IS DEBT BAD FOR STUDENTS?

THE EFFECTS OF STUDENT DEBT ON
COURSE SELECTION, MOTIVATION, HAPPINESS,
AND ACADEMIC PERFORMANCE.

_____

A thesis

submitted in partial fulfilment for

the degree of

Master of Arts in Psychology

at the

University of Canterbury.

_____

By

Judy Zhang

Supervised by

Associate Professor Simon Kemp

_____

University of Canterbury

2007

ACKNOWLEDGEMENTS

There are a number of people who have directly and indirectly assisted and supported me throughout the process of my thesis.

I would like to thank and acknowledge my primary supervisor, Prof. Simon Kemp, whose expertise and wisdom have given me invaluable guidance through my thesis. Your enthusiasm for research and learning has been an inspiration to me both as a student and as a researcher. I have appreciated the candidness and respect that you have given me throughout this process and I am extremely grateful for all your encouragement and support.

I would also like to thank my co-supervisor Dr Oleksandr (Sasha) Chernyshenko for his interest and enthusiasm about my research.
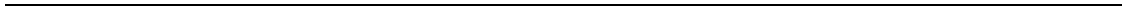
Thanks to all the psychology staff and lecturers who have helped and supported me throughout the years.

I would like to give my sincerest thanks to all my participants. Thank you to for your interest, time and encouragement.

On a personal note, I would like to acknowledge my family and especially my parents for their confidence and support both in my studies and in my life. It has been your belief and understanding that have given me the confidence to preserve throughout this process. I would especially like to acknowledge my grandparents whom without their wisdom and infinite love I would not be pursuing my dreams today.

To all my wonderful friends, it has been you that have given me the ability to hold on to the light at the end of the tunnel. I am grateful for all the laughter and camaraderie that we have shared. Thank you for being my colours in the picture of life.

Lastly, but by no means the least, to Adam, thank you for your everlasting patience with reading numerous drafts and listening to non-coherent psychology jargon at any hour of the day. Your enduring confidence in me has given me the strength to believe again. Thank you for sharing your most genuine self with me.

,   ,   ,   ,

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

The previous research on student debt indicates that the financial concerns associated with being in debt have a significant effect on the individual's academic performance. In the present study, a sample of 328 current students at the University of Canterbury was questioned to identify the effects of student debt on students' course selection, motivation, happiness and academic performance. Students' debt levels increased with the level of university study, and the largest form of student borrowing was from the Student Loan Scheme. While students with no debt performed better academically than those with debt, students' attitudes towards debt were found to influence the relationship between debt level and academic performance. Students who were tolerant towards debt performed better as they accumulated more debt while students who were intolerant performed worse. In general, there is little indication that student debt has a direct effect on students' course selection, motivation, happiness and academic performance. Implications of current findings are mentioned. Limitations and directions for future research are discussed.

CHAPTER ONE

INTRODUCTION

1.1 Debt

Over the past decade, New Zealanders have acquired more individual debt than ever before (Reserve Bank of New Zealand, 2006; Statistics New Zealand, 2002; Turner & Schallert, 2001). This is largely due to the removal of financing restrictions and financial industry developments during the mid 1990s (Reserve Bank of New Zealand, 2006; Thorp & Ung, 20002001).

New Zealand household debt grew by 240% in real terms between 1980 and 2000 (Thorp & Ung, 2001), resulting in a total financial debt of more than $132 billion (equating to 140% of their disposable income) as at December 2005 (James, 2005; Reserve Bank of New Zealand, 2006). New Zealand households have one of the highest debt to income ratios amongst the OECD countries (James, 2005; Thorp & Ung, 2001).

There are many theories that attempt to explain why people have debt. From the economic perspective, borrowing allows for consumption patterns to be more evenly distributed over time in order to achieve maximal utility (Antonides, 1989; Cameron, 1994). By taking on debt, individuals are able to consume sooner than if forced to

wait until the full cost has been saved. It also enables individuals to cope with sudden or temporary loss of income.

Another explanation offered is the Life-Cycle hypothesis (LCH). The LCH suggests that individuals can rationally calculate their available financial resources at any period of their lives. The borrowing and saving patterns in that period are determined by the discrepancy between the concurrent income and consumption (Modigliani & Brumberg, 1954; Thaler, 1990). The LCH postulates that people tend to accumulate debt when they are younger and save when they are older in order to provide for retirement (Valins, 2004). However, factors such as low income, unemployment and illness can affect this pattern of behaviour by prohibiting saving and promoting debt accumulation. Other factors such as demography, income levels, life events, over-commitment, money management skills, and structural factors such as the role of the government and lending practices of credit firms have been given as explanations for peoples' debt problems (Valins, 2004).

Since the 1990s, the increase in individual debt in many countries has been a source of major public and political concern (Boddington & Kemp, 1999; Lea, Webley, & Levine, 1993; Livingston & Lunt, 1992). Many studies have attempted to find correlates and factors responsible for this increase (Lea, Webley, & Walker, 1995; Livingston & Lunt, 1992; Rosenberg, 1989; Stone & Maury, 2006). Economic variables such as lower socioeconomic class, lower incomes (Livingston & Lunt, 1992), age (Livingston & Lunt, 1992), and poor money management skills (Lea et al., 1993) relate to the level of indebtedness. Social and psychological factors such as status-driven expenditure, (Lea et al., 1993; Lea, Webley, & Walker, 1995), external

locus of control (Livingston & Lunt, 1992; Tokunaga, 1993), present time orientations (Webley & Nyhus, 2001), lack of self control (Webley & Nyhus, 2001), low self-efficacy (Tokunaga, 1993), low self-esteem (Rosenberg, 1989), and tolerant towards debt (Lea et al., 1993; Livingston & Lunt, 1992) affect debt accumulation. All the results support Lea's (1993) observation of the self-sustaining nature of the culture of debt.

Research has also identified social, economic and psychological implications of being in debt (Brown, Taylor, & Price, 2005; Drentea, 2000; Valins, 2004). Valins (2004) reported that individuals with debt were more likely to experience financial hardship, poor mental and physical health, family stress, stigma and social exclusion, and barriers to future employment. Drentea (2000) found debt was associated with negative physical and psychological conditions. Individuals with high levels of debt relative to their income reported experiencing increasing levels of anxiety, stress, and overall poor physical health. Additionally, individuals with larger levels of debt also reported to experiencing more distress than their counterparts (Brown et al., 2005).

Although a certain level of debt is inevitable for most people, some have more than others (Betti, Dourmashkin, Rossi, Verma, & Yin, 2001). Statistics show debt to be strongly correlated with age, with young adults in general more likely to have debt and in higher amounts than older people (A'Court, 2003; Valins, 2004). This is reflective of the Life-Cycle Hypothesis's prediction of asset accumulation over a life-time. The 2001 household savings survey (A'Court, 2003; Statistics New Zealand, 2001) showed non-partnered New Zealanders aged between 25 to 29 years exhibiting the highest debt ratio of $96 owed in debt for every $100 of assets owned (A'Court,

2003), while non-partnered individuals aged 70 and over had less than $10 of debt for every $100 of assets owned (A'Court, 2003; Statistics New Zealand, 2001).

1.2   Student Finance

A major contributing factor to the large debt ratio of the younger age groups is student debt (A'Court, 2003; Valins, 2004). Although individuals can be in debt without having borrowed money (e.g., non-payment of a utility bill, or incurring parking fines) 'Student debt' refers to all types of borrowings accumulated by tertiary students, regardless of source, amount and ability for repayment (Scott, Lewis, & Lea, 2001).

Currently, students in New Zealand can borrow from family members, friends, financial institutions, and the government. Students borrow predominantly to finance their tertiary education: this includes tuition fees, course related costs, and living expenses (Ministry of Education, 2003). The most common and largest growing type of debt incurred by tertiary students in New Zealand is the government Student Loan (A'Court, 2003).

The Student Loan Scheme was established by the New Zealand government in 1992 to encourage tertiary education participation by providing access to financial support for tuition fees and other education related costs. Prior to the 1990s, tertiary education in New Zealand was almost entirely publicly funded, as reflected in the relatively lower tertiary fees (New Zealand Union of Students' Associations, 2006). The introduction by the fourth Labour Government of the flat tuition fee in 1990 (set at $1250) saw a dramatic increase in the tuition cost of tertiary education (a 400% to

1000% increase) (New Zealand Union of Students' Associations, 2006). Consequently, the costs of tertiary education were shifted away from the public and towards the individual (Maani, 1997).

During the 1990s, as the rate of government funding per student decreased, tertiary tuition fees increased by an average of 13% per year (New Zealand Union of Students' Associations, 2006; Statistics New Zealand, 2005). Although the government implemented the fees freeze system for the period of 2000 to 2002, and the Fees and Course Costs Maxima (FCCM) policy in 2004 to regulate and maintain affordable tertiary education, there is still continuing increase in tuition fees. The reported tertiary tuition fees for 2007 showed a 2.5 percent baseline increase from 2006 figures (Tertiary Education Commission, 2006).

On the other hand, the New Zealand government spends a large proportion of its budget annually on tertiary provisions such as student subsidies, student loans and allowance, and industry training programs (Ministry of Education, 2003). An OECD publication on tertiary education showed the expenditure on tertiary education made by the New Zealand government was second behind the United States (Ministry of Education, 2003). Similarly, apart from a few European countries that have low to no tertiary fee systems, the tuition fees for tertiary education in New Zealand are comparable to many OECD (Organisation for Economic Co-operation and Development) countries (Ministry of Education, 2003).

At present, student loans operate in over sixty countries to aid in the increasing costs of tertiary education (Barr & Crawford, 2005). There are two main types of student

loan schemes in use: mortgage type schemes (e.g., US, Canada), and income-contingent schemes (e.g., UK, Australia, NZ) (Barr & Crawford, 2005). A mortgage type student loan scheme is operated by a combination of government and private sources. It functions like a mortgage where fixed repayments are made for a predetermined period of time by the borrower until the full amount is repaid. Under an income-contingent student loan scheme, length of time for full repayment and amounts repaid are dependent upon the borrower's income. The income-contingent student loan schemes are mainly government operated, and appear to offer more flexibility and protection to the borrower from unforeseeable circumstances leading to inability to make repayments (Barr, 2004; Barr & Crawford, 2005). New Zealand has similar lengths of time for full repayment of student loans as other countries that have adopted income-contingent student loan schemes (Length of time for full repayment of student debt: NZ 9.5 years, AUS 6.5 years, UK 11.0 years) (Ministry of Education, 2003).

Since their introduction in 1992, student loans have become the largest non-housing debt category for New Zealand households (Thorp & Ung, 2001), totalling more than $8.3 billion as at June 2006 (Ministry of Education, Inland Revenue, & Ministry of Social Development, 2006). On the other hand, student loans have removed financial barriers to tertiary education, resulting in New Zealand having one of the highest rates of tertiary education participation amongst the OECD countries (Ministry of Education, Inland Revenue, & Ministry of Social Development, 2002).

Although the Student Loan Scheme has opened access to tertiary education for New Zealanders, the continued increase in tuition fees has resulted in students borrowing

more to fund their tertiary education process. Although the average and total amount borrowed by students have shown an increasing trend, the average lengths of time for full repayment of student loan balances has been decreasing (Ministry of Education et al., 2006). The forecasted time for full repayment in 2006 was nine years, compared with ten years in 2002. A contributing factor in the decrease in this forecast is the implementation of the interest free student loan policy in April 2006 (Ministry of Social Development, 2005). The current interest rate on student loans is capped at seven percent per annum; the interest free policy allows existing and new student loan borrowers living in New Zealand to have their interest written off, regardless of whether they are studying or not (Ministry of Social Development, 2005).

With the combination of increasing costs of tertiary education, living expenses, and easy access to loans and credit cards, students are incurring more debt than before (Lea, Webley, & Bellamy, 1995; Lea et al., 1993; Thorp & Ung, 2001).

1.3   Theories of Student Debt

The economic value of higher education remains a strong motivation for students to participate in tertiary education (The Educational Resources Institute & The Institute of Higher Education Policy, 1995). Economic theories have been proposed in an attempt to explain the student debt phenomenon.

From the economic perspective, the individual is both rational and self-serving. It is assumed that the individual will use the information available and make rational decisions to maximise their own utility, both in the present and in the future (Thaler,

1992). The value of tertiary education is central to the rationale of student debt from the economic perspective. Student loans may be perceived as an intangible form of human capital investment for long term economic gains through higher education and training (A'Court, 2003). This assumption is also consistent with the Life-Cycle Hypothesis (LCH) (Modigliani & Brumberg, 1954; Thaler, 1990). Central to the LCH is the assumption of fungibility. 'Fungibility' according to the LCH suggests that different forms of wealth are substitutable, both in the present and in the future, as all forms of wealth are considered equal (Thaler, 1990; Winnett & Lewis, 1995). The individual can only rationally calculate the available financial resources throughout their life-time if the fungibility assumption is preserved. Under this assumption, students may consider money borrowed to be of equal value to money taken from their savings. At the same time, the incurred cost of tertiary education can be perceived by students as equal in value to potential future income. Hence, it is rational for the individual to borrow if they can foresee future returns of equal value or more.

Similar to the LCH, Friedman's Permanent Income Hypothesis (Friedman, 1957) proposes that the consumption and saving behaviour of the individual in any given period is determined by their prediction of permanent income over that period. An individual's permanent income is inclusive of both their current and anticipated future income, so it could be higher or lower than their actual income in that period (Warneryd, 1999). Thus the disparity between consumption and actual income will determine the amount borrowed or saved in that period (Warneryd, 1999). In order to attain tertiary education, some students acquire debt due to the difference between their actual income and expenditure in that period of their lives. However, they might

anticipate high future income as a result of their education thus increasing their permanent income in the same period.

Although the accumulation of student debt is consistent with the Life-Cycle Hypothesis (LCH), empirical evidence on human consumption has shown two general categories of anomalies in the theory (Courant, Gramlich, & Laitner, 1986; Shefrin & Thaler, 1988; Thaler, 1990). Firstly, individual consumption is income sensitive. The underlying concept of LCH is to smooth consumption over the course of a life-time (Thaler, 1990; Valins, 2004), where consumption in every period should equal the annuity value of lifetime wealth (Shefrin & Thaler, 1988). However, evidence suggests individual consumption peaks when income peaks and vice versa (Thaler, 1990). Secondly, the assumption of fungibility is not always preserved in human consumption behaviour (Thaler, 1990; Winnett & Lewis, 1995). The anomalous empirical evidence against the LCH formed the basis of the Behavioural Life-Cycle Hypothesis (BLCH) (Shefrin & Thaler, 1988).

According to the BLCH, the individual lacks self control and is generally impatient when deciding between long term benefits and immediate gratification. In the case of tertiary students, the availability of money as they enter into tertiary institutions means that it is the first time for many individuals to be financially independent. The financial freedom to acquire student debt results in many individuals carrying the consequences of debt into the rest of their adulthood. Blaug (Blaug, 1985, 1986) pointed out that investments in human capital may not necessarily lead to long term economic gain, while most young adults are also unsure of the association between

income and education (Bowes & Goodnow, 1996). This suggests that the assumption of economic rationality may not be present for all individuals that take on student debt.

1.4   Previous Research

Tertiary education provides benefits and costs both to the individual and to society as a whole. Investment in human capital is important to a nation's development. It can help increase economic growth through enhanced labour productivity, improve social development and reduce social inequality (Statistics New Zealand, 2003). Statistics show large disparities in earnings between tertiary qualified and secondary school qualified individuals in most OECD countries (Blondal, Field, & Girouard, 2002). The likelihood of employment and higher income increases as individuals gain higher education (David, 2001; Statistics New Zealand, 2003). Higher tertiary qualifications have also been linked to better health outcomes and improved prospects for their children (Statistics New Zealand, 2003).

Student debt has led to an interesting research area for economic psychologists. Although student debt has been prevalent in many countries (Blondal et al., 2002), research on its effects has only begun in recent years (Ashby, Robertson, & Parata, 1996; Boddington & Kemp, 1999; Davies & Lea, 1995; Lea, Webley, & Bellamy, 1995; Scott et al., 2001; Stone & Maury, 2006).

One line of research has examined the causes of student borrowing and the level of borrowing. The lack of financial resources of tertiary students has been found to contribute to students taking on debt (Lea, Webley, & Bellamy, 2001; Lea et al., 1993;

Lea, Webley, & Walker, 1995). Stradling (2001) found with a sample of UK undergraduates that students' previous borrowing experiences was the best predictor of student loan take-up and their borrowing behaviour in adulthood. UK studies have also attributed the accumulation of student debt to poor money management skills (Lea et al., 2001; Morgan, Roberts, & Powdrill, 2001). However, this might be culturally specific. A New Zealand study found over half of the students sampled used some form of money management strategies to reduce or limit the size of their debt (Boddington & Kemp, 1999), a result that is somewhat reflective of the strict spending guidelines imposed on money borrowed from the Student Loan Scheme (Ministry of Education et al., 2006).

The impact of student debt filters through to all aspects of the individual's life and consequently their decisions. The accumulation of student debt could influence students' careers choices, personal lives and educational prospects (Baum & Saunders, 1998; Brown & Matthews, 2003; Kosterlitz, 1989; The Educational Resources Institute & The Institute of Higher Education Policy, 1995). In both the UK and the USA, the burden of student debt has been shown to deter individuals from participating in tertiary study (Callender & Jackson, 2005) and the pursuit of postgraduate education (Brown & Matthews, 2003; Donhardt, 2004; Millett, 2003; Weiler, 1994). However, a recent study by Kemp, Horwood and Ferguson (2006) found such effects do not appear to extend to the New Zealand student sample.

In New Zealand, the presence of student debt has been found to inhibit home ownership for non-partnered individuals (Brown & Matthews, 2003; James, 2005; Ministry of Education et al., 2006). This could be due to students not being fully

aware of the process of student debt repayment. One study found New Zealand university students to endorse an "optimistic disposition" towards their future income and to underestimate the time needed for full repayment of their student debt (Seaward & Kemp, 2000). The increasing financial burden of student debt has been suggested to be a cause of the "brain drain" phenomenon where graduates migrate overseas to earn higher incomes as a means to facilitate faster debt repayment or avoid repayment entirely (Brown & Matthews, 2003; Ministry of Education et al., 2006; Smart, 2006). However, overseas travel has been a common endeavour for many students after their studies to increase both cultural and overall experience as an adult. A New Zealand study found no evidential support for the relationship between student's debt level and the decision to travel overseas (Kemp, Horwood, & Fergusson, 2006). Furthermore, statistics from the Ministry of Education show most individuals who have student loan balances before departure do return after a period overseas (Ministry of Education et al., 2006).

Studies on attitudes towards debt found students become accepting of debt during their tertiary education process (Boddington & Kemp, 1999; Davies & Lea, 1995; Lea et al., 2001; Lea et al., 1993). While high levels of debt were associated with more tolerant attitudes towards debt, it is context specific to the student culture (Boddington & Kemp, 1999), and specifically to undergraduates (Davies & Lea, 1995; Lea et al., 2001; Lea et al., 1993). Length of study was also found to increase students' acceptability of debt (Boddington & Kemp, 1999; Davies & Lea, 1995; Lea et al., 2001; Scott & Lewis, 2001). Boddington and Kemp (1999) found students who estimated longer lengths of time to repay their student debt were also more accepting of debt. Davies and Lea (, 2001 #186) found debt accumulation precedes increased

tolerance, which indicates the possibility of increased debt dependency for those who are already in debt (Davies & Lea, 1995; Scott & Lewis, 2001).

These findings can be explained by the Cognitive Dissonance Theory (Festinger, 1957; Festinger & Carlsmith, 1959) which postulates that individuals have a tendency to seek consistency among their cognitions (i.e., beliefs, attitudes, opinions). When an inconsistency exists between conflicting cognitions (dissonance), the invention of new thoughts or modification of existing thoughts occurs to reduce the dissonance (Festinger, 1957). In terms of student debt, while students cannot change their behaviour (either reduce their student debt or not borrow), they can alter their attitudes to become more tolerant towards debt in order to deal with their conflicting financial circumstances.

Students' interpretations of their financial situations have been associated with poor psychological and physical well-being (Cooke, Barkham, Audin, Bradley, & Davy, 2004; Covington & Weidenhaupt, 1997; Jessop, Herberts, & Solomon, 2005; Roberts, Golding, & Towell, 1998; Roberts et al., 2000; Stradling, 2001). Studies showed students who interpreted their level of debt as being unmanageable upon graduation were more likely to suffer from depression and anxiety (Roberts et al., 1998; Roberts et al., 2000; Stradling, 2001). However, another group of studies found the level of financial concern was predictive of both mental and physical health, while anticipated debt levels upon graduation was not (Cooke et al., 2004; Covington & Weidenhaupt, 1997; Jessop et al., 2005). Overall, the results suggest students' subjective interpretations of their financial situation are more predictive of their physical and mental health than economic factors alone.

The effects of student debt on students' mental health have recently been examined in New Zealand by Kemp, Horwood and Ferguson (2006). The longitudinal study, following a cohort of 1265 New Zealanders, found no evidential association between students' debt level and their mental health (Kemp et al., 2006).

1.5   Academic Performance

The economic stressors associated with being in debt are shown to affect students' expectations of their own academic performance (Andrews & Wilding, 2004; Stradling, 2001). A study with final year undergraduates found over half of the students felt their academic performance would be impaired by financial difficulties (Stradling, 2001). This study indicated a need for further investigation of the impact of student debt on academic performance. Andrews and Wilding (2004) found growing concern over the impact of increasing financial difficulties on students' mental health and academic performance in the UK. The findings from this two-year longitudinal study showed students' experiences of financial and other difficulties could increase their level of anxiety and depression (Andrews & Wilding, 2004). Consequently, the increased level of depression and anxiety had an adverse impact on students' actual academic performance (Andrews & Wilding, 2004). A recent study of UK students found a third of the students perceived their financial experiences to have a marked negative impact on their academic performances (Scott, 2006).

In the current literature, there is a lack of research examining the actual effects of student debt on students corresponding level of academic performance. In line with

previous research, one would expect that as the level of debt increases so too will the actual and perceived effects of debt on one's academic performance. However, those students who reported being affected academically also reported experiencing more financial concern that their cohort. Although many students finance their tertiary education through debt, not all are concerned about their financial situation (Scott, 2006).

