>
<td>-0.083</td>
<td>-0.171</td>
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<tr>
<td>67</td>
<td>SAT9 ON SAT7</td>
<td>10.478</td>
<td>-0.083</td>
<td>-0.083</td>
<td>-0.083</td>
</tr>
<tr>
<td>68</td>
<td>SAT1 ON EXP4</td>
<td>10.327</td>
<td>-0.062</td>
<td>-0.062</td>
<td>-0.062</td>
</tr>
<tr>
<td>69</td>
<td>SAT1 ON EXP5</td>
<td>10.041</td>
<td>-0.072</td>
<td>-0.072</td>
<td>-0.072</td>
</tr>
</tbody>
</table>
Appendix D – Invariance testing through bootstrapping: Mplus syntax and output

1. Measuring invariance of SQT, SFID, and SFE by following the approach of Cheung and Lau (2012)

```
TITLE: invariance testing
DATA: FILE IS test.dat;
VARIABLE: Sat1 Sat2 Sat3 Sat4 Sat5 Sat6 Sat7 Sat8 Sat9;
GROUPING IS group (0=GEN 1=PRO);
MODEL:
  SQT BY Sat1@1 Sat2 (D21A)
  Sat3 (D31A);
  SFE BY Sat7@1 Sat8 (D62A)
  Sat9 (D72A);
  SFID BY Sat4@1 Sat5 (D103A)
  Sat6 (D113A);
[Sat2];
[Sat3];
[Sat8];
[Sat9];
[Sat5];
[Sat6];
MODEL PRO:
  SQT BY Sat2 (D21B)
  Sat3 (D31B);
  SFE BY Sat8 (D62B)
  Sat9 (D72B);
  SFID BY Sat5 (D103B)
  Sat6 (D113B);
[Sat2];
[Sat3];
[Sat8];
[Sat9];
[Sat5];
[Sat6];
MODEL CONSTRAINT:
NEW (D1D21 D1D31 D2D31 D5D62 D5D72 D6D72 D9D103 D9D113 D10D113);
D1D21 = D21A - D21B;
D1D31 = D31A - D31B;
D2D31 = D31A/D21A - D31B/D21B;
D5D62 = D62A - D62B;
D5D72 = D72A - D72B;
D6D72 = D72A/D62A - D72B/D62B;
D9D103 = D103A - D103B;
D9D113 = D113A - D113B;
D10D113 = D113A/D103A - D113B/D103B;
ANALYSIS:
BOOTSTRAP = 1000;
OUTPUT: cinterval(bcbootstrap);
```

2. Mplus output excerpt (“CONFIDENCE INTERVALS OF MODEL RESULTS”):

<table>
<thead>
<tr>
<th>New/Additional parameters</th>
<th>Lower .5%</th>
<th>Lower 2.5%</th>
<th>Lower 5%</th>
<th>Estimate</th>
<th>Upper 5%</th>
<th>Upper 2.5%</th>
<th>Upper .5%</th>
</tr>
</thead>
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<tr>
<td>D1D21</td>
<td>-0.374</td>
<td>-0.263</td>
<td>-0.214</td>
<td>-0.005</td>
<td>0.202</td>
<td>0.233</td>
<td>0.292</td>
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<tr>
<td>D1D31</td>
<td>-0.394</td>
<td>-0.299</td>
<td>-0.248</td>
<td>0.007</td>
<td>0.215</td>
<td>0.261</td>
<td>0.341</td>
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<tr>
<td>D2D31</td>
<td>-0.25</td>
<td>-0.2</td>
<td>-0.161</td>
<td>0.01</td>
<td>0.169</td>
<td>0.208</td>
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</tr>
<tr>
<td>D5D62</td>
<td>-0.24</td>
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<td>-0.116</td>
<td>0.119</td>
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<tr>
<td>D5D72</td>
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<td>0.153</td>
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<tr>
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<td>-0.444</td>
<td>-0.352</td>
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<td>-0.174</td>
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<td>0.014</td>
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<tr>
<td>D9D103</td>
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<tr>
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<tr>
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<td>0.099</td>
<td>0.244</td>
<td>0.271</td>
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</tr>
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Appendix E1 – Mean plots of ‘maturation’ (ageing) effects – page 1/2
Appendix E1 – Mean plots of ‘maturation’ (ageing) effects – page 2/2
Appendix E2 – Mean plots of ‘seniority’ (degree advancement) effects

[Graphs showing mean plots for different variables over semesters and beyond]
Appendix F – Histograms of selected SES measures of students
<table>
<thead>
<tr>
<th>pseudonym</th>
<th>age</th>
<th>year</th>
<th>gender</th>
<th>academic field</th>
<th>programme</th>
<th>field classification ¹</th>
<th>ethnic background ²</th>
<th>working status</th>
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<tbody>
<tr>
<td>Mara</td>
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<td>3rd</td>
<td>female</td>
<td>Arts</td>
<td>Art History, Music</td>
<td>General</td>
<td>NZ-European</td>
<td>yes</td>
</tr>
<tr>
<td>Linda</td>
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<td>3rd</td>
<td>female</td>
<td>Arts</td>
<td>Spanish, Politics</td>
<td>General</td>
<td>NZ-European</td>
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<tr>
<td>Sara</td>
<td>23</td>
<td>3rd</td>
<td>female</td>
<td>Arts</td>
<td>English, Film &amp; TV Studies</td>
<td>General</td>
<td>Canadian-New-Zealander</td>
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</tr>
<tr>
<td>Mark</td>
<td>19</td>
<td>2nd</td>
<td>male</td>
<td>Science</td>
<td>Biomedical science</td>
<td>General</td>
<td>NZ-European</td>
<td>yes</td>
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<tr>
<td>Bill</td>
<td>20</td>
<td>2nd</td>
<td>male</td>
<td>Science</td>
<td>Environmental Science</td>
<td>General</td>
<td>NZ-European</td>
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<tr>
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<td>Science</td>
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<td>General</td>
<td>NZ-European</td>
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<tr>
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<td>3rd</td>
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<td>General</td>
<td>Indian</td>
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<tr>
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<td>male</td>
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<td>General-lean</td>
<td>NZ-European</td>
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<tr>
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<td>female</td>
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<td>General-lean</td>
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<td>female</td>
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<td>NZ-European</td>
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<td>female</td>
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<td>NZ-European</td>
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<td>Professional</td>
<td>Chinese</td>
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<td>Business/Science</td>
<td>Accounting, Computer Science</td>
<td>Professional</td>
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<td>Business/Science</td>
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<td>Professional</td>
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<tr>
<td>Barbara</td>
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<td>Engineering</td>
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<td>Professional</td>
<td>Chinese</td>
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<td>Nick</td>
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<td>3rd</td>
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<td>Professional</td>
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<td>Medical</td>
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<td>Professional</td>
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<td>Medicine</td>
<td>Professional</td>
<td>Sri Lankan</td>
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</tr>
</tbody>
</table>

¹ Four students had majors in multiple faculties which made their field of study classification somewhat ambiguous. In these cases, the classification was ultimately based on information obtained throughout the interview, focusing on questions on primary study interests and career expectations.

² The categories listed under ‘ethnic background’ are based on students’ responses to the recruitment email which is included in Appendix A5.
List of references


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Ministry of Education. (2011b). *Prospect for International Student Enrolments in New Zealand: Profiles of 13 Source Countries*. Available at:


