

The Relationships between Student Debt and Motivation, Happiness, and Academic Achievement

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The study examines the effects of student debt on the outcomes for individual students. Three hundred and twenty-eight students at the University of Canterbury completed questionnaires asking for information about their debt levels, happiness, attitude to debt and motivation. Their academic records were also obtained. As in previous studies, students with more debt exhibited greater tolerance for it. However, student debt did not have strong associations with individual's motivation. Nor was there any evidence that higher debt levels were related to levels of personal happiness or academic achievement. Overall, the results indicate debt to have little to no impact on the outcome attributes examined in the present study.

Over the last twenty years or so, debts incurred by tertiary students have become a prominent feature of New Zealand society. Student loans are now the largest non-housing debt category for New Zealand households (Thorp & Ung, 2001). Established by the government in 1992, the Student Loan Scheme has become the most important source of borrowed finance for tertiary students. With a balance of \$8.4 billion in 2007, 23 percent of the population over the age of 15 have held or are currently holding a student loan (Ministry of Education, 2008). Due to the increasing presence of student debt, the present study focuses on the outcomes of student borrowing.

The increase in student debt, both in New Zealand