Subjective interpretations of debt could impact how student debt affects the individual's academic performance. Several studies have shown students with higher debt levels were more tolerant towards debt. The increased level of tolerance could lessen the perceived significance of the level of debt incurred. Although one would predict students with large amounts of student debt could be more affected than those with no debt at all, the actual effect of student debt on academic performance may be influenced by students' attitudes towards debt rather than the debt itself.

1.6   Utility and Course Selection

There has been increased concern over the impact of student debt on students' choices in career, degree, and major selection (Field, 2005; Kelly, 1994; Kramer & Van Dusen, 1986; Zook, 1994). Several studies have found large student debt levels to affect students' degree and major selection (Donhardt, 2004; Kassebaum & Szenas, 1992, 1993; Samuel, 2005; Scherschel, 1998; Zook, 1994).

Donhardt (2004) suggested that the increasing level and prevalence of student debt might affect students' enrolment decisions as some majors incur higher debt levels

than others. In the US, students participating in different master's majors exhibited differing borrowing patterns (Choy & Geis, 2002). The prospect of accumulating large amounts of student debt may push some students to prefer majors and degrees that produce a higher future income.

Large disparities in earning capacity between occupations and majors are apparent across the OECD counties (Blondal et al., 2002). Consequently, students' decisions regarding their major and subsequent occupation are key determinants of income after graduation (Donhardt, 2004; Greene, 1989). Donhardt (2004) identified certain specialist majors (for examples, engineering, nursing, special education, and technology related fields) to have higher income prospects than some general majors (for example, arts, social sciences, art history). Flint (1998) found that when students are faced with the necessary borrowing for tertiary education, they may switch from lower income majors to more lucrative ones. Such a pattern of enrolment behaviour may lead to a shortage in the supply of graduates that are willing and qualified to work in low-earning public-service occupations, which directly influences the local employment market and the social structure of the economy.

As many students face carrying their student debts into the start of their occupational careers, such a burden may affect their overall quality of life. In line with the human capital theory, it is rational for those individuals to assess the costs of education against their potential future income (Becker, 1993; Donhardt, 2004).

From the perspective of the individual, low earning public interest majors and occupations may not be considered a good human capital investment in tertiary

education. Field (2002) noted that the prevalence and necessity of debt accumulation from participating in tertiary education may be shifting students' career and major selection criteria from public interest and social rewards to private ones of monetary profitability. A US study of 1,622 law school students found anticipated income to significantly impact students' career and major choices (Equal Justice of Works, NALP, & Partnership for Public Service, 2002). Many students decided to choose careers and majors based on income potential rather than interest due to the prospect of student debt accumulation (Equal Justice of Works et al., 2002). Furthermore, over half of the law school students (66%) did not consider participating in public interest occupations due to its low earning potential and their level of student debt (Equal Justice of Works et al., 2002). A US study also indicate above average debt levels do promote income driven career choices (Kassebaum & Szenas, 1992).

Craven (Craven, Dick, & Wood, 1987) pointed out that the Student Loan Scheme offered in New Zealand could result in social and economic changes as "prospective students shift from courses of low private rates of return to those with high rates of return" (Craven et al., 1987, p. 276). A New Zealand focus group study showed some evidence of course costs deterring tertiary students' selection of some courses (Ehrhardt, 2002), although the results should be interpreted with caution due to the qualitative nature of the research.

With the growing prevalence of student debt, many institutions in both the US and UK have implemented career-contingent financial aid policies (Barr, 2004; Barr & Crawford, 2005; Field, 2005; Rateau & Siegel, 2002). These are designed to reduce the effect of debt aversion and encourage participation in low earning public sector

occupations by assisting in graduates' student loan repayments (Barr, 2004; Barr & Crawford, 2005; Field, 2005; Rateau & Siegel, 2002). For instance, public universities in Britain have initiated a universal program of income-contingent educational student loans. Similar programs are being considered by Canadian Universities (Barr, 2004; Barr & Crawford, 2005; Field, 2005).

Consistent with the Human Capital Theory (Becker, 1964; Schultz, 1961), one would predict that the prospect of student debt would impact on students' course and major selection. Individuals with higher levels of student debt (or any debt at all) would be more motivated to select high utility courses and degrees in order to achieve higher future payoffs on their investment. Alternatively, those with lower or no student debt may not be so strongly motivated by economic rewards and may choose courses and degrees with relatively low perceived financial pay-off.

On the other hand, several studies have found results that provide little support for the Human Capital Theory. A number of studies examining the influence of student debt on post-graduation career prospects found no significant relationship between the two (Flint, 1998; Kassebaum & Szenas, 1992, 1993; Samuel, 2005). A longitudinal study of high school and tertiary students found debt burden had little effect on students' choice of major (St. John, 1994). Flint (1997) suggested that the direction of the relationship between student debt and choice of major may not be a causal relationship but rather an association, where higher student debt levels were found to coincide with higher status jobs chosen by students (Flint, 1997). Additionally, larger student debt levels were also associated with higher degree aspirations and greater level of congruency between the students' selected major and post-graduation

occupation (Flint, 1998). Consequently, some majors and career paths may be influencing students' attitudes towards borrowing and the amount in which they borrow. If students are sensitive to their selected major and future income prospects then they will attempt to adjust their student borrowing accordingly to reduce possible future indebtedness (Flint, 1998). For example, some students who have incurred large debt levels could afford to be doing so because of anticipated future earnings.

1.7   Motivation

Motivation is a pervasive and important determinant of student behaviour in an educational setting (Pintrich & Schunk, 1996). However, there has been little research evaluating how student debt would affect students' motivations towards their education.

Based on the Self-Determination Theory (SDT) (Deci & Ryan, 1985, 2000), intrinsic and extrinsic motivation was distinguished as different reasons or goals that give rise to behaviour. In an academic setting, intrinsic motivation is concerned with enjoyment of learning and doing tasks that is inherently satisfying to the individual rather than for some separable consequence, and extrinsic motivation refers to doing something that leads to a separable outcome (Deci & Ryan, 1985, 2000). Consistent with the SDT, differing levels of student debt should facilitate variation in students' motivation towards their education process. Students with no debt do not have as much imposition of extrinsic regulation while they are studying. Hence, the presence of the student debt may be acting as an external constraint on the students' intrinsic motives for learning. One would expect as students' debt level increases, their

intrinsic motivation towards their education will decrease while their extrinsic motivation will increase.

The students that differ in intrinsic and extrinsic motivation should also differ in their academic performance. Based on the work of Deci and Ryan (2000) on intrinsic and extrinsic motivation, both tangible (e.g., negative performance feedback, monetary rewards), and intangible forms (e.g., threats, deadlines, competition pressure) of rewards and regulations made contingent on the task performance diminish intrinsic motivation towards the task (Deci & Ryan, 2000). Such effects are commonly observed in educational settings (Deci, 1971; Deci & Ryan, 2000; Kohn, 1993), the workforce (Fehr & Gächter, 2000; Gneezy & Rustichini, 2000), and organisations (Broedling, 1977). As assessments and examinations are external measures of one's knowledge and learning, highly intrinsically motivated individuals tend to assert less value on external measures of their learning; hence they perform less well than those with high extrinsic motivation (Deci & Ryan, 2000).

1.8   Self-efficacy and Expectancy

Self-efficacy for learning refers to the students' beliefs concerning their capabilities in learning course materials or accomplishing certain academic tasks (Bandura, 1986, 1989, 1991; Schunk, 1989, 1990). Self-efficacy can determine how students feel, think, and motivate themselves to learn (Bandura, 1986, 1989, 1991; Schunk, 1989, 1990).

Students' attributions of their academic successes and failures affect their future academic motivation (Turner & Schallert, 2001; Van Calster, Lens, & Nuttin, 1987). Students who exhibited a positive affective attitude towards their future and perceived their current studies as highly instrumental in their future performed better academically (Van Calster et al., 1987). This supports the attributions and self-worth theories of academic motivation, where an individual's motivation towards their studies is focused upon their self-perception of academic abilities (Covington & Beery, 1976; Weiner, 1985). Thus, students' self-efficacy beliefs are an important predictor of their academic performance (Pajares & Miller, 1994; Pintrich & De Groot, 1990; Rosenthal & Zimmerman, 1978; Sansone & Morgan, 1992; Schunk, 1989, 1991; Zimmerman, 2000).

1.9   Happiness

Little is known about the impact of student debt on the subjective well-being of the student population. Diener and Diener (1995) defined subjective well-being as the "person's evaluative reactions to his or her life – either in terms of life satisfaction (cognitive evaluations) or affect (ongoing emotional reactions)" (Diener, 2000, p. 653). Although there are several measures which attempt to examine and define the elements of 'a good life' (Diener, 2000), subjective well-being focuses on the subjective evaluations of the individual on how they perceive their life (Diener, 2000). Although subjective well-being is not the only important variable in achieving 'a good life', evidence suggests that it is necessary in order to achieve it (Diener, Sapyta, & Suh, 1998).

Cross-cultural studies on subjective well-being have mainly been sampled from the student population due to the easy access of a relatively heterogeneous sample (Diener & Diener, 1995; Diener, Diener, & Diener, 1995; Diener & Suh, 1999; Suh, Diener, Oishi, & Triandis, 1998). A large cross-cultural study conducted by Diener and Diener (1995) consisted of a student sample from 49 universities in 31 countries on five continents. In sum, the results showed students from across the world to be relatively satisfied with their lives (Diener & Diener, 1995).

Research has examined the correlates of individual's overall life satisfaction with their satisfaction in specific domains, such as friends, family and finances (Diener & Diener, 1995; Myers, 2000; Suh et al., 1998; Veenhoven, 1991). Evidence suggests financial satisfaction has a significant influence on an individual's overall life satisfaction (Diener & Diener, 1995; Myers, 2000; Suh et al., 1998; Veenhoven, 1991). Additionally, Diener (1995) found low levels of financial satisfaction were specific to students (Diener & Diener, 1995). A possible explanation for these results could be the financial situation of the general student population. Students have generally more debt relative to their assets than the rest of the adult population (A'Court, 2003; Statistics New Zealand, 2001). The increasing prevalence and necessity of incurring student debt as a means of attaining higher education could have a significant effect on students' overall quality of life (Donhardt, 2004). A recent UK study found students with debt were more likely to be dissatisfied with their lives due to their financial constraints (Scott, 2006). Furthermore, the majority of students believed their financial circumstance had a negative impact on their university enjoyment, social life and day to day activities (Scott, 2006). Therefore, it is reasonable to hypothesise that the financial burden of student debt might lower

students' subjective well-being and their overall enjoyment of the university experience.

1.10   The Present Research

The present study is prompted by a gap in the existing literature. Previous research on student debt has shown the presence of debt to have significant influences on the individual both in the present and in the future. The focus of the present study is to examine the actual and perceived effects of student debt on academic performance, course selection, motivation, and subjective well-being.

In line with previous research (Andrews & Wilding, 2004; Stradling, 2001), I hypothesised (hypothesis 1) that student debt will have an adverse effect on the students' academic performance. Students' attitude towards debt was also hypothesised to influence the effect of student debt on their academic performance (hypothesis 2). Previous research has shown students with larger debt levels to have more tolerant attitudes towards debt than those with low to no debt (Boddington & Kemp, 1999; Davies & Lea, 1995). One would predict that students with more tolerant attitudes towards debt may be less affected by their debt than those with intolerant attitudes. Thus, the academic performance of students with tolerant attitudes towards debt was expected to be less affected by their level of student debt than those with intolerant attitudes.

Consistent with the Human Capital theory, I hypothesised (hypothesis 3) that student debt will have an impact on students' perceived utility of selected courses and degree

selection. Individuals with relatively high levels of student debt were expected to choose professional degrees and courses with higher extrinsic payoffs for their investment as a way of facilitating faster repayment of their debt. Students with low or no debt would choose courses of high intrinsic utility as they are not burdened by financial constraints during their studies. These individuals are more likely to be enrolled in general degrees (detailed descriptions of general and specialist degree types are discussed in the method section of the present study).

In line with the self-determination theory (Deci & Ryan, 2000), one could consider student debt as a form of extrinsic regulation imposed on students, which could undermine an individual's intrinsic motivation on course selection and academic performance. I hypothesised (hypothesis 4) student debt will have a significant impact on the students' academic motivation towards their education process. For students with high levels of debt, the combination of wanting to maximise their return on investment and selecting courses with highest future earning power would imply that they would be more motivated to be high academic achievers. On the other hand, students with no debt would not have as much extrinsic constraint (such as financial concerns over their debt) imposed on their education process. These individuals should be more intrinsically motivated towards their course selection and focused on the intrinsic value of learning rather than the extrinsic rewards, hence they will achieve lower grades academically.

Finally, following Scott's (2006) findings on the impact of financial constraints on students' enjoyment of their university experience and everyday life, student debt was hypothesised to have a significant impact on the individual's overall life satisfaction

and their enjoyment of the university experience (hypothesis 5). Students with debt or high levels of debt would perceive debt to have more of an effect on their overall life satisfaction and enjoyment of the university experience while students with no or small debt levels would perceive less effect. Furthermore, students with no or small debt levels would be more satisfied with their lives in general and find their university experiences to be more enjoyable than their cohorts.

The present study specifically investigates the following hypotheses:

1. Students with high levels of debt will achieve lower grades on average compared with those with no or small amounts of student debt.

2. For students with large debt levels, those with more tolerant attitudes towards debt will have less financial concerns and perceive debt to be less affecting on their academic performance and will therefore perform better academically than those with intolerant attitudes.

3. Students with high levels of student debt will select courses of high extrinsic but low intrinsic utility; hence they are more likely to be studying in professional degrees. On the other hand, students with no or small amounts of student debt will be more likely to choose courses of high intrinsic but low extrinsic utility, and are more likely be studying general degrees.

4. Students with high levels of student debt will be more extrinsically motivated, while those with no or small debt levels will tend to be more intrinsically motivated.

5. Students' debt levels will be significantly associated with their level of life satisfaction and university enjoyment. Those with debt will be less satisfied with their lives than those with no debt.

CHAPTER TWO

METHOD

2.1 Participants and Procedure

The participants consisted of 259 (79.0%) undergraduate and 69 (21.0%) postgraduate students from the University of Canterbury, New Zealand. In addition, 312 participants (95.1%) were in full time study and 16 (4.9%) were part time. All of whom were enrolled in courses for the 2006 academic year. Of the final 328 participants, 175 were female (53.4%) and 153 (46.6%) male. With ages ranging from 17 to 68 years old (M=22.1, SD=5.7).

Ethics approval was obtained from the Human Ethics Committee of the University of Canterbury before any data was gathered. A copy of the Human Ethics Committee approval letter for the present research can be found in Appendix A.

A pilot study was conducted on a group of 20 postgraduate psychology students at the University of Canterbury (New Zealand) before finalising the questionnaire. The advice and suggestions were acted upon to achieve the final 54-item "Student Debt and Academic Motivation Questionnaire" used in the present study.

As the present study was concerned with examining the effects of student debt levels on students' course selection, it was important to promote student participation from all disciplines of academic study. Hence, three methods of participant recruitment were used. The first method involved placing advertisements of the present study on noticeboards across campus (Appendix B). This method resulted in the completion of forty-three questionnaires during the period of June and September of 2006. The second method involved the researcher approaching students attending different courses throughout the beginning of the second semester of the 2006 academic year and asking for their voluntary participation after lectures. This approach yielded seventy-five questionnaires. The third method was to instigate greater student awareness for the present study. Stands advertising the present study were set up outside major campus sites (e.g., the central library, lecture theatre blocks) to recruit participants. Two hundred and thirty seven questionnaires were completed through this method.

The questionnaire took between ten and fifteen minutes to complete. In exchange for their voluntary participation, Cadbury chocolate bars were given out as a sign of appreciation.

Altogether, 355 questionnaires were completed by University of Canterbury students. All completed questionnaires were entered into a spreadsheet and were checked for omissions and completion errors. Questionnaires with omitted data and completion errors were discarded. In all, 328 questionnaires were used for the final analysis. All responses were then entered into Statistica version 7.1 for Windows for analysis.

2.2   Design

The main variables of interest for the present study were degree type, enrolled majors and minors, student debt level, students' motivation orientation, and academic performance.

One of the main independent variables investigated by the present study was degree type. According to the University of Canterbury Enrolment Handbook (University of Canterbury, 2006) degree types were differentiated into three categories: general, professional and postgraduate degrees. General degrees normally take a minimum of three years to complete and students can choose the course composition of their degree within relatively general restriction (University of Canterbury, 2006). General degrees encompassed Bachelor degrees in arts, commerce, science, and social work. On the other hand, professional degrees normally take a minimum of four years to complete and although students do have some choice over the course composition of their degree, there are relatively specific restrictions and course requirements (University of Canterbury, 2006). Professional degrees encompassed bachelor degrees in law, engineering, fine arts, music, speech and language therapy, and education. Lastly, postgraduate degrees included honors, masters, PhDs, diplomas, graduate diplomas, and postgraduate diplomas in all disciplines of study (University of Canterbury, 2006).

Participants' course selection was examined by asking participants to indicate their current major(s) and current minor(s). The eight subject groups were coded as follows: 1 = Arts and Social Work, 2 = Sciences, 3 = Commerce, 4 = Law, 5 = Engineering

and Forestry, 6 = Fine arts and Music, 7 = Education, 8 = Speech and Language Therapy.

Other primary measures for the present study were the participants' student debt levels, their perceived utility selected courses and degrees, their academic motivation, their attitudes towards debt scores and grade point averages (GPA). Several other measures were also included and questions relating to all these measures are presented as follows.

2.3   Measures

2.3.1   Academic Records

One of the main dependent variable in the present study is students' academic performance.

Information and consent forms detailing the purpose of this study were given to the participants after they had agreed to participate in the present study (Appendix C). With signed consent from the participants, a copy of each participant's academic record was retrieved during September of 2006 from the Academic Records Department at the University of Canterbury (New Zealand). The participants were informed of the private and secure nature of the information they provided and the preservation of their anonymity throughout the research.

The two variables of interest from the academic records were the participants' grade point averages (GPA) for the 2006 academic year, and from their total years of

tertiary study at the University of Canterbury. However, one hundred and twenty-five participants had incomplete records due to missing grades from their courses for the 2006 academic year. As student records were retrieved in September 2006, students enrolled in full year and second semester courses and thesis work had not yet completed their studies to allow for those course grades to be incorporated in the calculation GPA values for the 2006 academic year. Therefore, both overall GPA values and the most recent year's GPA value (current GPA) were used as dependent variables in the present study.

2.3.2   Questionnaire

The questionnaire used in this research was a specifically designed 54 item Student Debt and Motivation Orientation Questionnaire. A copy of the full questionnaire may be found in Appendix C. All participants were given identical questionnaires, which included the following sections:

A. Financial information

B. Current financial concerns

C. Factors influencing the choice of degree

D. Instrumentality of the selected courses

E. Perceived value of learning

F. Self-attributes of academic ability

G. Academic motivation

H. Attitudes to student debt scale

I. Happiness – The university experience

J. Demographic information

A detailed description of each questionnaire section follows.

Section A. Financial information

Participants were asked how they are financing their current education at the University of Canterbury. Five categories were presented for selection: Government student loans, family and friends, personal savings, working, and other. Detailed monetary amounts of current debt levels were requested for the following categories: Government student loan, loan from family and or friends, and other loans. In order to compute average debt level per year, participants were asked to recall the number of years they had been accumulating student debt and what year they first took out any form of student debt. Participants were also asked to estimate how long it could take for them to repay their total student debt by selecting one of the four categories: less than five years, between five to ten years, between eleven to fifteen years, and sixteen years or more. Information regarding how the participants were intending to repay their student debt was also gathered, with the participants selecting one or more from the following four categories: working, family and friends, personal savings, and other.

Section B. Current financial concerns

Participants answered five questions regarding their current financial concerns. Ratings for each question were made on a seven-point scale with labelled endpoints.

These questions were taken from previous research conducted by Stradling (2001) on a sample of university students in the United Kingdom (UK). The questions were used to examine the financial concerns of university students and the psychological effects of debt. Participants were asked to rate how easy they thought it would be to avoid taking on repayable debt while studying (1 = not easy, 7 = very easy), as well as the perceived difficulty in repayment of any money they might owe at the end of their education process (1 = not difficult, 7 = very difficult). Participants were also asked to rate whether financial difficulties might have had an effect their academic performance (1 = not affecting, 7 = very affecting), and the relative control they perceived having over their financial situation (1 = not in control, 7 = in total control). Lastly, the participants were asked to rate how worried they were about their ability to finance their degree from start to finish (1 = not worried, 7 = very worried).

Section C. Factors influencing the choice of degree

Information concerning the participants' degree choice was also gathered. The participants were asked to rate the relative importance of the following factors in influencing their choice of degree and major: interest, parental expectations, to obtain a well-paying job, to obtain a job that I enjoy, I am good at the subjects, friends are taking the same subjects, duration of the degree, and lecture times. Participants were asked to rate each factor on a seven-point scale with labelled endpoints, with 1 indicating not important and 7 extremely important.

Section D. Instrumentality of selected courses

To gain more insight into the participants' perceived instrumental value of selected courses for the 2006 academic year, the participants were asked to rate the importance of the following statements: (a) getting good grades in my courses is important for my future academic success, (b) learning the information is important for my future academic success, (c) getting good grades is important for my future occupational success, and (d) learning the information is important for my future occupational success (Turner & Schallert, 2001). Ratings were made on a seven-point scale with labelled endpoints, with 1 representing not important and 7 extremely important.

Section E. Perceived value of learning

The participants indicated on a seven-point scale with labelled endpoints (1 = not at all an investment, 7 = totally an investment) the degree to which they perceived their monetary investment in their university education to be (a) an investment in their future earning power, and (b) an investment in a personal sense (e.g., personal /spiritual growth, joy of learning).

Section F. Self-attributes of academic ability

The students' evaluations of their own academic abilities were measured using the academic subscale of the Pelham and Swann's Self-attributes Questionnaire - SAQ (Pelham & Swann, 1989). This contains four items measuring the participants' self-perceptions of their academic abilities. Firstly the participants were asked to rate their

academic ability relative to other students at the university on a ten-point scale (1 = bottom 5%, 2 = lower 10%, 3 = lower 20%, 4 = lower 30%, 5 = lower 50%, 6 = upper 50%, 7 = upper 30%, 8 = upper 20%, 9 = upper 10%, 10 = top 5%). Second, the participants were asked to rate how certain they were of their academic ability on a nine-point scale with labelled endpoints (1 = not at all certain, 9 = extremely certain). Thirdly, the participants rated the personal importance of academic ability on a nine-point scale with labelled endpoints (1 = not at all important to me, 9 = extremely important to me). Lastly, the participants evaluated their actual current self relative to their perceived ideal self in terms of academic abilities on a nine-point scale with labelled endpoints (1 = very short of my ideal self, 9 = very much like my ideal self).

The SAQ has been shown to be stable over a 4-month period (test-retest r [50] = .77), with a coefficient alpha for internal consistency of .77 (Pelham & Swann, 1989).

Section G. Academic motivation

The participants' academic motivation towards their 2006 academic year courses was assessed using the four subscales from the Motivational Strategies for Learning Questionnaire – MSLQ (Pintrich & Garcia, 1991). The full version of MSLQ is a self-report measure that contains fifteen subscales examining students' motivational beliefs and learning strategies (Pintrich & Garcia, 1991). The reliability of the individual subscales varies in internal consistency with Cronbach's alpha ranging from .62 to .93 (Pintrich & Garcia, 1991).

Subscales from the MSLQ were chosen because of their widespread usage and application as a measure of motivation in university samples (Husman, Derrybebby, Crowson, & Lomax, 2004). Research suggests that the MSLQ is a valid and reliable measure of motivation orientation and task utility (e.g., Husman et al., 2004; Turner & Schallert, 2001).

Four subscales from the MSLQ were selected to measure specific aspects of student motivation relevant to the present study : intrinsic motivation (α = .74), extrinsic motivation (α = .62), task value (α = .90), and self-efficacy (α = .93) (Garcia & Pintrich, 1995; Pintrich & De Groot, 1990; Turner & Schallert, 2001). The intrinsic motivation subscale contained four items that assessed the extent to which students are challenged to learn new things, curious about their topic, derive a sense of satisfaction from learning, and whether they select courses that encourage learning new things instead of getting good grades. The extrinsic motivation subscale consisted of four items which measured the extent to which students are motivated to learn for the satisfaction of getting good grades, external rewards, competition, and improving their grade point average. The task value subscale contained six items that measured the degree to which students perceive what they are learning to be relevant, important, interesting, useful, enjoyable and personally significant. Lastly, the self-efficacy subscale consisted of nine items that examined the students' expectancy for academic success, confidence in their academic abilities, certainty of their understanding of the course material, perception of their ability to accomplish a task, confidence in their skills to perform a task, perceived competency in their performance and learning skills, enjoyment of their learning, and confidence in their academic success.

The students were instructed to respond to the items on a seven-point scale with labelled endpoints, with 1 indicating not at all true to me and 7 indicating very true to me. For each participant, subscale items were summed and averages obtained to form scores for each of the four subscales.

Section H. Attitude to student debt scale

Participants were asked to respond to 14 items which measured their attitude towards debt. The Attitude To Debt Scale was originally developed by Davies and Lea (Davies & Lea, 1995) to measure university students' attitudes towards debt. The scale contains seven pro-debt items (e.g. Students have to go into debt) and seven anti-debt items (e.g. There is no excuse for borrowing money). Participants were asked to rate each item on a seven-point scale with labelled endpoints, with 1 indicating strongly disagree and 7 strongly agree.

This scale has been used on student samples in different countries, Davies and Lea (1995) obtained a Cronbach's alpha of .79 from a sample of university students in the United Kingdom. A New Zealand university student study conducted by Boddington and Kemp (Boddington & Kemp, 1999) found a Cronbach's alpha of .67.

Section I. Happiness – The university experience

Students' happiness and their perception of debt on their level of happiness were assessed using four questions. The questions were adapted from a life satisfaction measure used by Andrews and Withey (Andrews & Withey, 1976) and Diener

(Diener, 2000). Firstly, the participants were asked to respond on a seven-point scale how happy they were with their life as a whole (1 = terrible, 2 = unhappy, 3 = mostly dissatisfied, 4 = mixed, 5 = mostly satisfied, 6 = pleased, 7 = delighted). Participants were then asked how much they are enjoying their university experiences as whole. Responses were made on a seven-point scale with labelled endpoints, with 1 indicating not enjoyable and 7 extremely enjoyable. Two questions concerning the perceived effects of debt were also asked. Firstly, participants rated the extent to which they perceived debt to affect their overall life satisfaction. Secondly, participants rated the extent to which they perceived debt to affect their enjoyment of the university experience. Responses to indicate the effects of debt were made on a seven-point scale with labelled endpoints, with 1 indicating not affecting and 7 indicating very affecting.

Section J. Demographic information

Participants provided demographic information regarding their gender, age, whether they were enrolled in full time or part time study and the number of years they have been studying at the University of Canterbury. They were also asked to provide information on their current enrolled degree(s), major(s) and minor(s). Students' eligibility for NZ government Student Loan Scheme and whether they are enrolled as an international student were also asked.

2.4   Summary of sample characteristics

A breakdown of the sample characteristics by degree category can be seen in Table 1. The sample has a similar composure of gender for general degrees (males 43.2%, females 56.8%), professional degrees (males 47.0%, females 53.0%) and postgraduate degrees (males 55.1%, females 44.9%). As expected there were proportionally more full-time students in each degree type than part-time enrolled students.

Table 1

Sample Characteristics ($N = 328$).

Characteristics	Degree type		
	General Degrees	Professional Degrees	Postgraduate Degrees
Gender (*n*)			
Male	76	39	38
Female	100	44	31
Age (years)			
Mean	22	21	24
Median	20	20	22
Year of study (*n*)			
1	54	24	7
2	54	23	7
3	47	19	15
4	12	10	21
5 and higher	9	7	19
Enrolment status (*n*)			
Full time study	164	82	66
Part time study	12	1	3

CHAPTER THREE

RESULTS

3.1 Degree Information

A summary of the participants' enrolled degrees are shown in Table 2. From the whole sample, 176 (53.7%) participants were enrolled in general degrees, 83 (25.3%) were enrolled in professional degrees, and the remaining 69 (21.0%) were enrolled in postgraduate degrees. In comparison, the current sample had a similar proportion enrolled in general and professional degrees as the whole student population at the University of Canterbury for the 2005 academic year (2005 enrolments: 75.6% general degrees, 24.4% professional degrees). At the University of Canterbury, there have been overall increasing trends in general degree enrolments and decrease in professional degrees (Figure 1).
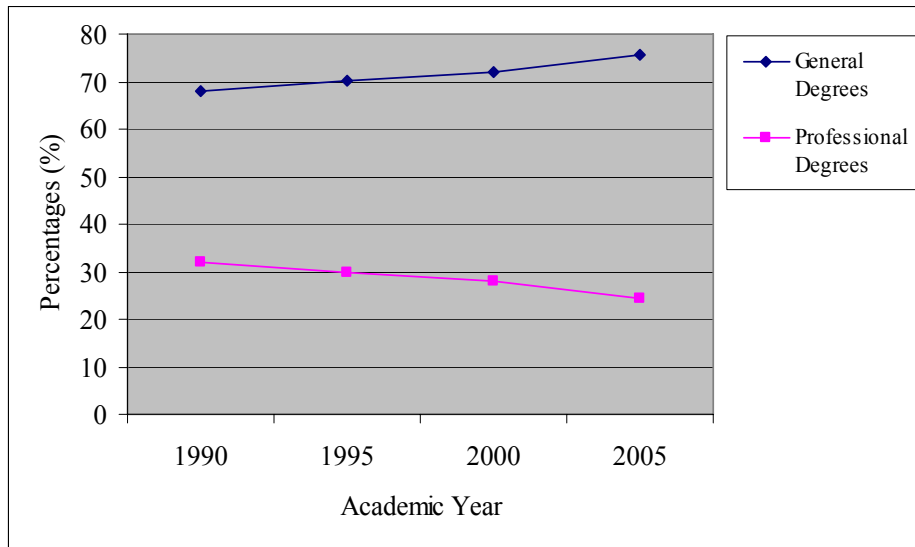
Figure 1: *General and professional degree enrolments at the University of Canterbury for the academic years of 1990, 1995, 2000, and 2005.*

In comparison to previous academic years, the current sample has similar distribution of enrolments by subject as the whole student population at the University of Canterbury (Figure 2).
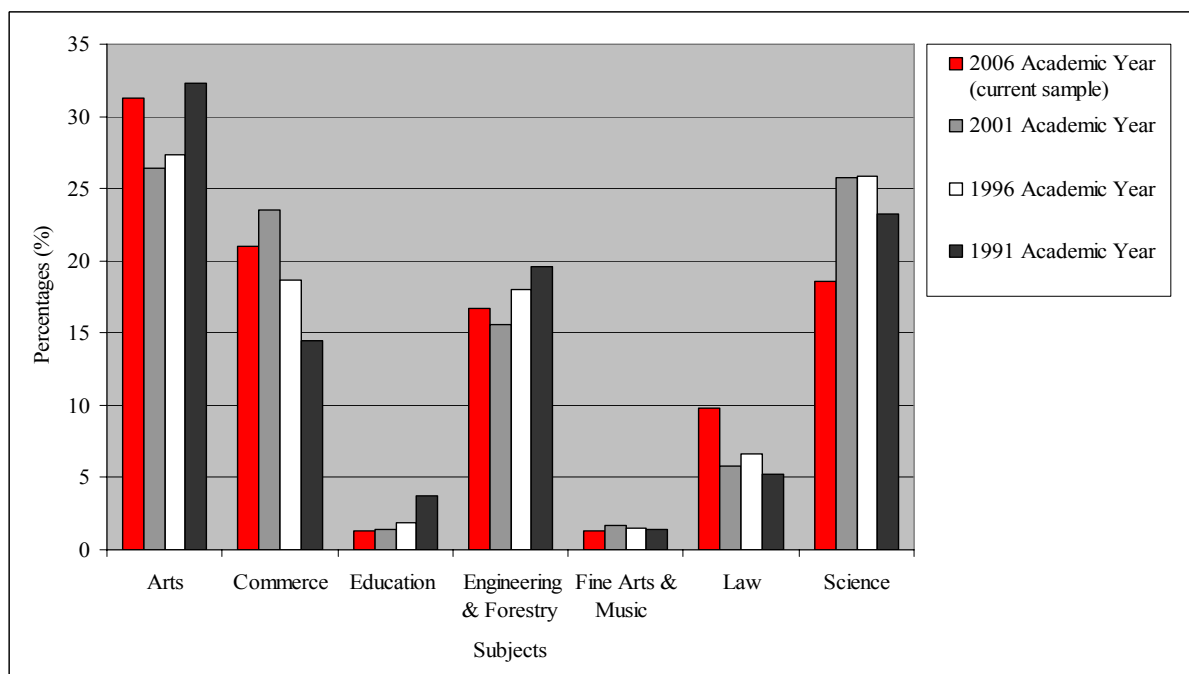
Figure 2: *Current sample's enrolment distribution by subject for the 2006 academic year and the distribution of enrolments by subject for the 1991, 1996, 2001 academic years at the University of Canterbury.*

From the total sample of 328 students, 285 (86.9%) were enrolled in bachelor degrees, 43 (13.1%) students were studying towards a bachelors with honours, 21 (6.4%) were completing their masters, 5 (1.5%) were enrolled in postgraduate diplomas, 4 (1.2%) were enrolled in graduate diplomas, and one student was studying for a doctorate. The overlap in enrolment statistics is due to the 31 (9.5%) students enrolled in double degrees.

Table 2

Summary of the Participants' Enrolled Degree(s).

Degree Types	n	%
General Degrees		
Bachelors of Commerce	77	23.3
Bachelors of Arts	88	26.8
Bachelors of Science	52	15.9
Bachelors of Social work	5	1.5
Professional Degrees		
Bachelors of Speech and language therapy	8	2.4
Bachelors of Engineering	30	9.2
Bachelors of Law	37	11.3
Bachelors of Fine arts	3	0.9
Bachelors of Education	4	1.2
Postgraduate Degrees		
Bachelors of Arts with honours	7	2.1
Bachelors of Science with honours	1	0.3
Bachelors of Engineering with honours	33	10.1
Bachelors of Music with honours	1	0.3
Masters of Science	11	3.4
Masters of Fine arts	1	0.3
Masters of Arts	8	2.4
Masters of Education	1	0.3
Graduate Diploma	4	1.2
Postgraduate Diploma	5	1.5
Doctorate	1	0.3

Across the degree types there were significant differences in age (F (5, 325) = 5.34, p < .01) and year of study (F (5, 325) = 29.49, p < .01). Here and throughout this report a significance level of 5% was employed for all statistical analyses. Post Hoc Tukey Honesty test was then carried out to determine where the differences occurred. Here and throughout this report a significance level of 5% was employed in the Tukey Honesty tests. The results indicated (Tukey, α) professional degree students (M = 20.8, SD = 4.1) were significantly younger than postgraduate students (M = 23.8, SD = 7.2), while postgraduates (M = 3.7, SD = 1.6) have been studying for a significantly longer period than general (M = 2.3, SD = 1.2) and professional degree students (M = 2.5, SD = 1.5). No significant differences (χ^2) were found in the degree type enrolments by sex.

3.2   Financial Information

3.2.1   Methods of financing current education

Participants were asked the methods with which they were financing their current education. Table 3 shows the methods used and their frequency. The majority of students took out a government student loan to fund their university education; followed by loans from family and friends; some students were using their personal savings or working while studying to finance their studies; a number of students had scholarships; while a small proportion of the students took out bank loans.

Table 3

Methods of Financing Current University Education.

Financial source	n	%
Government student loan	271	82.6
Family and friends	107	32.6
Personal savings	70	21.3
Working	74	22.6
Scholarships	31	9.5
Bank loans	2	0.6

The majority of the participants were qualified for a government student loan (92.7%, $n = 304$). However, a small proportion of those who were eligible did not take out a student loan (17.4%, $n = 33$). A Chi square test for independence (χ^2) showed no significant differences between the sexes and the methods for financing current education.

A significant difference was found in the age of the participants who were funding their current education with personal savings ($t (326) = -2.86, p < 0.01$). The students who were funding their education with personal savings ($M = 23.8, SD = 8.3$) were significantly older than those who were not ($M = 21.6, SD = 4.8$). This is representative of the fact that older students would have had more time and opportunities to accumulate personal savings relative to the younger students.

3.2.2 Debt distribution

The debt levels reported varied greatly. Two hundred and ninety-four (89.6%) participants had accumulated some form of debt during their tertiary studies. In contrast, thirty-four participants (10.4%) reported having no debt. Two participants

borrowed money from family and friends without the intent of repayment, and they were subsequently categorised in the no debt category. The maximum debt from all sources for one participant was $65,000, while twenty-two participants had total debt levels over $30,000. The resulting positive skew in the distribution of students' total debt levels led to the reporting of the median, instead of the mean, as it was more representative of the "typical" student. The median and mean total debt incurred by the sample was $10,000 and $12,752 respectively.

The number of years the participants reported to have been in debt ranged from one (29.6%, $n = 97$) to sixteen years (0.3%, $n = 1$), with 79.3% of the participants having had a student debt for less than three years, whereas 10.9% have had a student debt for over five years.

Table 4

Distribution of Debt Amounts for Differing Levels of Study.

Year of study	n (%)	M ($)	Mdn ($)	Min ($)	Max ($)
Undergraduate First year	85 (25.9%)	5,792	4,918	0	25,000
Undergraduate Second year	84 (25.6%)	9,570	9,250	0	50,000
Undergraduate Third year and higher	81 (24.7%)	16,101	15,000	0	60,000
Postgraduate (4th to 8th year)	78 (23.8%)	20,284	20,000	0	65,000

The participants ranged from their first to eighth year of study at the tertiary level. Participants' mean and median debt amounts significantly increased with each year of study (Table 4), from a median amount of $4,918 dollars at first year of study to $20,000 dollars at postgraduate study. However, the number of participants with some form of debt did not change as the year of study increased (Table 5). This was

surprising as previous research showed as the number of years of study increased, so too did the number of participants with debt (Boddington & Kemp, 1999). Nevertheless, the percentage of participants with debt in both the first and third year of study are higher than the reported percentages found by Boddington and Kemp (1999) (Table 5). Such a change could be due to the overall increase in individual debt accrual in New Zealand (Reserve Bank of New Zealand, 2006; Statistics New Zealand, 2002; Thorp & Ung, 2001) and the implementation of the new interest free legislation. This new legislation makes student loans for existing and new student loan borrowers living in New Zealand interest free from the first of April 2006. This might have encouraged first year and existing students to take on a student loan to fund their current education, regardless of its necessity.

Table 5

Percentage of Students at Differing Levels of Study with Debt.

Year of study	Present study (%)	Boddington and Kemp (1999) (%)
First year	88.2%	78%
Second year	90.5%	-
Third year	91.4%	85%
Fourth year and higher	88.5%	-

A significant Spearman rank correlation found that the longer a student is at university the higher their total debt, (ρ (328) = 0.47, p < .05). No significant relationship was found between total debt and age. Furthermore, no significant difference (Mann-Whitney U-Test) was found in total debt levels between the sexes.

Breakdown by the three degree types found a significant difference in students' total debt levels (F (2, 325) = 12.52, p < 0.01). On average, students with general degrees

had lower amounts of total debt (M = 10846.1, SD = 9524.0) than those with professional degrees (M = 11897.4, SD = 9408.3), while postgraduate students owed the most in student debt overall (M = 18640.6, SD = 15810.3). Post Hoc (Tukey, α) results showed that students with general and professional degrees had significantly lower total debt levels than postgraduate students.

For the sample of students with debt, the average amount borrow for each year of debt accumulation was calculated by dividing their total debt level by the number of years they have had this debt. By accounting for the individual differences in the number of years of debt accrual it provides a more accurate representation of average amount borrowed for each student. The mean and median average debt levels for the current sample were $5,310 and $5,000 respectively, while six participants owed more than $20,000 on average for each year they were in debt. This consequent positive skew in the participants' average debt data led to the use of the median to depict the average debt level of a "typical" student.

Breakdown of average debt amounts by sex showed men borrowed significantly more than women, Mann-Whitney U = 11146.0, $p < .01$, with the median borrowed amount for men and women equating to $27,410 and $26,546 respectively.

There was a significant relationship between students' age and average debt, r (328) = -0.20, p <.01. The older the age of the student, the lower the average amount borrowed. This could be due to the comparatively more amount of time and resources older students have had for repayment of their existing student debts, which decreased their average debt over time.

No significant relationship (Pearson's r) was found for students' year of study and average debt. Furthermore, no significant difference (one way - ANOVA) was found in average debt levels for students studying professional, general, and postgraduate degrees.

3.2.3   Distribution of various types of debt

As shown in Table 6, the total amount borrowed by the current sample was $4,182,599. The majority of which was owed in the form of government student loans (86.1%, equating to $3,601,529), 12.6% ($528,670) owed to family and friends, and the remaining 1.7% ($72,400) owed to other financial institutions.

Table 6

Distribution by Debt Type.

Type of debt	M (SD) ($)	Mdn ($)	Min ($)	Max ($)
Student Loan	10980.3 (10,744.0)	8,000	0	65,000
Family and Friends	1,611.8 (5,879.3)	0	0	60,000
Other	220.7 (1,070.4)	0	0	11,000
Total Debt	12,751.83 (11,496.9)	10,000	0	65,000
Average Debt	5,309.7 (3,997.1)	5,000	0	25,000

3.2.4   Length of time for full repayment of total debt

Thirty-four participants from the total sample reported having no debt at all. These participants were placed under the zero category in "length of time to repay total

debt" (Table 7). From the sample with debt, 71.3% believed they could repay their total debt in full within ten years, while 7.6% felt it would take them more than sixteen years (Table 7).

The median and mean expected time for full repayment of total debt was between the five and ten year category ($N = 328$, score median 1.9, score mean = 1.7, $SD = 1.1$). The mean estimated time for full repayment of total debt was approximately 7.3 years, which is longer than the length of time reported by Seaward and Kemp (2000) and Boddington and Kemp (1999). The 2005 annual report of the Student Loan Scheme (Ministry of Education, Inland Revenue, & Ministry of Social Development, 2005) reported 6.7 years as the median forecasted time for full student loan repayment, which is within median and mean range estimated by the current sample. The slightly longer length of time for full repayment estimated by the current sample could be due to the participants basing their estimations on their total amount of repayable debt, rather than their student loan debt alone. In sum, the current sample's estimate in length of time to repay their total debt is close accuracy to current financial forecasts by the Ministry of Education (Ministry of Education et al., 2005).

Table 7

Estimated Length of Time for Full Repayment of Total Debt (N=328).

Time to repay debt	n	%
Zero	34	10.4
Less than 5 years	121	36.9
Between 5-10 years	113	34.5
Between 11-15 years	35	10.7
More than 16 years	25	7.6

3.2.5 Methods of Repayment

The majority of the participants believed they would repay their total student debt by working (83.8%, n = 275). However, 81 (24.7%) participants intend to repay their total debt with personal savings, 47 (14.3%) participants would use funds from family and friends, 5 (1.5%) participants would use their scholarships, 3 (0.9%) participants intend selling personal assets such as their house or car, and 1 (0.3%) participant would use an inheritance to repay their total student debt.

There were no significant differences in repayment methods implemented by each sex and by those pursuing different degrees.

Significant differences were found in the age of the participants that intended to repay their total student debt through family and friends (t (326) = 2.31, p < .05), and those who intended to use personal savings (t (326) = 3.11, p < .01). Participants who intended to repay their total student debt using money from family and friends $(M =$ 20.3, SD = 2.5) or personal savings (M = 20.4, SD = 2.2) were younger than those who did not choose such methods (participants not using family and friends $M =$ 22.4, SD = 6.1; participants not using personal savings M = 22.6, SD = 6.4). The results could be due to younger students being more reliant on their family and friends for monetary support, and therefore foresee it to be a possible source for debt repayment. Furthermore, it is likely that younger students could have a more optimistic view on their ability to save for future repayments than the older students.

3.3 Academic Motivation

3.3.1 Correlations between MSLQ subscales

Reliability analyses were conducted on the four MSLQ subscales (Garcia & Pintrich, 1995) with Table 8 showing the Cronbach's alphas found for each subscale. Pintrich and Garcia (1995) reported an alpha of .68 for intrinsic motivational subscale, and .69 for the extrinsic motivational subscale, both of which were lower than those obtained by the current sample. The task value subscale achieved an alpha slightly lower than the reported .94 by Pintrich and Garcia (1995). This could be due to the present study using the shorter six-item task value subscale instead of the original nine items used by Pintrich and Garcia (1995). The self-efficacy subscale obtained a Cronbach's alpha similar to the .89 reported by Pintrich and Garcia (1995). In sum, the four MSLQ (Garcia & Pintrich, 1995) subscales are shown to be reliable measures of the individual constructs.

Table 8

Descriptive Statistics of the MSLQ Subscales and their Reliability Scores.

	Mdn	M	SD	Min	Max	Cronbach's alpha
Intrinsic Motivation	5.8	5.5	1	2.0	7.0	0.79
Extrinsic Motivation	5.5	5.4	1	1.8	7.0	0.71
Task Value	5.7	5.7	1	2.7	7.0	0.84
Self-efficacy	5.1	5.0	1	2.6	6.9	0.88

A significant positive zero-order correlation between intrinsic and extrinsic motivation subscales indicates that they are not just two endpoints of one continuum, r (328) = .20, $p < .01$. Students who had high intrinsic motivation towards their

university education were often highly extrinsically motivated also. Task value was much more strongly correlated with intrinsic (r (328) = .53, $p < .01$) than extrinsic motivation (r (328) = .27, $p < .01$). Students who were high on intrinsic motivation were more likely to perceive their course material as interesting and useful than those with low intrinsic motivation. Additionally, intrinsic motivation was more strongly correlated with self-efficacy (r (328) =.54, $p < .01$) than extrinsic motivation (r (328) = 0.38, $p < .01$). Students who were more intrinsically motivated towards their courses were more likely to feel efficacious towards their studies than those with low intrinsic motivation. Task value and self-efficacy was also strongly correlated (r (328) = .53, $p < .01$). Students who were efficacious towards their studies were more likely to have perceived their courses to be useful and interesting.

Consistent with previous research (Garavalia, Sheuer, & Carroll, 2002; Garcia & Pintrich, 1995; Husman et al., 2004; Lin, McKeachie, & Kim, 2001; Pintrich & De Groot, 1990; Turner & Schallert, 2001), further analyses in the present study regarding students' academic motivation will be analysed using the intrinsic and extrinsic motivational subscales from the Motivated Strategies for Learning Questionnaire – MSLQ (Garcia & Pintrich, 1995). The intrinsic and extrinsic motivational subscales are specific measures of students' motivation and have been proven to measure unique constructs and are frequently used independently from the larger MSLQ instrument (Garcia & Pintrich, 1995; Pintrich & De Groot, 1990; Pintrich, Smith, Garcia, & McKeachie, 1993).

3.3.2   Demographic information and motivation

Pearson's correlation found significant relationships between the students' year of study with intrinsic (r (328) = .16, p < .01) and extrinsic motivational scores (r (328) = -.12, p < .05). Students' intrinsic motivation towards their courses increased and level of extrinsic motivation decreased the longer they studied at the university.

Sex differences were examined. A significant difference in extrinsic motivational scores between the sexes found female students (M = 5.6, SD =1.0) were more extrinsically motivated towards their studies than males (M = 5.2, SD = 1.1), t (326) = 3.70, p < .01.

3.3.3   Debt and motivation

The financial information provided allowed for comparison of students' total debt levels with their level of academic motivation. Pearson's correlation showed intrinsic motivation was positively correlated with students' total debt levels, r (328) = .15, p < .01, whereas extrinsic motivation was negatively correlated with students' total debt levels, r (328) = -.16, p < .01. Students with high intrinsic motivation towards their studies tended to have higher total debt levels than those with low intrinsic motivation. On the other hand, students with high levels of extrinsic motivation towards their studies tended to have lower levels of total debt than those low on extrinsic motivation.

No significant differences (t-tests) were found in students' intrinsic and extrinsic motivational scores between those with and without debt.

Across the degree types, a significant difference (one-way ANOVA) was found in students' extrinsic motivation (F (2, 325) = 4.43, p < .05). Post hoc analysis (Tukey, α) showed students enrolled in professional degrees (M = 5.73, SD = 0.84) endorsed significantly higher levels of extrinsic motivation than students in general (M = 5.34, SD = 1.12) and postgraduate (M = 5.33, SD = 1.07) degrees.

3.4   Factors Influencing Choice of Degree

Participants were asked to rate on a seven point scale (1 = not important and 7 = extremely important) the relative importance of eight factors in influencing their decisions in degree and major selection at the university. The means, medians and standard deviations for each factor are presented in Table 9.

Table 9

Participants' Ratings for Factors Influencing their Choice of Degree(s) and Major(s).

Factors	M	Mdn	SD
To obtain enjoyable job	6.1	7	1.2
Interest	5.9	6	1.5
Good at the subjects	5.4	6	1.3
To obtain well-paying job	5.2	6	1.6
Parental Expectations	3.4	3	1.9
Length of degree	3.2	3	1.6
Lecture times	2.4	2	1.7
Friends	2.1	1	1.4

Pearson's correlation found a small significant positive correlation between total debt levels and the rated importance of being good at one's subjects for choice of degree(s) and major(s), r (328) = .12, $p < .05$. No other significant relationships were found between the students' total and average debt and the factors influencing their choice of degree(s) and major(s). No significant differences (t-test) were found in the rated importance of each factor between students with and without debt.

Table 10

Pearson's Correlations for Factors Influencing Choice of Degree(s) and Major(s) and Students' Intrinsic and Extrinsic Motivation Scores.

	Academic motivation	
Factors	Intrinsic motivation	Extrinsic motivation
Interest	0.22**	0.03
Parental expectations	-0.11	0.24**
Well Paying job	-0.14*	0.22**
Enjoyable job	0.32**	0.04
Good at the subject(s)	0.22**	0.13*
Friends	-0.17**	0.08
Degree length	-0.14**	0.05
Lecture time(s)	-0.18**	0.01

** Correlation is significant at the .01 level

* Correlation is significant at the .05 level

Pearson's correlation (Table 10) found students who adopted a high level of intrinsic motivation tended to rate interest, obtaining an enjoyable job, and being good at the subjects as being more important than those with low intrinsic motivation. Additionally they also tended to rate obtaining a well paying job, friends taking the same subjects, degree length and lecture times as being less important in their degree and major selection process than those with low intrinsic motivation. Alternatively, students who adopted a high level of extrinsic motivation tended to rate parental

expectation, obtaining a well paying job, and being good at the subjects as more important than those with low extrinsic motivation.

Breakdown by degree type (one way - ANOVA) for the rated importance of the eight factors found students enrolled in professional, general, and postgraduate degrees rated significantly differently for the following factors: parental expectations (F (2, 325) = 3.03, p < .05), friends taking the same subjects (F (2, 325) = 3.18, p < .05), degree length (F (2, 325) = 5.40, p < .01), and lecture times (F (2, 325) = 7.63, p < .01). Post Hoc (Tukey, α) analyses indicated parental expectations and friends taking the same subjects were more important to students enrolled in professional degrees (parental expectations: M = 3.72, SD = 1.8; friends taking same subjects: M = 2.4, SD = 1.7) than postgraduate students (parental expectations: M = 3.0, SD = 1.9; friends taking same subjects: M = 1.8, SD = 1.2). Furthermore, general degree students (M = 3.4, SD = 1.6) rated degree length as being a more important factor in their degree and major selection than professional degree students (M = 2.7, SD = 1.4), while they (general degree students: M = 2.6, SD = 1.8) also rated lecture times as being significantly more important than postgraduate students (M = 1.7, SD = 1.2).

3.5 Current Financial Concerns

Participants were asked to answer five questions regarding their current financial concerns. These five questions were taken from part of a UK study, which examined the financial concerns of a sample of undergraduate students (Stradling, 2001). Ratings for each question are made on a seven-point scale with labelled endpoints, with 4 being the neutral mid-point of each scale. Table 11 shows the mean, median,

and standard deviation of the participants' responses for each question and the

percentage of participants that answered beyond the mid-point of each scale.

Table 11

P*articipants' Current Financial Concerns.*

N=328	M (SD)	Mdn	Percentage of participants answering beyond mid-point	
How easy do you think it is for you to avoid taking on a repayable debt while studying at university?	3.0 (1.9)	3.0	Not easy:	68.6%
To what extent do you feel any debt you might have affect your academic performance?	3.0 (1.8)	3.0	Affecting:	27.4%
How difficult do you think it will be to repay any money you might owe at the end of your university education?	3.9 (1.7)	4.0	Difficult:	43.3%
How much control do you feel you have over your financial situation at this point?	3.8 (1.7)	4.0	Not in control:	48.8%
How worried are you about your ability to finance your degree from start to finish?	3.1 (1.8)	3.0	Worried:	28.1%

Overall, the current sample of New Zealand (NZ) university students were less

concerned with their current financial situation than undergraduates in the UK

(Stradling, 2001). However, more students in the current sample felt less in control of

their financial situation than the reported 39% from the UK study (Stradling, 2001).

The difference in the responses could be due to the present study including both

undergraduate and postgraduate students. Furthermore, cultural differences in the

financial provisions and situations of university students in the UK and NZ could

have resulted in the difference in students' responses to current financial concerns. For example, as tertiary education is more expensive in the UK, students who have to borrow to fund their education will incur more debt than those studying in NZ for the same qualifications (*UK Universities and HE Colleges: 2006/7 annual tuition fees for undergraduate and postgraduate (MA/MSc) degrees and for visiting students*, 2006).

Analyses (t-tests) were conducted to examine the differences in current financial concerns for students with and without debt. Students with debt ($M = 2.9$, $SD = 1.8$) perceived it to be significantly harder to avoid taking on repayable debt while studying than those with no debt ($M = 4.1$, $SD = 2.2$), $t(326) = -3.86$, $p < .01$. As expected, students with debt ($M = 4.0$, $SD = 1.7$) felt it was harder to repay any debt they might have after graduation than those with no debt ($M = 3.1$, $SD = 1.8$), $t(326) = 2.63$, $p < .01$.

Pearson's correlation indicated that the higher the level of total debt a student had the more likely they will rate it as being not easy to avoid taking on repayable debt while studying at university ($r(326) = -.21$, $p < .01$). Students who had larger total debt felt it was more difficult to repay their debt after completing their degree ($r(326) = .19$, $p < .01$). Students' total debt levels were also significantly correlated to the level of perceived control over their financial situations ($r(326) = -.18$, $p < .01$). Students with larger total debt levels were more likely to perceive themselves to have less control of their financial situation.

Breakdown of the students' responses by degree type found there were significant differences in the general, professional and postgraduate students' perceived

difficulty in repayment of total debt after completing their degree(s) (F (2, 325) = 3.69, p < .05), and their perceived ability to finance current education (F (2, 325) = 3.19, p < .05). Post Hoc (Tukey, α) results found students with general degrees (M = 4.1, SD = 1.8) perceived it to be significantly more difficult to repay their accumulated student debt once they finish their studies than postgraduate students (M = 3.5, SD = 1.8). Additionally, general degree students (M = 3.3, SD = 1.9) were more worried over their ability to finance their current education from start to finish than postgraduates (M = 2.7, SD = 1.5).

Pearson's correlation indicated that there were significant relationships between students' intrinsic motivation scores and their attitude towards taking on repayable debt while studying (r (328) = -.12, p < .05) and the perceived control over their current financial situation (r (328) = -.14, p < .05). Students endorsing high levels of intrinsic motivation felt it was significantly more difficult to avoid taking on repayable debt while studying than students endorsing low intrinsic motivation. Furthermore, highly intrinsically motivated students also felt significantly less in control over their current financial situation than students with low intrinsic motivation. A significant relationship between students' extrinsic motivation and their perceived ability to finance current education (r (328) = .19, p < .01) showed those who were highly extrinsically motivated were significantly more worried about their ability to finance their degree from start to finish.

3.6   Instrumentality of Selected Courses

Participants were asked to rate on a seven-point scale (1 = not important, 7 = extremely important) the relative importance of four statements regarding the perceived utility of their courses for the 2006 academic year. In general, students believed it was important to achieve good grades and learn the information from their courses in order to achieve future academic and occupational success (Table 12).

Table 12

Students' Responses for Instrumentality of Their Selected Courses.

Instrumentality	M	Mdn	SD
Grade for academic success	5.5	6	1.4
Information for academic success	5.7	6	1.3
Grade for occupational success	5.6	6	1.4
Information for occupational success	5.7	6	1.4

Pearson's correlation found students' debt levels were not significantly correlated with the four instrumentality items. Furthermore, no significant differences were found in students' responses between those with and without debt.

Breakdown by degree type found a significant difference (one-way ANOVA) in students' rated importance of getting good grades for future academic success, F (2, 325) = 3.14, $p < .05$. Post Hoc (Tukey, α) analysis found students with professional degrees ($M = 5.8$, $SD = 1.2$) rated getting good grades for future academic success as significantly more important than postgraduates ($M = 5.2$, $SD = 1.8$). Additionally, the rated importance of getting good grades for future occupational success was significantly different for general, professional, and postgraduate students, F (2, 325)

= 4.12, $p < .05$. Post Hoc (Tukey, α) analysis found students with professional degrees ($M = 5.9$, $SD = 1.1$) rated getting good grades for future occupational success as being significantly more important than postgraduates ($M = 5.2$, $SD = 1.8$).

Table 13

Correlational Results of Student Perceived Instrumentality of Their Courses and Their Intrinsic and Extrinsic Motivation Scores.

	Academic Motivation	
Instrumentality	Intrinsic motivation	Extrinsic motivation
Grade for academic success	0.13*	0.32**
Information for academic success	0.24**	0.11
Grade for occupational success	0.10	0.37**
Information for occupational success	0.20**	0.18**

** Correlation is significant at the .01 level

* Correlation is significant at the .05 level

Pearson's correlations were conducted to examine how intrinsically and extrinsically motivated students rated the perceived usefulness of their courses (Table 13). Students with high intrinsic motivation perceived learning the information from their courses for both academic and occupational success to be significantly more important than those with low intrinsic motivation, while students with high extrinsic motivation perceived achieving good grades from their courses for both academic and occupational success as significantly more important those with low extrinsic motivation. However, students with high intrinsic motivation were more likely to rate achieving good grades as important for future academic success, while students with

high extrinsic motivation were more likely to rate learning their course information as important for their future occupational success.

3.7 Perceived Value of Learning

Participants were asked to rate, on a seven point scale (1 = not an investment, 7 = totally an investment), the degree to which they perceived their university education to be an investment in their future earning power and their personal fulfilment. In general, students perceived their university education as much of an investment in future earning power ($M = 5.4$, $Mdn = 6.0$, $SD = 1.4$) as personal fulfilment ($M = 5.2$, $Mdn = 5.0$, $SD = 1.4$).

No significant relationships were found between students' perceived value of learning and their debt levels. Furthermore, no significant differences were found in the perceived value in learning for students' with and without debt, and across the three degree types.

Pearson's correlation found students who endorsed high levels of intrinsic (r (328) = .18, $p < .01$) or extrinsic motivation (r (328) = .21, $p < .01$) perceived their education as being more of an investment in their future earning power than those who endorsed low levels of either. Moreover, students who were highly intrinsically motivated towards their studies tended to perceive their education as being more of an investment in personal fulfilment than those who had low intrinsic motivation, r (328) = .36, $p < .01$, while extrinsic motivation was not significantly correlated with

students' perception of their education as an investment in personal fulfilment, r (328)

= .05, p = .36.

3.8   Self-attributes of Academic Ability

Students were asked to respond to four items which measured self-perceptions of their academic abilities. Surprisingly, 90.6% of the students perceived their academic ability in the upper 50% range of the whole student population at Canterbury University. 74.7% of the students were certain of their academic abilities and 86.9% of the students believed that academic abilities were personally important. When asked to compare their actual self relative their perception of the ideal self in terms of academic abilities, 75.0% of the students believed they were somewhat like their perceived ideal.

Table 14

Students' Perceptions of Their Academic Abilities.

SAQ Items	M (SD)	Mdn	Min	Max	US Students (Turner & Schallert, 2001) M
Perception of own academic abilities	6.9 (1.3)	7.0	1	10	7.7
Perceived certainty of own academic abilities	6.2 (1.6)	6.0	1	9	6.8
Perceived personal importance of academic abilities	6.9 (1.5)	7.0	1	9	7.7
Academic abilities: Self ideal discrepancy	6.3 (1.6)	7.0	1	9	-

On the whole, students were very confident of their academic abilities, and perceived it to be of high importance (Table 14). In comparison with undergraduates in the US (Turner & Schallert, 2001), the current sample were slightly less confident and self assured about their academic abilities, while the undergraduates in the US also rated academic abilities as personally more important than students in New Zealand. The difference in responses could be due to the cultural differences in academic competitiveness and the value placed on academic achievement by students in the two countries.

Pearson's correlations found significant relationships between students' length of study and their certainty of own academic abilities (r (328) = .13, $p < .05$) as well as their perceptions of their academic abilities (r (328) = .19, $p < .01$). As the length of time a student studies at the university increases, the more competent and certain they will feel about their academic abilities. Students' ages were not found to be significantly correlated with the self-perception of academic abilities items.

No significant correlations were found in students' responses on self-perception of their academic abilities and their debt levels, and no significant differences were found between those with and without debt.

A significant difference (one-way ANOVA) was found in the students' perception of their academic abilities relative to other students at the university for the three degree types, F (2, 325) = 10.91, $p < .01$. Post Hoc (Tukey, α) analysis found general degree students ($M = 6.6$, $SD = 1.3$) perceived their academic abilities relative to other students at the university to be significantly lower than professional ($M = 7.3$, $SD = $

1.3) and postgraduate degree students (*M* = 7.3, *SD* = 1.3).

Pearson's correlation results showed students with high intrinsic motivation towards their studies were also more likely to be very confident of their academic abilities and perceived it to be more personally important than those with low intrinsic motivation (Table 15). On the other hand, students who had high extrinsic motivation towards their studies were also more likely to perceive academic abilities to be of high personal importance, while they also will tend to believe they were competent in their abilities.

Table 15

Pearson's Correlation Results of Student Perception of Their Academic Abilities and Their Intrinsic and Extrinsic Motivational Scores.

	Academic motivation	
SAQ items	Intrinsic motivation	Extrinsic motivation
Students' perception of their academic abilities	0.35**	0.17**
Students' certainty of their academic abilities	0.32**	0.11**
Students' perception the importance of academic abilities	0.40**	0.49**
Students' perception of actual self alike to ideal self in terms of academic abilities	0.27**	0.05

** Correlation is significant at the .01 level

* Correlation is significant at the .05 level

3.9 Attitudes to Debt Scale

A principal component analysis (valid n = 328) was performed on the participants' responses on the attitude to debt scale (Davies & Lea, 1995). Three factors were detected using Scree Plot analysis (Figure 3). The identified factors measured whether

it was acceptable to borrow, delayed versus immediate gratification, and debt compulsion. However, the items for each factor were not always consistent and easily identified. This suggests that the single factor originally proposed by Davies and Lea (1995) for the attitude to debt scale was not strong enough to hold for the current sample. Nevertheless, to allow a basis for comparison with previous research, it was decided to treat the scale as having only one primary factor as in previous studies (Boddington & Kemp, 1999; Davies & Lea, 1995; Lea et al., 2001).
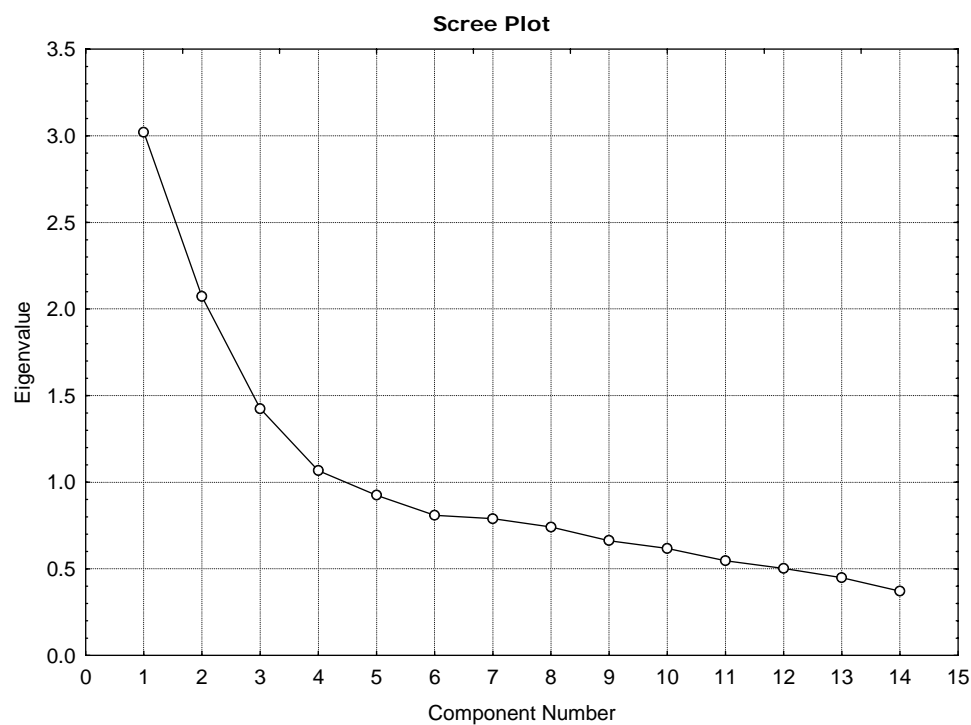
Figure 3: *Scree Plot of Eigenvalues for the attitude to debt scale.*

Reliability analysis was conducted on the attitude towards debt scale. The Cronbach's alpha for this sample was .68, which is lower than the reliability reported by Davies and Lea (1995). A UK study measuring the attitude to debt of a sample of school students, undergraduates, postgraduates and ex-students achieved an alpha level of .70. A Cronbach's alpha of .73 was reported when the scale was used on a sample of

Chinese participants (Wang, Chan, & Chen, 2001). Although the present study achieved a Cronbach's alpha similar to the .67 found by Boddington and Kemp's (1999) study consisting of a similar New Zealand student sample, all of these studies using the attitude to debt scale (Davies & Lea, 1995) have presented lower reliability than the reported alpha level of .79 found by Davies and Lea (1995). In line with the factor analysis findings, the attitude to debt scale might be dated and could also be a culturally specific measure which may not be strong enough to hold for samples other than undergraduates in the UK.

Ratings for the fourteen items were summed for each participant to give a single total attitude to debt score. A highly positive attitude to debt score means the participant was "pro" debt (i.e. the participant had tolerant attitudes towards debt); while a negative score indicates the participant was "anti" debt (i.e. the participant had intolerant attitudes towards debt). Participants' scores ranged between -38 and 27, with a median of 4.5, mean of 3.8, and a standard deviation of 10.9.

In comparison to previous studies (Table 16), the current sample had a more intolerant attitude towards debt at all levels of study than previous samples (Boddington & Kemp, 1999; Davies & Lea, 1995; Lea et al., 2001). The current sample showed similar attitudes towards debt as the samples in previous UK studies (Davies & Lea, 1995; Lea et al., 2001), suggesting that there may not be much of a difference in attitudes towards debt between the two cultures. Interestingly, the current sample 's attitude to debt scores are dramatically lower than those found by Boddington and Kemp (1999) (Table 16). As both studies consisted of similar student

samples, the difference found suggests that there might be a shift in New Zealand university students' attitudes towards debt.

Breakdown (t-test) of students' attitude to debt scores by sex found male and female students did not significantly differ. Additionally, students' age was not significantly correlated with their attitudes to debt.

Previous studies have commonly found students became more tolerant towards debt as their year and level of study increased (Boddington & Kemp, 1999; Davies & Lea, 1995; Lea et al., 2001). In the present study, students at stage three were more tolerant towards debt than those in stage one of undergraduate study, while they also had the most pro debt attitude out of students at all levels of study (Table 16). However, Pearson's correlation found students' attitude towards debt were not significantly correlated with their year (r (328) = .03, p = .65) and level of study (r (328) = .03, p = .58).

Table 16

Attitude to Debt Score Comparison with NZ and UK Studies.

	New Zealand Studies		United Kingdom Studies	
Samples	Present study	Boddington & Kemp (1999)	Lea, Webley, & Bellamy (2001)	Davies & Lea (1995)
	M (SD)	M	M	M
Stage 1 Undergraduate Students	3.4 (9.1)	5.21	4.55	4.33
Stage 3 Undergraduate Students	4.8 (11.1)	7.2	4.7	4.81
Postgraduate Students	3.8 (13.8)	11.23	4.6	NA

However, a significant relationship was found between the students' attitude towards debt score and the number of years they have had debt, r (328) = .13, $p < .05$. The longer the students have had debt the more tolerant they were towards debt. The current results indicates that it is not the length of time a student studies that alters their attitudes towards debt but rather the length of time a student has been accumulating debt. The differences in the results could be due to students taking on debt for the first time beyond their first year of study. In the current sample, fifteen percent of the students took on debt for the first time during or after their second year of university study. Additionally, there are greater variance in the current sample 's year of study (ranging from first to eighth) and the number of years they have had student debt (ranging from zero to sixteen). Similar previous research has consisted of samples of university students ranging from first to fourth year of study (Boddington & Kemp, 1999; Davies & Lea, 1995). Furthermore, the number of years the students have had any form of debt was not measured previously (Boddington & Kemp, 1999; Davies & Lea, 1995), this could have confounded the significant relationship found between students' year of study and their attitudes towards debt.

A significant difference was found in students' attitudes towards debt between those with and without debt, t (326) = 3.76, $p < .01$. Students with debt ($M = 4.6$, $SD = 10.6$) showed more tolerance towards debt than those without ($M = -2.7$, $SD = 11.5$). Pearson's correlation found students who had larger total and average debt levels were significantly more tolerant towards debt and vice versa (total debt: r (328) = .21, $p < .01$; average debt r (328) = .14, $p < .05$).

When students' attitude to debt scores were correlated with their responses to the current financial concern questions, significant relationships were found between students' attitudes towards debt and the perceived ease of taking on repayable debt while studying (r (328) = -.20, p < .01), the perceived effect of debt on academic performance (r (328) = -.13, p < .05), and the perceived control over their financial situation (r (328) = -.13, p < .05). Students who have a more tolerant attitude towards debt tend to perceive taking on repayable debt while studying as not easy, they tend to also feel that debt does not have an effect on their academic performance, and that they have little control over their financial situation.

No significant difference was found in students' attitude to debt between the three degree types, F (2, 325) = 2.14, p = .12. However, general degree students (M = 3.7, SD = 10.8) on average had a less tolerant attitude towards debt than professional degree students (M = 5.7, SD = 9.0), while postgraduate students (M = 2.1, SD = 12.7) had the most intolerant attitude towards debt out of the three degree types.

For the motivational variables, a significant relationship was found between students' extrinsic motivation scores and their attitude to debt scores, r (328) = -.16, p < .01. Students who endorsed low levels of extrinsic motivation tended to have a more tolerant attitude towards debt and vice versa.

3.10   Happiness – The University Experience

When students were asked how happy they were with their life as a whole, 86.9% responded in the positive range, above the neutral mid-point of the scale. As shown in

Table 17, 15.2% of the participants were "delighted" with their life as a whole, which is considerably higher than the 4% shown in Diener and Diener's (1995) cross-cultural life satisfaction study. The mean and median values for students' overall life satisfaction were 5.6 and 6.0 respectively, with a standard deviation of 1.0.

Table 17

Participants' Perceptions of Their Life Satisfaction.

Ratings of Life Satisfaction	n	%
Delighted	50	15.2
Pleased	144	43.9
Mostly Satisfied	91	27.7
Mixed	34	10.4
Mostly Dissatisfied	5	1.5
Unhappy	1	0.3
Terrible	3	0.9

In comparison with life satisfaction findings from other countries (Cha, 2003; Diener & Diener, 1995; Diener et al., 1995), the current sample of university students in New Zealand was overall more satisfied with their lives.

Students were also asked to rate how much they enjoyed their university experiences as a whole on a seven point scale (1 = not enjoyable, 7 = extremely enjoyable). 88.7% of the participants responded above the neutral point, in the positive range of the scale, paralleling the percentage of participants that felt a positive level of overall life satisfaction. The mean and median values for students' enjoyment of their university experience were 5.6 and 6.0 respectively, with a standard deviation of 1.0. Results show that the majority of the students felt an overall positive level of satisfaction with both their life and university experience.

Students' were asked to rate the impact they perceived debt to have on their life satisfaction and university enjoyment. The responses showed 43.0% of participants felt debt had some form of effect on their overall life satisfaction, and 35.7% of participants felt debt had some form of effect on their university enjoyment. On average, students perceived debt to have had little effect on both their overall life satisfaction (*M* = 3.7, *Mdn* = 4.0, *SD* = 1.8) and the university enjoyment (*M* = 3.5, *Mdn* = 3.0, *SD* = 1.8).

Breakdown by sex showed no significant differences (t-tests) in students' responses on the four happiness items. Pearson's correlation found no significant relationships between students' age, their total and average debt with their ratings on the four happiness items.

No significant differences (t-tests) were found between students' responses for overall life satisfaction and university enjoyment for those with and without debt. However, a significant difference was found in students' perceived effect of debt on overall life satisfaction for those with and without debt, *t* (326) = -2.47, *p* < .05. Students with debt (*M* =3.7, *SD* =1.8) perceived debt to have less of an effect on their overall life satisfaction than those with no debt (*M* = 4.4, *SD* = 1.8). This parallels the attitude to debt findings where students with no debt endorsed more of an "anti debt" attitude (*M* = -2.7, *SD* = 11.5) while students with debt endorsed a more "pro debt" attitude (*M* = 4.6, *SD* = 10.6). Students with debt tend to perceive debt to have little impact on their lives and they also have a more tolerant attitude towards debt; hence they are less concerned about debt accumulation than those with no debt.

A significant difference was found in students' ratings of university enjoyment across the three degree types, $F(2, 325) = 3.47$, $p < .05$. Post Hoc (Tukey, α) analysis for this finding was not significant. However, the mean scores showed students enrolled in all three degree types have a high level of enjoyment of their university experience (general degree students: $M = 5.5$, $SD = 1.1$; professional degree students: $M = 5.8$, $SD = 1.0$; postgraduate students: $M = 5.8$, $SD = 1.0$). No significant differences were found across the degree types for students' overall life satisfaction and the effects of debt on both overall life satisfaction and university enjoyment.

For students academic motivation, Pearson's correlation showed intrinsic motivation to be significantly correlated with both overall life satisfaction and enjoyment of the university experience, while extrinsic motivation was significantly correlated with students' enjoyment of their university experience and their perception debt to have had an effect on both their overall life satisfaction and university enjoyment (Table 18). Highly intrinsically motivated students tend to be more satisfied with their lives and perceived their university experience as more enjoyable than those with low intrinsic motivation. On the other hand, students with high extrinsic motivation tend to enjoy their university experience more and perceive debt to have more of an impact on their overall life satisfaction and university enjoyment than those with low extrinsic motivation.

Table 18

Correlational Results of Students' Responses on the Happiness Items and Their Intrinsic and Extrinsic Motivational Scores.

Happiness items	Academic motivation	
	Intrinsic motivation	Extrinsic motivation
Life satisfaction	0.31**	0.02
Debt affect life satisfaction	0.07	0.23**
University enjoyment	0.34**	0.15**
Debt affect university enjoyment	0.10	0.16**

** Correlation is significant at the .01 level

* Correlation is significant at the .05 level

3.11 Academic Performance

The participants' overall GPA values had a mean and median of 5.0 and 5.2 respectively, with a standard deviation of 2.0. The participants' current GPA values had a slightly higher mean and median value of 5.3 and 5.6 respectively, and a standard deviation of 2.1. As shown in Figure 4, the distributions of both overall and current GPA values appear to be relatively normal.
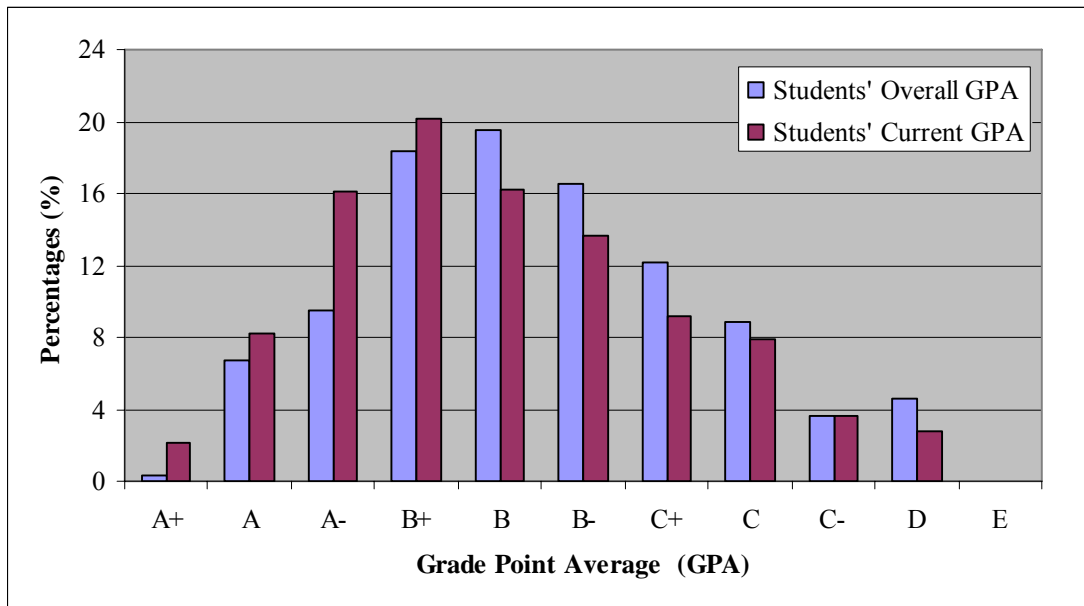
Figure 4: *Distribution of participants' overall and current GPA values.*

Figure 5 shows the distribution of GPA values for the whole student population at the University of Canterbury. The current sample's distribution of GPA values appears to be relatively representative of the whole student population at the University of Canterbury.
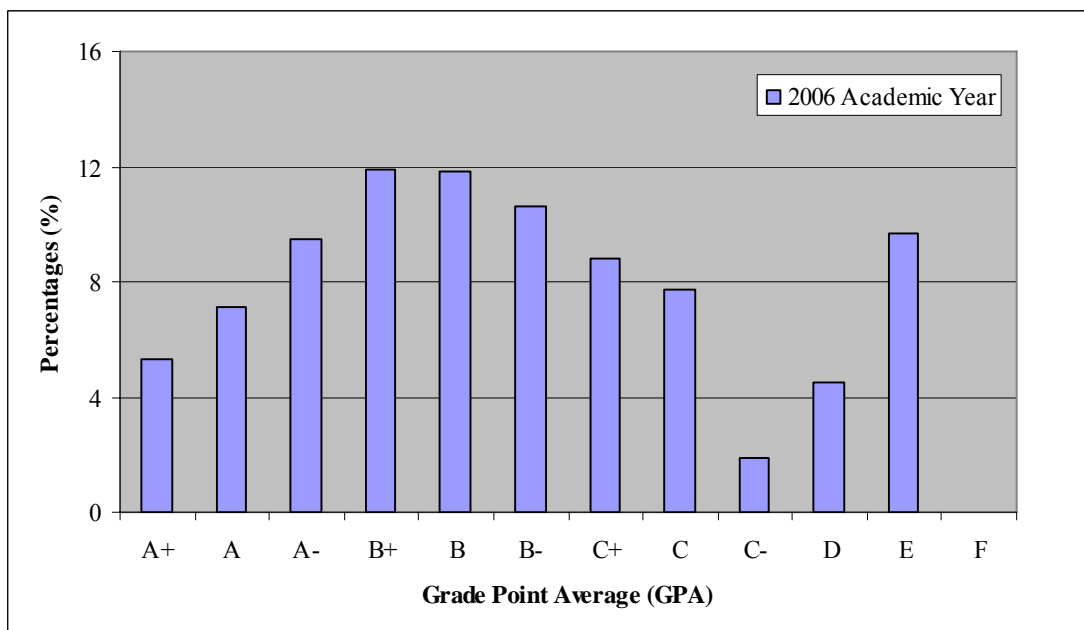
Figure 5: *Distribution of grades at the University of Canterbury for the 2006 academic year.*

Students' overall and current GPA values significantly differed across the sexes (overall GPA: t (326) = 3.58, $p < .01$; current GPA: t (326) = 3.67, $p < .01$). Female students (overall GPA: $M = 5.3$, $SD = 2.0$; current GPA: $M = 5.65$, $SD = 2.12$) had significantly higher overall and current GPA values than males (overall GPA: $M = 4.54$, $SD = 2.03$; current GPA: $M = 4.83$, $SD = 2.05$).

A significant relationship was found between students' year of study and their current academic year's GPA values, r (328) = .21, $p < .01$. The longer the students studied at the university, the higher their current grades.

When examining the effects of student debt on students' academic performance, Pearson's correlation showed there were no significant relationships between students' total and average debt levels and their overall and current GPA values (Table 19). However, significant differences in overall and current GPA values were found for students with and without debt (Overall GPA: t (326) = -2.53, $p < .05$; Current GPA: t (326) = -2.17, $p < .05$). Students with debt (Overall GPA: $M = 4.9$, $SD = 2.0$; Current GPA: $M = 5.2$, $SD = 2.0$) achieved significantly lower overall and current grade point averages than those with no debt at all (Overall GPA: $M = 5.8$, $SD = 2.2$; Current GPA: $M = 6.0$, $SD = 2.2$).
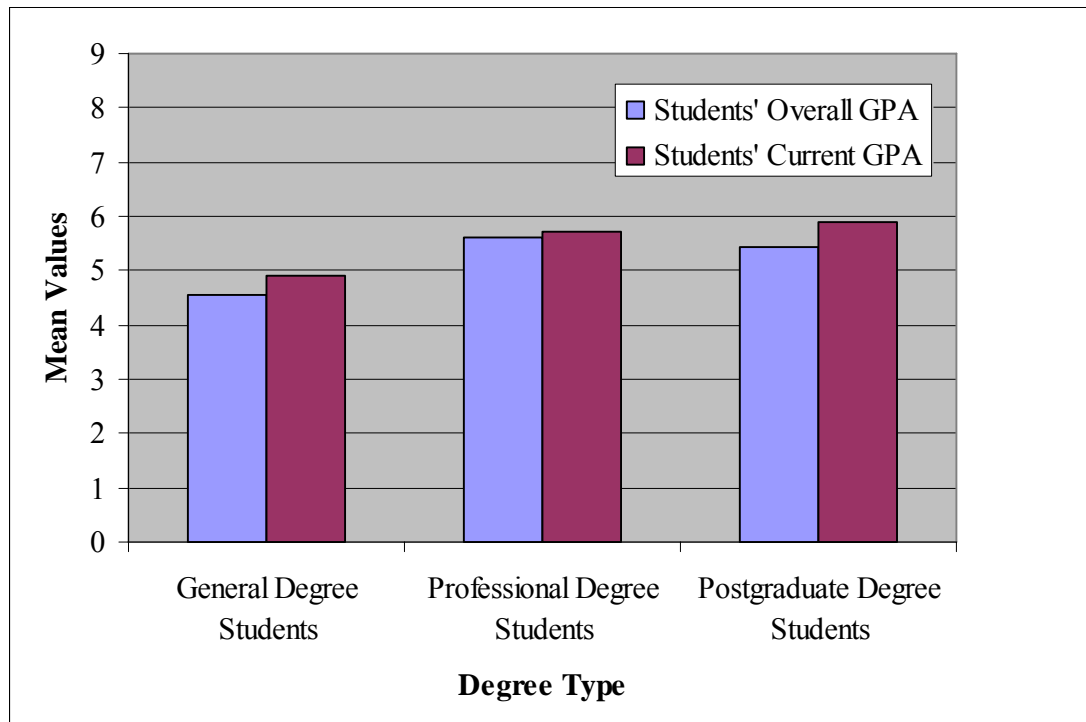
Figure 6: *Overall and current GPA values across degree types*

Overall and current GPA values were also examined across degree types. One-way ANOVA results (Figure 6) indicated students studying general, professional and postgraduate degrees significant differed in both overall and current GPA values (overall GPA: $F (2, 325) = 10.79$, $p < .01$, current GPA: $F (2, 325) = 8.25$, $p < .01$). Post Hoc (Tukey, α) analyses found students studying general degrees (overall GPA: $M = 4.5$, $SD = 2.1$; current GPA: $M = 4.9$, $SD = 2.1$) achieved significantly lower overall and current GPA values than students studying professional (overall GPA: $M = 5.6$, $SD = 1.6$; current GPA: $M = 5.7$, $SD = 1.8$) and postgraduate (overall GPA: $M = 5.5$, $SD = 1.9$; current GPA: $M = 5.9$, $SD = 2.0$) degrees.

Students' intrinsic motivation, extrinsic motivation, task value, and self-efficacy scores were all positively correlated with their overall and current GPA values (Table 19). Self-efficacy showed the strongest correlations with both overall and current

GPA values. Students who believed and perceived their academic abilities to be competent were achieving higher overall and current GPAs than those who did not. Furthermore, students who perceived the information learnt from their courses as interesting and important also preformed better academically than those who did not. Interestingly, students' intrinsic and extrinsic motivational scores were similarly correlated with both overall and current GPA values. Students who were highly intrinsically or extrinsically motivated towards their studies performed better academically than those who were low on either.

Table 19

Correlational Results of Students' Overall and Current GPA Values with Their Intrinsic Motivation, Extrinsic Motivation, Task Value, and Self-efficacy Scores.

Academic performance	MSLQ Subscales				Student Debt	
	Intrinsic motivation	Extrinsic motivation	Task value	Self-efficacy	Total Debt	Average Debt
Overall GPA	0.20**	0.22**	0.14**	0.29**	-0.06	-0.10
Current GPA	0.24**	0.20**	0.15**	0.28**	0.05	-0.08

** Correlation is significant at the .01 level

* Correlation is significant at the .05 level

The relationship between students' academic performance and their self-perceptions of academic abilities were examined to access whether self-beliefs and expectancies of academic abilities corresponded to actual performance. Results (Table 20) found students' perceptions of their own academic abilities were significantly correlated with their overall grade point average, with the strongest correlation of shown between self perceptions of personal academic ability and overall GPA value, r (328) = .54, $p < .01$. Students who perceived and believed their academic abilities to be competent and capable achieved higher overall GPAs than those who did not. The

results indicate students' perceptions and expectancy of their academic abilities are strongly related to their actual performance.

Table 20

Pearson's Correlations of Students' Overall and Current GPA Values and Their Perceptions of Their Academic Abilities.

	Academic Performance	
SAQ items	Overall GPA	Current GPA
Self-perceptions of academic abilities	0.54**	0.48**
Self-certainty of academic abilities	0.26**	0.21**
Self-importance of academic abilities	0.27**	0.25**
Self-ideal discrepancy	0.12*	0.10

** Correlation is significant at the .01 level

* Correlation is significant at the .05 level

Pearson's correlation between students' attitude towards debt (ATDS) and grade point average values (GPA) found *s*tudents who were more tolerant towards debt tended to achieve lower overall grades than those with intolerant attitudes towards debt, r (328) = -.15, $p < .01$. Although results showed students who endorsed more tolerant attitudes towards debt they perceived debt to have less effect on their academic performance (r (328) = -.13, $p < .05$), their overall academic achievements were lower than those who endorsed intolerant attitudes. Consequently, hierarchical regression was performed to examine whether students' attitudes towards debt influenced the relationship between students' debt level and academic performance. An interaction variable of students' attitude towards debt and their total debt levels was created to test for the moderating effect. The first regression model showed a significant regression, $R^2 = .02$, F (2, 325) = 3.90, $p < .05$, with students' attitudes towards debt as a significant predictor of students' overall GPA value, $\beta = -.14, p < .05$. The

second regression model added the interaction variable to examine the moderating effect. The entry of the interaction variable yielded a significant increase in accounted variance in students' overall GPA values, $R^2 = .04$, $F (3, 325) = 4.53$, $p < .01$, with $\Delta R^2 = .02$, $F (1, 324) = 5.70$, $p < .05$. The significant individual predictors were student's attitudes towards debt ($\beta = -.14$, $p < .05$) and the interaction variable ($\beta = .13$, $p < .05$). Students' attitudes towards debt were also found to significantly moderate the relationship between students' debt levels and current academic performance (full results of this analysis can be found in Appendix D). The results show (Figure 7) anti-debt students (ATDS -1) who are concerned about debt accumulation tend to perform less well as they accumulate more debt. On the other hand, pro-debt students (ATDS +1) who are less concerned about accumulating debt tend to perform better as they incur more debt while studying.
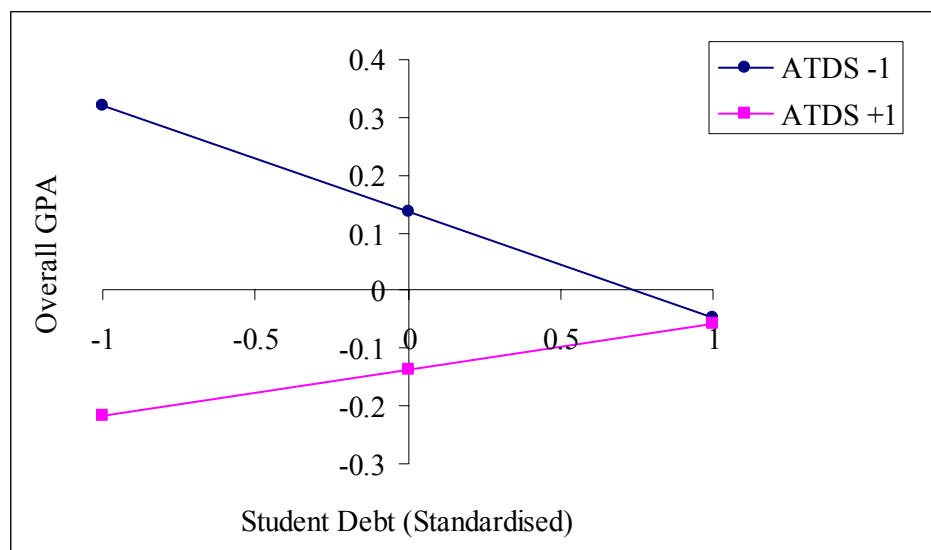
Figure 7: The interaction of students' attitudes towards debt on the effect of student debt on academic performance.

For the students' current financial concerns, Pearson's correlations found students' perception of the impact of debt on their academic performance was significantly correlated with both overall, r (328) = -.19, p < .01, and current GPA values, r (328) = -.16, p < .01. Students who perceived debt to have had less of an effect on their academic performance achieved higher overall and current GPA values than those who perceived debt to be very affecting.

When GPA values were correlated with students' perceived instrumentality of their selected courses, a significant relationship existed for students' current GPA values and their rated importance of learning course information for future academic success, r (328) = -.12, p < .05. Students who rated learning course information as very important for achieving future academic success tended to achieve lower current GPA values than those who rated it as being not so important.

For the perceived value of learning items, Pearson's correlation found students' overall GPA to be significantly correlated with the perception of their university education as being an investment in future earning power, r (328) = .12, p < .05. Students who achieved higher overall GPA tended to perceive their university education as being more of an investment in future earning power than those who achieved lower overall GPA.

No significant relationships were found between students' responses on the four happiness items and their overall and current GPA values.

3.12   Multiple Regressions

Although students overall GPA reflects a more consistent picture of students' academic performance over time, students' current GPA values were chosen for the multiple regression model because it presented more relevance in examining the present impact of certain factors in predicting students' academic performance.

Five components were used in the prediction of students' current academic performance; expectancy, value, instrumentality, debt and happiness. Stepwise (hierarchical) multiple regression was performed to examine the relative importance of the components as well as each individual variable for their predictive value in students' current academic performance.

Before conducting the regressions, tolerance values and bivariate correlation coefficients between the independent variables were examined to check for multicollinearity. The expectancy component variables (perception of academic ability, certainty of academic ability, self-ideal discrepancy, and self-efficacy) showed relatively lower tolerance values and also high bivariate correlations with both other independent variables and the dependent variables. Additionally, preliminary multiple regression results using all four components in explaining current GPA values showed the expectancy variables to have consistently high beta values (e.g., Perception of academic ability: $\beta > .45$, $p < .01$). The consistently significant predictors from the expectancy component parallel the bivariate correlations results, suggesting that there may be a problem of multicollinearity. Consequently, the expectancy component was excluded in the final stepwise multiple regression analyses.

The complete results of the regression analyses are presented in Table 21.

The first regression model was concerned with determining the effects of the value variables, both additively and individually, in explaining students' current academic performance. A regression equation was calculated with students' current GPA values as the dependent variable, and the value variables of intrinsic and extrinsic motivation, task value, and importance of academic ability as the independent variables. The value component was significant in the prediction of students' current GPA, $R^2 = .09$, F (4, 323) $=$ 8.35, $p < .01$, yielding two significant predictors: the perceived importance of academic abilities, $\beta = .14$, $p < .05$, and intrinsic motivation, $\beta = .18$, $p < .01$.

The second regression model added the students' responses on the four instrumentality items to determine whether students' attribution of their courses to future career and academic goals contribute in explaining their current academic performance. In predicting students' current GPA, the addition of the instrumental component yielded a significant multiple regression, $R^2 = .14$, F (8, 319) $=$ 6.72, $p < .01$, with a significant increase in accounted variance, $\Delta R^2 = .05$, F (4, 316) $=$ 4.70, $p < .01$. The significant predictors for current GPA included the value variables of importance of academic abilities, $\beta = .17$, p $< .05$, and intrinsic motivation, $\beta = .19$, p $< .01$, and the instrumental variable of learning course information for future academic success, $\beta = -.21$, p $< .01$.

The third regression model added the debt component, which included students' total debt amount and attitude to debt score. The addition of the debt component did not significantly contribute to the prediction of students' current GPA, $R^2 = .15$, $F (10, 317) = 5.51$, $p < .01$, $\Delta R^2 = .004$, $F (2, 317) = .73$, $p = .49$. At this step, the significant variables predicting students' current GPA remained the value variables importance of academic abilities, $\beta = .17$, $p < .05$, and intrinsic motivation, $\beta = .18$, $p < .01$, and the instrumentality variable of learning course information for future academic success, $\beta = -.21$, $p < .01$. None of the debt variables were significantly predicting current GPA values.

The final regression model included the four happiness items in predicting students' current academic performance. The happiness items included students' ratings for overall life satisfaction, enjoyment of the university experience, and the effects of debt on both. The addition of the happiness items did not significantly add in the prediction of students' current GPA values, $R^2 = .15$, $F (14, 313) = 4.04$, $p < .01$, $\Delta R^2 = .005$, $F (4, 313) = .45$, $p = .78$. The significant predictors at this step of the regression remained the value items of perceived importance of academic abilities ($\beta = .18$, $p < .01$), and intrinsic motivation ($\beta = .18$, $p < .01$), and the instrumentality item of learning course information for future academic success ($\beta = -.19$, $p < .05$). Furthermore, none of the variables for the happiness component were significant predictors for current GPA values.

The results indicate students' perception of the importance of academic abilities, intrinsic motivation and learning course information as significant predictors of their current academic performance. Although the four components (value, instrumental,

debt and happiness) were significantly predicting students' current GPA values, they were only accounting for a very small amount of variance (Table 21). Previous research examining students academic performance have identified students' cognitive abilities (e.g., IQ), pervious performance, self-efficacy, and self aspirations as the most significant predictors of actual performance (e.g., Blustein, 1986; McKenzie & Schweitzer, 2001; Zax & Rees, 2002). Therefore, although the present results showed the significance of the value, instrumental, debt, and happiness components in predicting students' academic performance, the contribution of these components in actual predictive value are low and somewhat marginal.

Table 21

Hierarchical Regression Analysis Predicting Students' Current GPA Values.

Steps Predictor variables	R^2	ΔR^2	β	SE β	p
Step 1: Value Component	.10**				
Importance of academic ability			0.14	0.07	0.037
Intrinsic motivation			0.18	0.06	0.006
Extrinsic motivation			0.10	0.06	0.092
Task value			-0.03	0.06	0.690
Step 2: Value and Instrumentality components	0.14**	0.05**			
Importance of academic ability			0.17	0.07	0.011
Intrinsic motivation			0.19	0.06	0.003
Extrinsic motivation			0.08	0.06	0.188
Task value			0.04	0.07	0.534
Achieving good grades for future academic success			0.11	0.06	0.097
Learning course information for future academic success			-0.21	0.07	0.003
Achieving good grades for future occupational success			-0.05	0.07	0.472
Learning course information for future occupational success			-0.06	0.07	0.354
Step 3: Value, Instrumentality and Debt components	0.15**	0.004			
Importance of academic ability			0.17	0.07	0.011
Intrinsic motivation			0.18	0.06	0.006
Extrinsic motivation			0.09	0.07	0.188
Task value			0.04	0.07	0.519
Achieving good grades for future academic success			0.10	0.06	0.107
Learning course information for future academic success			-0.21	0.07	0.003
Achieving good grades for future occupational success			-0.05	0.07	0.490
Learning course information for future occupational success			-0.06	0.07	0.421
Total debt			0.05	0.06	0.326
Attitude to debt score			-0.05	0.05	0.388

Table 21 (continued)

Hierarchical Regression Analysis Predicting Students' Current GPA Values.

Steps	Predictor variables	R^2	ΔR^2	β	SE β	p
Step 4: Value, Instrumentality, Debt and Happiness components		0.15**	0.005			
	Importance of academic ability			0.18	0.07	0.008
	Intrinsic motivation			0.18	0.07	0.006
	Extrinsic motivation			0.10	0.07	0.147
	Task value			0.05	0.07	0.429
	Achieving good grades for future academic success			0.10	0.07	0.143
	Learning course information for future academic success			-0.19	0.07	0.008
	Achieving good grades for future occupational success			-0.05	0.07	0.473
	Learning course information for future occupational success			-0.06	0.07	0.425
	Total debt			0.06	0.06	0.292
	Attitude to debt score			-0.05	0.06	0.399
	Life satisfaction			0.03	0.07	0.616
	Debt affect life satisfaction			-0.01	0.07	0.941
	University enjoyment			-0.09	0.07	0.197
	Debt affect university enjoyment			-0.02	0.07	0.822

CHAPTER FOUR

DISCUSSION

4.1 Student Debt

The respondents utilised a variety of methods to fund their education, such as personal savings, working while studying, scholarships, borrowing from family and friends, the Student Loan Scheme, and bank loans. While a small proportion did not have debt from any source, the majority of the students incurred some form of debt while pursuing their tertiary studies. The predominant source of finance, used by eighty-three percent of the students, was the Student Loan Scheme (SLS). This is higher than the reported sixty-five percent found by Boddington and Kemp (Boddington & Kemp, 1999). The higher incidence of student loan borrowing by the current sample may reflect the recent implementation of the interest free student loan policy in the April of 2006 (Ministry of Social Development, 2005). Students may now be more inclined to borrow from the SLS, as they do not have to worry about incurring interest on their student loans and can possibly allocate any available financial resources into profitable investments for future economic gains. Under the new policy, it may be rational for individuals to borrow from the SLS, whether it is necessary or not.

Debt levels increased significantly with the students' year of study. Postgraduates' median debt level was considerably higher at $20,000. Student debt amounts at each level were higher than those reported by Boddington and Kemp (1999).

Students' estimation of the total length of time required to repay their total debt appears to be more accurate than reported previously (Boddington & Kemp, 1999; Seaward & Kemp, 2000). The current sample's estimate was an average of 7.3 years. Although this is longer than the times estimated by previous New Zealand samples (Boddington & Kemp, 1999; Seaward & Kemp, 2000), it is closer to the full repayment time of 6.7 years forecasted by the Ministry of Education (2005). The slightly longer estimate by the current sample could be due to the participants basing their repayment forecasts on their total amount of repayable debt, rather than their student loan debt alone.

Debt levels differed across the degree types. This possibly reflects the differing tuition costs associated with the different courses and degrees. Students with general degrees had lower total debt levels than professional degree students, while postgraduate students had the highest amount of total debt.

4.2   The Effects of Student Debt

More than half of the students in the current sample felt accumulating debt was an unavoidable part of tertiary education, and nearly a third of the students perceived debt to affect their academic performance. While many students in the present study were concerned over their financial situation, university students in New Zealand appear less concerned overall than students in the UK (Stradling, 2001). On the other hand, students in New Zealand felt less in control of their financial situation than students in the UK (Stradling, 2001). This suggests the current sample of New

Zealand university students may perceive debt as more of a necessity than students in the UK. This difference in perception may lead to different attitudes towards debt.

Davies and Lea's Attitude to Debt Scale has been used to measure both prospective and current students' attitudes. The present study's results yielded comparable findings to previous UK studies, suggesting students in New Zealand and United Kingdom have similar attitudes towards debt. However, students in the present study were less tolerant of debt than those in Boddington and Kemp's (1999) New Zealand study. The difference could suggest students are developing a more anti-debt attitude over the years, perhaps because of the increased awareness of the consequences of borrowing. Over the years, the increased publicity given to student debt in New Zealand may have provided current and prospective students more information regarding the possible long-term consequences of borrowing (e.g., Mulrooney, 2007; New Zealand Alliance Party, 2007). Although debt accumulation is still a necessity for many tertiary students, the increased awareness of the consequences of borrowing may have led to a change in attitudes and perception towards student debt.

Consistent with previous findings (Davies & Lea, 1995; Scott & Lewis, 2001; Scott et al., 2001), the process of accumulating debt is directly related to one's tolerance towards debt. As students' debt levels increased so too did their tolerance towards debt. At the same time, students with debt were more tolerant to debt than those without. This further supports Davies and Lea's (2001) results which infer that debt accumulation precedes increased tolerance, indicating the possibility of increased debt dependency for those who are already in debt (Davies & Lea, 1995; Scott & Lewis, 2001).

Empirical evidence has consistently shown students to become more tolerant of debt the longer they continue tertiary education (Davies & Lea, 1995; Lea, Webley, & Bellamy, 1995; Lea et al., 2001; Webley, Burgoyne, Young, & Lea, 2001). However, the present study found contradicting results. In the present study, student progressively became more tolerant towards debt as they continued through their undergraduate studies, with stage one undergraduates having lower tolerance towards debt than stage three undergraduates. Postgraduate students, however, had similar attitudes towards debt as stage one undergraduates. The difference in results compared with previous studies could be the consequence of greater variance in the number of years of tertiary study of the current sample. Additionally, some students in the current sample started accumulating debt beyond their first year of study.

Although the number of years students have had debt was not measured in previous studies (Boddington & Kemp, 1999; Davies & Lea, 1995; Lea, Webley, & Bellamy, 1995; Lea et al., 2001; Webley et al., 2001), the present study found it was significantly correlated with tolerant attitudes toward debt. The results can be explained by the Cognitive Dissonance Theory (Festinger, 1957; Festinger & Carlsmith, 1959). Cognitive dissonance appears when individuals are experiencing conflicting attitudes, beliefs, or perceptions relating to their behaviour (Festinger, 1957; Festinger & Carlsmith, 1959). Students are likely to experience more conflicting attitudes towards debt when they start having to acquire debt themselves, which consequently leads to the adjustment of their beliefs, perceptions, and attitudes towards debt. This provides further support for Davies's (1995) hypothesis that

suggests changes in individual attitudes towards debt precedes changes in their behaviour of debt accrual.

The adjustment of cognitive attitudes towards debt as one's level of borrowing changes could also lessen the impact of debt on their performance. The present study found supporting evidence for hypothesis two that students' attitude towards debt mediated the effect of student debt on students' academic performance. The Yerkes-Dobson Law (Yerkes & Dobson, 1908) for workload and arousal postulates that a certain level of arousal leads to high performance, while lower or higher levels produce lower performance. Similarly, the effect of students' debt levels may lead to either higher or lower academic performance depending on their attitudes towards debt. Individuals who are greatly concerned with debt accumulation are likely to experience a decrease in their performance as their debt increases. However, debt accumulation for those who are not greatly worried about it may be an extra motivating force to achieve higher levels of performance.

4.2.1   Academic performance

While research has investigated students' concern about the effect of financial difficulties on their academic performance, no previous research, to my knowledge, has examined the actual relationship between student debt and academic performance. The present study found students' debt levels were not significantly correlated with, or predictive of, their academic performance. However, students with debt achieved lower current and overall grade point averages than those with no debt. This relationship should be interpreted with caution as it may not be casual. Some of the

students with no debt were funding their current education with scholarships, suggesting they are likely to be high achievers. Further longitudinal studies following students' performance over time and controlling for university entrance scores could provide a more consistent and accurate picture of the effects of debt on performance.

The present study found students' perceived effects of debt on their academic performance were correlated to actual effects found. This could suggest that students who were less concerned about debt were less affected, thus they tend to perform better than those who perceived debt to be very affecting. Further research examining the causality of the relationship between the students' perceived effects and actual effects of debt could provide a more accurate explanation of the direction of the relationship.

In sum, present findings provide little support for hypothesis one. Although some students perceived debt to have a significant effect on their academic performance, there is little actual effect.

4.2.2   Course selection

Different degrees offer different potential income capacities. Such differences were expected to influence students' decisions about course and degree selection as they judge both the current and future utility of their studies. One result did support hypothesis three. Students enrolled in professional degrees tended to have higher debt levels than those enrolled in general degrees. Consistent with the Human Capital Theory (Becker, 1964), the higher debt levels of professional degree students are a

reflection of higher anticipated future earnings. While students overall were concerned about their financial situation, students with general degrees were more concerned about how to finance their current education and their ability to repay accumulated debt after graduation. On the other hand, student debt did not influence students' perception of the instrumental value of their selected courses for achieving future academic and occupational success. Students in general perceived their courses to be high in instrumental value for both future academic and occupational success, regardless of their debt level.

Although students enrolled in specialist degrees had more debt than those in general degrees, the instrumental value of the selected courses was not affected by debt levels. Hence, little support is found for hypothesis three: students' debt levels had little effect on the perceived utility of their course selection.

4.2.3   Motivation

Contrary to Deci and Ryan's results (Deci & Ryan, 2000), students can have both intrinsic and extrinsic motivation towards their education, and the two motivation dimensions are positively correlated. Students who were highly intrinsically motivated towards their studies usually exhibited high levels of extrinsic motivation and vice versa.

Consistent with previous findings (Pintrich & Garcia, 1991), both intrinsically and extrinsically motivated students perceived their education as useful, and important,

and held high self-efficacy beliefs of their abilities. However, this was especially the case for students who were highly intrinsically motivated.

The results did not support hypothesis four. Although student debt is an external constraint on students' motivation, it did not have an undermining effect on student's intrinsic motivation. On the contrary, student debt was found to have a significant positive relationship with intrinsic motivation and a significant negative relationship with extrinsic motivation. Students who endorsed high levels of intrinsic motivation also had higher levels of student debt than those with low. Student debt did not appear to provide further external motivation, but rather it may have had an undermining effect on extrinsic motivation. Students who exhibited high levels of extrinsic motivation towards their studies had lower levels of student debt than those with low levels of extrinsic motivation. These results could be explained by the different financial concerns for students endorsing varying levels of intrinsic and extrinsic motivation. Students who were highly intrinsically motivated seem to have perceived debt as an unavoidable part of tertiary education and they also felt less in control of their financial predicament than students who endorsed low levels of intrinsic motivation. On the other hand, students who endorsed high levels of extrinsic motivation were more concerned with their ability to finance their current studies than students who endorsed low extrinsic motivation.

Students who endorsed higher levels of either intrinsic or extrinsic motivation performed better academically than those who were low on either. Thus, contrary to expectation, students' intrinsic motivation was also a significant predictor of their academic performance.

Deci and Ryan (2000) argued that intrinsically motivated individuals are driven by interest and satisfying innate psychological needs for autonomy, while extrinsic motivated individuals' behaviour is driven by instrumental value and external variables. The present study found while students who had high intrinsic motivation towards their studies placed greater importance on learning course information for both occupational and academic success, they also perceived achieving good grades as important for future academic success. At the same time, students who had high extrinsic motivation towards their studies placed greater importance on getting good grades for achieving future occupational and academic success. They also believed that learning the information was important for their future occupational success. Thus both intrinsic and extrinsic motivation promoted learning and achievement.

Several studies have found feedback or environmental events that are perceived as controlling can diminish one's intrinsic motivation. However, if the feedback or environmental events are perceived by the individual as acknowledgement of or as increasing their competence then such external reinforcements appear to enhance intrinsic motivation (Deci, 1971; Deci & Ryan, 2000). Accordingly, the Cognitive Evaluation Theory (Deci & Ryan, 2000) also suggests that the perception of control associated with events and rewards are important in determining the positive or negative influence on one's intrinsic motivation. Thus, students who are highly intrinsically motivated may rely on external assessments as a means of evaluating their level of competence. Although these students are more motivated to learn for the intrinsic value of learning, they also demonstrate their competency in their learnt knowledge and skills through assessments.

Both intrinsically and extrinsically motivated students perceived their current education to be an investment in future earning power. However, highly intrinsically motivated students also perceived their education as an investment in personal fulfilment, whereas highly extrinsically motivated students tended not to. This is consistent with Deci and Ryan's finding that extrinsic motivation focuses on the instrumental value of learning rather than the enjoyment of the process (Deci & Ryan, 2000).

Consistent findings on extrinsic motivation are seen in degree type results. Students enrolled in professional degrees had significantly higher levels of extrinsic motivation than either general degree or postgraduate students. This may be because professional degrees provide entry to higher income occupations, and therefore lead to higher extrinsic payoffs for current investment in their education. However, the direction of causality is unclear from the current evidence. It is possible that students who are highly extrinsically motivated are more likely to pursue professional degrees for their apparent extrinsic instrumental value, or that the process of studying professional degrees shifted students to become more extrinsically motivated. Further research is needed to determine the possible causality between debt and instrumentality for course selection.

Consistent with previous research, the present study found students' beliefs in their own abilities reflected their academic achievements (Pajares & Miller, 1994; Pintrich & De Groot, 1990; Schunk, 1991; Zimmerman, Bandura, & Martinez-Pons, 1992). Students enrolled in professional, general, and postgraduate degrees placed different levels of importance on academic achievements for future academic and occupational

success, and they also differed in their perceptions of their own academic competency and abilities. These differences were reflected in academic performance. General degree students perceived their academic abilities to be lower than other students within the university, and their actual grades were in fact significantly lower than those studying towards professional and postgraduate degrees.

4.2.4 Happiness

The respondents were comparatively satisfied with their lives (Cha, 2003; Diener & Diener, 1995). The majority were satisfied with both their life as a whole (86.9%) and their university experience (88.7%). Students' perception of the effects of debt on happiness depended on whether they had any debt themselves. Consistent with the findings on students' attitude towards debt, students with debt perceived it to have very little effect on their life satisfaction, while those with no debt perceived debt to have more consequence on their life satisfaction.

At the same time, students in general perceived debt to have minimal effect on their life satisfaction and university enjoyment. The perceived effects of debt parallel the actual effects found. No significant relationships were found between students' debt levels and their life satisfaction and university enjoyment. In sum, the results did not provide evidential support for hypothesis five.

Students who had high levels of intrinsic motivation were more satisfied with their lives and experienced more enjoyment from their university experience. In contrast, students who had high levels of extrinsic motivation were more concerned with the

effects of debt on their life satisfaction and university enjoyment. This highlights the different focus driving the behaviour of intrinsically and extrinsically motivated individuals, while also supporting Hesketh's argument that similar environments can produce rather different subjective experiences (Hesketh, 1999).

CONCLUSION AND IMPLICATIONS

Although most students have some form of student debt, the perceived effects of debt on happiness and academic performance differed across individuals. The present study found such differences are dependent on students' attitudes towards debt and their level of motivation towards their studies.

According to the Life-Cycle Hypothesis (LCH) and the Human Capital Theory (HCT), it is rational to borrow in order to attain adequate knowledge and skills required for future economic gains. In general, students perceived their education as a worthwhile investment in both personal fulfilment and future earning power. However, many students felt taking on debt was an unavoidable part of tertiary education, and perceived themselves to have little control over their financial situation.

Student borrowing overall and at each level of study has increased considerably from those reported in previous New Zealand studies (Boddington & Kemp, 1999; Seaward & Kemp, 2000). The increasing trend in student borrowing is consistent with the findings reported by the Student Loan Scheme annual report (Ministry of Education et al., 2006). The current trends in student borrowing may have legitimised debt accumulation from an early age, while further encouraging a debt dependency culture.

Although student debt was hypothesised to affect students' perceived utility in course selection, academic motivation, happiness, and academic performance, the present study found little evidential support for the proposed hypotheses. Student debt did not affect the instrumental value attributed to students' course selection process, nor was

it found to affect their motivation towards their education. Additionally, student debt levels and the presence of debt did not impact on students' overall life satisfaction and enjoyment of their university experience. Although having no debt while studying is associated with better academic performance, the reality is that not many students can go through tertiary education without incurring debt. However, there is no evidence to suggest that increasing debt levels were directly associated with poor academic performance.

Consistent with the results found by a recent study by Kemp, Horwood, and Ferguson (Kemp et al., 2006), the present study found no evidential support to suggest students' debt levels affected students course selection, motivation, happiness, and academic performance. Additionally, students in New Zealand showed little concern over their financial situation and perceive debt to have very little effect on their academic performance and happiness. Such perceived effects of debt paralleled those found in the actual results. These results indicate the fears some have expressed towards debt may be inflated (e.g., Duggan, 2007; Kelly, 1994; New Zealand Alliance Party, 2007; New Zealand Union of Students' Associations, 2004; Smart, 2006; Valins, 2004) .

Previous evidence has suggested that there is a lack of economic knowledge, responsibility, and independence in student populations particularly in the UK (Scott, 2006; Scott & Lewis, 2001; Valins, 2004). However, the current sample of New Zealand students was accurate in their estimate of the time required for full debt repayment. A possible explanation is that students in New Zealand students are now more aware of the consequences before taking on debt so they are better equipped

with the knowledge to accurately estimate their future income and hence predict the time required for full repayment.

Although no effects of debt were found in the present study, the growing reliance on student loans and subsequently the presence of student debt is at the intersection of several public policy concerns. The cost of tertiary education in New Zealand has progressively increased over the years. Such a trend is reflected in student loan borrowing patterns (Ministry of Education et al., 2006). The increasing trend of students accumulating large amounts of debt while studying directly impacts on their ability to save during and after their education process (James, 2005). The prospect of larger repayments may impact on students' decisions regarding their future, (e.g., asset accumulation, home ownership and having children) (James, 2005). These changes in human behaviour could affect the future social structure of the nation. From the individual level, high debt levels can impede an individual's ability to save for retirement. From the level of the government, it is more beneficial both economically and socially if individuals in New Zealand can provide for their own retirement. Although the introduction of the KiwiSaver Scheme in July 2007 and financial literacy strategies targeting secondary school student are steps in the right direction (Inland Revenue, 2007; Valins, 2004), the Student Loan Scheme appears to undermine these established policies. Additionally, as the student population has the highest debt to asset ratio, further education programs and strategies to encourage financial responsibility and management could be implemented targeting the student culture. By providing access to relevant information and resources, the choice is on the individual to decide when and how they wish to consume and save for their future.

While most individuals encounter their first experience with debt during their tertiary education, such borrowing behaviour is suggested by Stradling (2001) to predict future credit use. As most of the students perceive taking on debt as an unavoidable part of gaining higher qualifications, the lack of personal choice is reflected in the lack of control students feel towards their financial predicament. The feeling of helplessness about being in debt may lead to students taking on more debt. This behaviour change could have direct implications for the level of future indebtedness for the current generation of indebted students. Although taking on debt may be helpful and necessary for most students, policies and strategies to increase student awareness and understanding regarding debt repayment and the effects of debt on their life as a whole could allow for better informed decisions in regards to being in debt. As the present study showed debt to have very little to no effect on students' course selection, motivation, happiness and academic performance, such results could give light to the possible myths and fears of being in debt. Thus being better informed may assert more personal power and control in the individual so they can make rational decisions regarding debt and prevent unnecessary borrowing.

LIMITATIONS AND FUTURE RESEARCH RECOMMENDATIONS

A limitation of the present study is the small proportion of students surveyed with no debt. Although recruitment was open to all students to participate whether they have debt or not, the fact that the present study was measuring the effects of student debt may have discouraged some students with no debt from participating as they perceived it to have little relevance to them. It is possible that the majority of students take on debt during their tertiary studies; hence there are only a few students in the whole student population that have no debt at all. Although statistics show that less than 50% of the eligible students borrowed from the Student Loan Scheme each year since 2004 (Ministry of Education et al., 2006), it does not however, account for students that incur debt from other sources. Nonetheless, retesting the hypotheses under more even sample conditions would strengthen current results.

Although the questionnaire design of the present study provides insightful information regarding students' borrowing patterns, it offers little explanation of the cognitive processes students go through when they decide to borrow. Hesketh (1999) argued that questionnaires have a suggestive nature which imposes an economic reductionism perspective on interpreting the results. The present results do not provide evidence explaining how students arrived at their decisions on debt accumulation. Students with the same amount of student debt may have had very different reasons for borrowing, and these different reasons may have had different impact on their attitude, decision, motivation, and performance. Further research on why students are borrowing during their studies and how they came to these decisions might provide a more in-depth and evaluative analysis of students' borrowing behaviour.

The present study examined students' course selection at one point in time. As a result we were unable to account for changes in students' course selection. A large percentage of students change majors and career paths during their time at the university (Flint, 1998), thus making it difficult to determine a definite relationship between students' debt patterns and degree selection. Longitudinal designs measuring students' debt levels and course selection during their whole tertiary study process could offer a more consistent explanation on the effects of students' borrowing patterns on their course selection.

Current research on student debt has provided empirical evidence on the effects of debt on students' attitudes and performance. However, most of the previous research (although see Vicenzi, Lea, & Rumiati, 2001) has been conducted in countries where there are existing student loan systems (e.g., Lea, Webley, & Bellamy, 1995; Scott & Lewis, 2001). It would be interesting to examine students' attitudes, performances and motivation towards their studies in countries where student loan schemes are not yet present. The freedom of choice for degree selection and ability to pursue tertiary study without the presence of financial concerns and possible borrowing could provide a more informative representation of students' behaviour under neutral conditions. Such results could provide comparative data on the effects of student debt while providing further understanding of the implications of student debt on the life of students.

REFERENCES

A'Court, S. (2003). *The 2001 household savings survey.* Wellington: Statistics New Zealand.

Andrews, B., & Wilding, J. M. (2004). The relation of depression and anxiety to life-stress and achievement in students. *British Journal of Psychology, 95*(4), 509-521.

Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being.* New York: Plenum Press.

Antonides, G. (1989). An attempt at integration of economic and psychological theories of consumption. *Journal of Economic Psychology, 10,* 77-99.

Ashby, A., Robertson, G., & Parata, R. (1996). *Student debt casebook*: New Zealand University Students' Association and Aotearoa Polytechnic Students' Union, 1996.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1989). Self-regulation of motivation and action through internal standards and goal systems. In L.A.Pervin (Ed.), *Goals concepts in personality and social psychology* (pp. 19-86). Hillsdale, NJ: Erlbaum.

Bandura, A. (1991). Self-regulation of motivation through anticipatory and self-reactive mechanisms. In R.A.Dienstbier (Ed.), *Nebraska Symposium on Motivation* (Vol. 38, pp. 69-164). Lincoln: University of Nebraska Press.

Barr, N. A. (2004). Higher education funding. *Oxford Review of Economic Policy, 20*(2), 264-278.

Barr, N. A., & Crawford, I. (2005). *Financing higher education: Answers from the UK.* UK: Routledge.

Baum, S., & Saunders, D. (1998). *Life after debt: Results of the national student loan survey.* Braintree, MA: Nellie Mae Foundation

Becker, G. S. (1964). *Human Capital: A theoretical and empirical analysis with special reference to education.* New York: Columbia University Press.

Becker, G. S. (1993). *Human Capital (3rd ed.).* Chicago: University of Chicago Press.

Betti, G., Dourmashkin, N., Rossi, M., Verma, V., & Yin, Y. (2001). *Study of the problem of consumer indebtedness: Statistical aspects final report.* London: ORC Macro.

Blaug, M. (1985). Where are we now in the economics of education? *Economics of Education Review, 4*(1), 17-28.

Blaug, M. (1986). The empirical status of Human Capital Theory: A slightly jaundiced survey. *Journal of Economic Literature September*, 827-856.

Blondal, S., Field, S., & Girouard, N. (2002). Investment in human capital through upper-secondary and tertiary education. In O. E. Studies (Ed.). In *OECD Economic Studies*

Blustein, D. L. (1986). Identifying predictors of academic performance of community college students. *Journal of College Student Personnel, 27*(3), 242-249.

Boddington, L., & Kemp, S. (1999). Student Debt, Attitudes Towards Debt, Impulsive Buying, and Financial Management. *New Zealand Journal of Psychology, 28*(2), 89-93.

Bowes, J. M., & Goodnow, J. J. (1996). Work for home, school, or labour force: The nature and sources of changes in understanding. *Psychological Bulletin, 119*(2), 300-321.

Broedling, L. A. (1977). The uses of the intrinsic-extrinsic distinction in explaining motivation and organizational behaviour. *The Academy of Management Review, 2*(2), 267-276.

Brown, E., & Matthews, R. (2003). *The impact of student debt on nurses: An investigation* Wellington: New Zealand Nurses Organisation, New Zealand University Students' Association.

Brown, S., Taylor, K., & Price, S. W. (2005). Debt and distress: Evaluating the psychological cost of credit. *Journal of Economic Psychology, 26*, 642-663.

Callender, C., & Jackson, J. (2005). Does the fear of debt deter students from higher education? *Cambridge University Press, 34*(4), 509-540.

Cameron, S. (1994). Household debt problems: towards a micro-macro linkage. *Review of Political Economy 6*, 205-220.

Cha, K. (2003). Subjective well-being among college students. *Social Indicators Research 62*(1), 455-477.

Choy, S. P., & Geis, S. (2002). Student financing of graduate and first-professional education, 1999-2000. In O. o. E. R. a. Improvement (Ed.). (National Center for Educational Statistics).

Cooke, R., Barkham, M., Audin, K., Bradley, M., & Davy, J. (2004). Student debt and its relation to student mental health. *Journal of Further and Higher Education, 28*(1), 53-66.

Courant, P. N., Gramlich, E. M., & Laitner, J. P. (1986). A dynamic micro estimate of the Life-Cycle Model. In H. E. Aaron & G. Burtless (Eds.), *Retirement and Economic Behaviour*. Washington, D.C.: Brookings Institution.

Covington, M. V., & Beery, R. (1976). *Self-worth and school learning* New York Holt, Rinehart & Winston.

Covington, M. V., & Weidenhaupt, S. (1997). Turning work into play: The nature and nurturing of intrinsic task engagement. In R. Perry & J. C. Smart (Eds.), *Effective Teaching in Higher Education: Research and Practice* (Special edition ed.). New York: Agathon Press.

Craven, B., Dick, B., & Wood, B. (1987). Education. In B. Roper & B. Snowden (Eds.), *Markets, Intervention and Planning*. London: Longman.

David, P. A. (2001). *Knowledge, capabilities and human capital formation in economic growth.* Wellington: Treasury.

Davies, E., & Lea, S. E. G. (1995). Student attitudes to student debt. *Journal of Economic Psychology, 16*(4), 663-679.

Deci, E. L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology, 18*, 105-115.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behaviour*. New York Plenum.

Deci, E. L., & Ryan, R. M. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*, 54-67.

Diener, E. (2000). Subjective well-being. *American Psychologist, 55*(1), 34-43.

Diener, E., & Diener, M. (1995). Cross-cultural correlates of life satisfaction and self-esteem. *Journal of Personality and Social Psychology, 68*(4), 653-663.

Diener, E., Diener, M., & Diener, C. (1995). Factors predicting the subjective well-being of nations. *Journal of Personality and Social Psychology, 69*, 851-864.

Diener, E., Sapyta, E., & Suh, E. (1998). Subjective well-being is essential to well-being. *Psychological Inquiry, 9*, 33-37.

Diener, E., & Suh, E. (1999). Societies we live in: International comparisons. In D. Kahneman, E. Diener & N. Schwarz (Eds.), *Well-being: The foundations of hedonic psychology* (pp. 434-452). New York: Russell Sage Foundation.

Donhardt, G. L. (2004). Post-graduation economic status of Master's degree recipients: A study of earnings and student debt. *Journal of Student Financial Aid, 34*(1), 7-18.

Drentea, P. (2000). Age, debt and anxiety. *Journal of health and social behaviour 41*, 437-450.

Duggan, A. (2007, 26 March). Student debt reaches $9 billion. *Salient.* Victoria University, Wellington.

Ehrhardt, P. (2002). *Does the Student Loan Scheme Impact Differently on Males and Females, and Does this Vary between Different Cultural Groups?* National Advisory Council on the Employment of Women.

Equal Justice of Works, NALP, & Partnership for Public Service. (2002). From paper chase to money chase: Law school debt diverts road to public service. In Equal Justice of Works, NALP & Partnership for Public Service (Eds.).

Fehr, E., & Gächter, S. (2000). Do incentive contracts crowd out voluntary cooperation? (University of Zurich, Institute for Empirical Research in Economics, working paper no. 34).

Festinger, L. (1957). *A theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press.

Festinger, L., & Carlsmith, J. M. (1959). Cognitive consequences of forced compliance. *Journal of Abnormal and Social Psychology, 57*, 203-210.

Field, E. (2005). Educational debt burden and career choice: Evidence from a Financial Aid Experiment at NYU Law School. (Princeton University, Industrial relations section).

Flint, T. A. (1997). Predicting student loan defaults. *Journal of Higher Education, 68*(3), 322-354.

Flint, T. A. (1998). The influence of job prospects on student debt levels of traditional and adult undergraduates. *Journal of Student Financial Aid, 28*(21), 7-28.

Friedman, M. (1957). *A theory of the consumption function* Princeton, NJ: Princeton University Press.

Garavalia, L. S., Sheuer, D. A., & Carroll, C. A. (2002). Comparative analysis of first and third year pharmacy students' perceptions of student-regulated learning strategies and motivation. *American Journal of Pharmaceutical Education, 66*(Fall), 219-223.

Garcia, T., & Pintrich, P. R. (1995). Assessing Students' Motivation and Learning Strategies: The Motivated Strategies for Learning Questionnaire. In *American Educational Research Association,* pp. 18. San Francisco, CA.

Gneezy, U., & Rustichini, A. (2000). Pay enough or don't pay at all. *Quarterly Journal of Economics, 115*(3), 791-810.

Greene, L. L. (1989). Student borrowers and education debt burdens. *Journal of Student Financial Aid, 19*(3), 24-37.

Hesketh, A. J. (1999). Towards an economic sociology of the student financial experience of higher education. *Journal of Educational Policy 14*(2), 385-410.

Husman, J., Derrybebby, W. P., Crowson, H. M., & Lomax, R. (2004). Instrumentality, task value, and intrinsic motivation: Making sense of their independent interdependence. *Contemporary Educational Psychology, 29*, 63-76.

Inland Revenue (2007, 11 March, 2007). *Retirement saving made easy with KiwiSaver*, from http://www.kiwisaver.govt.nz/

James, C. (2005). *Private debt and national saving: Thematic summary of a Ministry of Social Development symposium 9 June 2005*: Ministry of Social Development, from http://www.msd.govt.nz/documents/events/strategic-social-policy/symposiums/05-June-09/05-June-09-summary.doc

Jessop, D. C., Herberts, C., & Solomon, L. (2005). The impact of financial circumstances on student health. *British Journal of Health Psychology, 10*(3), 421-439.

Kassebaum, D. G., & Szenas, P. L. (1992). Relationship between indebtedness and the specialty choices of graduating medical students. *American Medicine, 67*, 700-7007.

Kassebaum, D. G., & Szenas, P. L. (1993). Relationship between indebtedness and the specialty choices of graduating medical students: 1993 update. *American Medicine, 68*, 934-937.

Kelly, D. (1994). Indebted to education: Some say students borrowing trouble. *USA Today, December 7,* 1.

Kemp, S., Horwood, J., & Fergusson, D. (2006). Student loan debt in a New Zealand cohort study [Unpublished report].

Kohn, A. (1993). *Punished by Rewards*. Boston: Houghton Mifflin.

Kosterlitz, J. (1989). Losers by default. *The National Journal 21*(115), 921-926.

Kramer, M. A., & Van Dusen, W. D. (1986). Living on credit. *Change, 18,* 10-19.

Lea, S. E. G., Webley, P., & Bellamy, G. (1995). Student debt: A psychological analysis of the UK experience. In E. Nyhus & S. V. Troye (Eds.), *Frontiers in economic psychology. Vol. 1*. Bergen: Norges Handelshoskole.

Lea, S. E. G., Webley, P., & Bellamy, G. (2001). Student debt: Expecting it, spending it and regretting it. In A. J. Scott, A. Lewis & S. E. G. Lea (Eds.), *Student debt: The causes and consequences of undergraduate borrowing in the UK*. Bristol The Policy Press.

Lea, S. E. G., Webley, P., & Levine, R. M. (1993). The economic psychology of consumer debt. *Journal of Economic Psychology 14*, 85-119.

Lea, S. E. G., Webley, P., & Walker, C. M. (1995). Psychological factors in consumer debt: Money management, economic socialization, and credit use. *Journal of Economic Psychology, 16*, 681-701.

Lin, Y.-G., McKeachie, W. J., & Kim, Y. C. (2001). College student intrinsic and/or extrinsic motivation and learning. *Learning and Individual Differences, 13*(3), 251-258.

Livingston, S. M., & Lunt, P. K. (1992). Predicting personal debt and debt prepayment: Psychological, social and economic determinants. *Journal of Economic Psychology, 13*, 111-134.

Maani, S. (1997). *Investing in minds: The economics of higher education in New Zealand.* Wellington: Institute of Policy Studies.

McKenzie, K., & Schweitzer, R. (2001). Who succeeds at university? Factors predicting academic performance in first year Australian university students. *Higher Education Research and Development, 20*(1), 23-33.

Millett, C. M. (2003). How undergraduate loan debt affects application and enrolment in graduate or first professional school. *Journal of Higher education 74*(4), 386-427.

Ministry of Education. (2003). *Student support in New Zealand*: Ministry of Education.

Ministry of Education, Inland Revenue, & Ministry of Social Development. (2002). *Student Loan Scheme Annual report: Incorporating the Financial Statements to 30 June 2002.* Wellington: Ministry of Education.

Ministry of Education, Inland Revenue, & Ministry of Social Development. (2005). *Student Loan Scheme Annual report: Incorporating the Financial Statements to 30 June 2005.* Wellington: Ministry of Education.

Ministry of Education, Inland Revenue, & Ministry of Social Development. (2006). *Student Loan Scheme Annual report: Incorporating the Financial Statements to 30 June 2006.* Wellington: Ministry of Education.

Ministry of Social Development (2005, 14 Feb 2007). *New interest free student loan policy announced*, from http://www.studylink.govt.nz/financial-assistance/student-loan/new-interest-free-policy.html#no-interest

Modigliani, F., & Brumberg, R. (1954). *Utility analysis and the consumption function: An interpretation of cross-section data*. NJ: Rutgers University Press.

Morgan, M., Roberts, C. E., & Powdrill, P. (2001). More money than sense? Investigating student money management In A. J. Scott, A. Lewis & S. E. G. Lea (Eds.), *Student debt: The causes and consequences of undergraduate borrowing in the UK*. Bristol: The Policy Press.

Mulrooney, P. (2007, 7 February, 2007). Weighed down by burden of student debt. *The Dominion Post*.

Myers, D. G. (2000). The funds, friends, and faith of happy people. *American Psychologist, 55*, 56-67.

New Zealand Alliance Party (2007). *Teenagers hammered with student debt.* Retrieved 22 Feb 2007, from http://www.scoop.co.nz/stories/PA0702/S00405.htm

New Zealand Union of Students' Associations (2004). *Student debt: Borrowing to live means debt for life - A living allowance for all students campaign.* Retrieved 15 Feb. 2007, from http://www.students.org.nz/index.php?page=40

New Zealand Union of Students' Associations (2006). *Fees*. Retrieved 13 Feb 2007, from http://www.students.org.nz/index.php?page=fees

Pajares, F., & Miller, M. D. (1994). Role of self-efficacy and self-concept beliefs in mathematical problem solving: A path analysis. *Journal of educational psychology, 86*(2), 193-203.

Pelham, B., & Swann, W. (1989). From self-conceptions to self-worth: On the sources and structure of global self-esteem. *Journal of Personality and Social Psychology, 57*, 672-680.

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of educational psychology, 82*(1), 33-40.

Pintrich, P. R., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. . *Advances in motivation and achievement, 7*, 371-402.

Pintrich, P. R., & Schunk, D. H. (1996). *Motivation in education: Theory, research, and applications*. Englewood Cliffs, NJ: Prentice Hall.

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1993). Reliability and predictive validity of the Motivated Strategies for Learning Questionnaire (MSLQ). *Educational and Psychological Measurement, 53*, 801-813.

Rateau, V., & Siegel, S. (2002). Financing the future: NAPIL's 2000 report on Law School Loan Repayment Assistance and Public Interest Scholarship Programs. In N. A. f. P. I. Law (Ed.).

Reserve Bank of New Zealand (2006, 16 May 2006). *Household financial assets and liabilities: Annual series 1979-2005*. Wellington: Reserve Bank of New Zealand, from http://www.rbnz.govt.nz/statistics/monfin/2575897.html

Roberts, R., Golding, J., & Towell, T. (1998). Student finance and mental health. *The Psychologist, 11*(10), 489-491.

Roberts, R., Golding, J., Towell, T., Reid, S., Woodford, S., Vetere, A., et al. (2000). Mental and physical health in students: The role of economic circumstances. *British Journal of Health Psychology, 5*, 289-297.

Rosenberg, M. (1989). *Society and the adolescent self-image* Princeton, NJ: Princeton University Press.

Rosenthal, T., & Zimmerman, B. J. (1978). *Social learning and cognition* New York Academic Press.

Samuel, B. D. (2005). *The influence of student loan debt burden on the life choices of African-American bachelor's degree graduates: A phenomenological study of selected graduates of a midwest university.* Thesis. University of Nebraska, Lincoln.

Sansone, C., & Morgan, C. (1992). Intrinsic motivation and education: Competence in context. *Motivation and emotion, 16*, 249-269.

Scherschel, P. M. (1998). *Student indebtedness: Are borrowers pushing the limits?* Indiana: USA Group Foundation.

Schultz, T. (1961). Investment in Human Capital. *American Economic Review, 51*, 1-17.

Schunk, D. H. (1989). Self-efficacy and cognitive skill learning In C.Ames & R.Ames (Eds.), *Research on motivation in education: Goals and cognitions* (Vol. 3, pp. 13-44). San Diego: Academic Press.

Schunk, D. H. (1990). Goal setting and self-efficacy during self-regulated learning. *Educational Psychologist, 25*, 71-86

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist, 26*, 207-231.

Scott, A. J. (2006). Does size really matter [PhD]. pp. 135-166 (University of Bath, The UNITE Group.).

Scott, A. J., & Lewis, A. (2001). Student loans: The development of a new dependency culture? In A. J. Scott, A. Lewis & S. E. G. Lea (Eds.), *Student debt: The causes and consequences of undergraduate borrowing in the UK.* Bristol: The Policy Press.

Scott, A. J., Lewis, A., & Lea, S. E. G. (2001). *Student debt: The causes and consequences of undergraduate borrowing in the UK*. Bristol: The Policy Press.

Seaward, H. G. W., & Kemp, S. (2000). Optimism bias and student debt. *New Zealand Journal of Psychology, 29*(1), 17-19.

Shefrin, H. M., & Thaler, R. H. (1988). The behavioural life-cycle hypothesis. *Economic Inquiry, 26*(4), 609-643.

Smart, W. (2006). *Do student loans drive people overseas - what is the evidence?* Wellington Ministry of Education

St. John, E. P. (1994). The influence of debt on choice of major. *Journal of Student Financial Aid, 24*(1), 5-12.

Statistics New Zealand (2001). *The 2001 Household Savings Survey*:

Statistics New Zealand (2002). *Monitoring progress towards a sustainable New Zealand* Wellington Statistics New Zealand

Statistics New Zealand (2003). *Human Capital Statistics*. Wellington: Statistics New Zealand, from http://www.stats.govt.nz/analytical-reports/human-capital-statistics/part-2-resources-invested-in-human-capital.htm

Statistics New Zealand (2005). *Focusing on women 2005*. Wellington Statistics New Zealand

Stone, B., & Maury, R. V. (2006). Indicators of personal financial debt using a multi-disciplinary behavioural model. *Journal of Economic Psychology, 27*, 543-556.

Stradling, S. (2001). The psychological effects of student debt. In A. J. Scott, A. Lewis & S. E. G. Lea (Eds.), *Student Debt: The causes and consequences of undergraduate borrowing in the UK* (pp. 59-77). Bristol The Policy Press.

Suh, E., Diener, E., Oishi, S., & Triandis, H. C. (1998). The shifting basis of life satisfaction judgments across countries: Emotions versus norms. *Journal of Personality and Social Psychology, 74*, 482-493.

Tertiary Education Commission (2006, 12 Feb 2007). *Funding policies - Fee/Course Costs Maxima*, from http://www.tec.govt.nz/templates/standard.aspx?id=1590

Thaler, R. (1990). Anomalies saving, fungibility, and mental accounts. *Journal of Economic Perspectives, 4*(1), 193-205.

Thaler, R. (1992). *The winner's curse: Paradoxes and anomalies of economic life*. New York: Free Press.

The Educational Resources Institute, & The Institute of Higher Education Policy. (1995). *College debt and the American family* Boston, MA: The Educational Resources Institute, The Institute of Higher Education Policy,.

Thorp, C., & Ung, B. (2000). Trends in household assets and liabilities. In R. B. o. N. Zealand (Ed.). Vol. 63, pp. 17-37).

Thorp, C., & Ung, B. (2001). Recent trends in household financial assets and liabilities. In R. B. o. N. Zealand (Ed.). Vol. 64, pp. 14-24).

Tokunaga, H. (1993). The use and abuse of consumer debt: Application of psychological theory and research. *Journal of Economic Psychology, 14*, 285-316.

Turner, J. E., & Schallert, D. L. (2001). Expectancy-Value Relationships of Shame Reactions and Shame Resiliency. *Journal of Educational Psychology, 93*(2), 320-329.

UK Universities and HE Colleges : 2006/7 annual tuition fees for undergraduate and postgraduate (MA/MSc) degrees and for visiting students (2006). Retrieved 1 Mar. 2007, from http://www.lse.u-net.com/FeeData.htm

University of Canterbury. (2006). *Enrolment Handbook*. Christchurch: University of Canterbury.

Valins, O. (2004). *When debt becomes a problem: A literature Study*. Wellington: Ministry of Social Development. Retrieved February 07, 2007

Van Calster, K., Lens, W., & Nuttin, J. R. (1987). Affective attitude toward the personal future: Impact on motivation in high school boys. *The American Journal of Psychology, 100*(1), 1-13.

Veenhoven, R. (1991). Is happiness relative? *Social Indicators Research, 24*, 1-34.

Vicenzi, G., Lea, S. E. G., & Rumiati, R. (2001). Student attitudes towards credit and debt: A cross-national study between Italy and the UK In A. J. Scott, A. Lewis & S. E. G. Lea (Eds.), *Student debt: The causes and consequences of undergraduate borrowing in the UK*. Bristol: The Policy Press.

Wang, C. C. L., Chan, A. K. K., & Chen, Z. X. (2001). Segment intenders and non-intenders in China's property market: a hybrid approach. *Journal of Consumer Marketing 18*(4), 319-331.

Warneryd, K. E. (1999). *The psychology of saving: A study on economic psychology*. Cheltenham: Edward Elgar Publishings.

Webley, P., Burgoyne, C. B., Young, B. M., & Lea, S. E. G. (2001). *The economic psychology of everyday life*. East Sussex: Psychology Press.

Webley, P., & Nyhus, E. (2001). Life-cycle and dispositional routes into problem debt. *British Journal of Psychology, 92*, 423-446.

Weiler, W. C. (1994). Expectations, undergraduate debt and the decision to attend graduate school: A simultaneous model of student choice. *Economics of Education Review, 13*(1), 29-42.

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review, 92*, 548-573.

Winnett, A., & Lewis, A. (1995). Household accounts, mental accounting, and savings behaviour: Some old economics rediscovered? *Journal of Economic Psychology, 16*, 431-448.

Yerkes, R. M., & Dobson, J. D. (1908). The relationship of strength of stimulus to rapidity of habit-formations. *Journal of Comparative Neurology and Psychology, 18*, 459-482.

Zax, J. S., & Rees, D. I. (2002). IQ, academic performance, environment, and earnings. *The Review of Economics and Statistics, 84*(4), 600-616.

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology, 25*, 82-91.

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal, 29*(3), 663-676.

Zook, J. (1994). Record-setting debt. *The Chronicle of Higher Education, 40*(34).

Appendix A

HEC Ref: 2006/34

15 May 2008

Judy Zhe Cun Zhang
Department of Psychology
UNIVERSITY OF CANTERBURY

Dear Judy

The Human Ethics Committee advises that your research proposal "Student debt and motivation orientation." has been considered and approved.

Yours sincerely

Dr Alison Loveridge
Chair, Human Ethics Committee

Appendix B

PARTICIPANTS NEEDED

DO YOU HAVE A STUDENT LOAN???
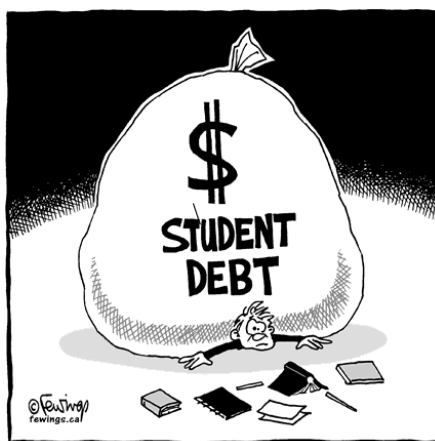
Whether you answer **YES** or **NO,**
I NEED YOU!

Participants are currently needed for a new study examining the extent to which student debt affect
students' academic motivation, performance, and
course selection!

Take a break for 10 - 15 minutes and fill out a short questionnaire while enjoying
delicious chocolate.

Please contact Judy on 3642987: Ext. 7988
Email: zcz10@student.canterbury.ac.nz

Student debt study Phone: 3642987 ext. 7988 Contact: Judy email: zcz10 Student debt study Phone: 3642987 ext. 7988 Contact: Judy email: zcz10 Student debt study Phone: 3642987 ext. 7988 Contact: Judy email: zcz10 Student debt study Phone: 3642987 ext. 7988 Contact: Judy email: zcz10 Student debt study Phone: 3642987 ext. 7988 Contact: Judy email: zcz10 Student debt study

Appendix C

PARTICIPANT INFORMATION STATEMENT AND CONSENT FORMS

STUDENT DEBT AND MOTIVATION ORIENTATION

You are invited to participate in the current research on student debt and motivation orientation. The purpose of this study is to investigate the effects of student debt on students' motivation, academic performance and course selection decisions.

This study is interested in the effects of student debt to current university students on the University of Canterbury campus. If you decide to participate in this study, I will need your consent to gain access to a copy of your academic record. Your participation in this questionnaire is completely confidential. Information provided in this questionnaire will only be used for the purposes of this study; the researcher alone will be allowed access to the academic record given.

Any information obtained in this study that can be identified with you will remain confidential and will be disclosed only with your permission. By completing the questionnaire, you are consenting to publication of the results as fulfilment of the research. Any publication of the information in this study will be provided in such a way that you cannot be identified. It is also understood that you may withdraw from the experiment at any time, including the withdrawal of any information you have provided.

Please read carefully all the items contained in this questionnaire and make sure that you answer all questions. It should take about 15-20 minutes to complete. If you have any questions regarding this research please do not hesitate to contact me. My email contact is zcz10@student.canterbury.ac.nz and office number is 364-2987 ext. 7988. Alternatively, any queries or concerns can be directed to my supervisor, Associate Professor Simon Kemp (Tel. 3642987 ext. 6968).

Thank you for your time and participation in this research.

Judy Zhang

PARTICIPANT CONSENT FORM

<u>STUDENT DEBT AND MOTIVATION ORIENTATION</u>

I have read and understood the description of the above-named research. On this basis, I agree to participate as a participant in this research, and I consent to publication of the results of this research with the understanding that anonymity will be preserved. It is also understood that I can choose to withdraw from the experiment at any time, including the withdrawal of any information I have provided.

_____

Full name of participant (Please print)

_____

Participant Signature   Date

PARTICIPANT ACADEMIC RECORD CONSENT FORM

<u>STUDENT DEBT AND MOTIVATION ORIENTATION</u>

I give consent to the researcher Judy Zhang to gain access to a copy of my academic record. It is also understood that I can choose to withdraw from the experiment at any time, including the withdrawal of any information I have provided.

_____

Full name of participant

_____

Student number (NEW student number)

_____

Participant Signature   Date

FINANCIAL INFORMATION

How are you currently financing your education? (Please circle as many as needed.)

NZ student loan   Family & Friends   Personal savings   Working   Other

If you circled other, please specify: _____

Please answer the following questions as accurately as you can, if you do not know the exact amount an approximation is appropriate also.

Please indicate in monetary terms your current levels of:

- Student loan from the NZ government: $_____

- Loans from families or friends for education purposes: $_____

- Other loans for supporting your current education: $_____

How many years have you had a student loan? _____

What year did you first take out a student loan? _____

How long do you think it will take to repay your total student debt? (Please tick one)

☐   Less than 5 years

☐   Between 5-10 years

☐   Between 11-15 years

☐   16 years or more

How do you intend to pay back your debt? (Please tick as many as needed)

Working   Family & Friends   Personal Savings   Other (please specify)_____

YOUR CURRENT FINANCIAL CONCERNS

Please read the questions and scales carefully and use the number scales below to answer each question. Circle the number for each statement that best describes you.

1. How easy do you think it is for you to avoid taking on a repayable debt while studying at university?

       Not easy   1   2   3   4   5   6   7   Very easy

2. To what extent do you feel any debt you might have affect your academic performance?

        Not affecting   1   2   3   4   5   6   7   Very affecting

3. How difficult do you think it will be to repay any money you might owe at the end of your university education?

        Not difficult   1   2   3   4   5   6   7   Very difficult

4. How much control do you feel you have over your financial situation at this point?

        Not in control 1   2   3   4   5   6   7   In total control

5. How worried are you about your ability to finance your degree from start to finish?

        Not worried   1   2   3   4   5   6   7   Very worried

FACTORS INFLUENCING YOUR CHOICE OF DEGREE

6. Please indicate the relative importance that the following factors played in your choice of degree and/or major for the CURRENT ACADEMIC YEAR.

- **Interest**

Not important   1   2   3   4   5   6   7   Extremely important

- **Parental expectations**

Not important   1   2   3   4   5   6   7   Extremely important

- **To obtain a well-paying job**

Not important   1   2   3   4   5   6   7   Extremely important

- **To obtain a job that I enjoy**

Not important   1   2   3   4   5   6   7   Extremely important

- **I am good at the subjects**

Not important   1   2   3   4   5   6   7   Extremely important

- **My friends are taking the same subjects as me**

Not important   1   2   3   4   5   6   7   Extremely important

- **Standard length of time for completing the degree** (e.g., bachelors degrees that takes 3 years to complete as compared with others like engineering degrees that takes 4 years.)

Not important   1   2   3   4   5   6   7   Extremely important

- **Time of day the lectures are for particular courses** (e.g., nothing before 11 am)

Not important   1   2   3   4   5   6   7   Extremely important

REASONS FOR COURSE SELECTION

7. **Please rate the relative importance the following statements played in your decision for your choice of courses selected for the CURRENT ACADEMIC YEAR.**

Getting good grades in my courses is important for other courses I will take in the future.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

Learning the information in my courses is important for other courses I will take in the future.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

Getting good grades in my courses is important for my future occupational success.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

Learning the information in my courses is important for my future occupational success.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

THE VALUE OF LEARNING

8.   How much do you perceive the money that you spend on university education to be an investment for increasing your future earning power?

Not an investment   1   2   3   4   5   6   7   Totally an investment

9.   How much do you perceive the money you spend on university education to be an investment in a personal sense (e.g., personal/spiritual growth, joy of learning)?

Not an investment   1   2   3   4   5   6   7   Totally an investment

ACADEMIC ABILITY

10. In terms of academic ability, please rate how you perceive yourself in comparison to all other university students.

1	2	3	4	5	6	7	8	9	10
Bottom	Lower	Lower	Lower	Lower	Upper	Upper	Upper	Upper	Top
5%	10%	20%	30%	50%	50%	30%	20%	10%	5%

11. Please rate how certain you are of your academic ability.

Not at all   1   2   3   4   5   6   7   8   9   Extremely

certain   certain

12. Please rate how personally important academic ability is to you.

Not at all   1   2   3   4   5   6   7   8   9   Extremely

important   important

to me   to me

13. In terms of academic ability, please rate yourself relative to your ideal self (*The person you would be if you were exactly the way you would LIKE to be*)

Very short   1   2   3   4   5   6   7   8   9   Very much

of my ideal   like my

self   ideal self

ACADEMIC MOTIVATION

The following questions ask about your motivation for and attitudes about the courses that you are enrolled in for the CURRENT ACADEMIC YEAR. Please rate the relative truthfulness of the following statements in regards to you.

14. I prefer course material that is challenging so I can learn new things.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

15. I prefer course material that arouses my curiosity, even if it is difficult to learn.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

16. Understanding the subject matter of my courses is important and satisfying to me.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

17. I often choose courses that I can learn something from even if they require more work.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

18. Getting good grades is important and satisfying to me.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

19. The most important thing for me right now is improving my overall grade point average, so my main concern in my courses is to achieve good grades.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

20. If I can, I want to get better grades in my courses than most of the other students.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

21. I want to do well in my courses because it is important to show my ability to my family, friends, employer, and others.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

22. I think I will be able to use what I learn from courses I complete in the current academic year in other courses.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

23. It is important for me to learn the materials in the courses.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

24. I am very interested in the content of my courses.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

25. I think the materials covered in the courses are useful for me to learn.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

26. I like the subject matter of my courses.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

27. Understanding the subject matter covered in the courses is very important to me.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

28. Compared with other students in my courses I expect to do well.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

29. I'm certain I understood the ideas taught in the courses.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

30. I expected to do well in the courses.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

31. Compared with other students in the course, I think I am a good student.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

32. I'm confident I can do an excellent job on the assessments and tests for the courses.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

33. I believe I can receive excellent grades for my courses.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

34. My study skills are excellent compared with other students in the courses.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

35. I know that I can learn the materials covered in the courses.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

36. I enjoy what I am studying.

Not at all true for me   1   2   3   4   5   6   7   Very true for me

Please circle the number that best represents your views regarding the following statements.

37. There is no excuse for borrowing money.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

38. Banks should not give interest-free overdrafts to students.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

39. Students have to go into debt.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

40. It is okay to borrow money in order to buy food.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

41. You should always save up first before buying something.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

42. Debt is an integral part of today's lifestyle.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

43. Students should be discouraged from using credit cards.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

44. Banks should not be surprised when students incur large debts.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

45. It is okay to have an overdraft if you know you can pay if off.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

46. Once you are in debt it is very difficult to get out.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

47. You should stay home rather than borrow money to go out for an evening in the pub.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

48. It is better to have something now and pay for it later

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

49. Taking out a loan is a good thing because it allows you to enjoy life as a student.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

50. Owing money is basically wrong.

Strongly Disagree   1   2   3   4   5   6   7   Strongly Agree

THE UNIVERSITY EXPERIENCE

51. How happy are you with your life as a whole?

1	2	3	4	5	6	7
Terrible	Unhappy	Mostly Dissatisfied	Mixed	Mostly Satisfied	Pleased	Delighted

52. To what extent do you feel any debt you might have affect how happy you are with your life as a whole?

Not affecting   1   2   3   4   5   6   7   Very affecting

53. As a whole, how much do you enjoy your university experience?

Not enjoyable   1   2   3   4   5   6   7   Extremely enjoyable

54. To what extent do you feel any debt you might have affect your enjoyment of the university experience?

Not affecting   1   2   3   4   5   6   7   Very affecting

GENERAL INFORMATION

Gender: **MALE**   **FEMALE**   Age: _____

Are you currently enrolled as a full time or part time student?   **Full Time**   **Part Time**

Year of Tertiary Education: _____   Current Enrolled Degree: _____

Current Major: _____   Current Minor: _____

- Do you qualify for a student loan in New Zealand? (Please circle one)   **YES   NO   DON'T KNOW**

- Are you an international student? (Please circle one)   **YES   NO**

THE QUESTIONNAIRE IS NOW COMPLETED.
PLEASE MAKE SURE YOU HAVE ANSWERED ALL THE QUESTIONS.
THANK YOU FOR YOUR PARTICIPATION!

Appendix D

Hierarchical regression was performed to examine whether students' attitudes towards debt moderated the relationship between students' debt levels and their academic performance. An interaction variable of students' attitude towards debt and their total debt was created to test for the moderating effect. The first regression model showed an insignificant regression, R^2 = .01, F (2, 325) = 1.93, $p > .05$, with student debt and attitude towards debt not significant in the prediction of students' current GPA. The second regression model added the interaction variable to examine the moderating effect. The entry of the interaction variable yielded a significant increase in accounted variance in students' current GPA values, R^2 = .04, F (3, 325) = 5.09, $p < .01$, with ΔR^2 = .03, F (1, 324) = 11.28, $p < .01$. The significant individual predictor was the interaction variable (= .19, $p < .01$).

Students' attitude towards debt was found to significantly moderate the relationship between the level of student debt and academic performance. An illustration of the moderating effect is presented in the following graph.

Moderating effect of Attitude towards debt

Grade (Current GPA) vs Student Debt (Standardised)

Legend: ATDS -1, ATDS +1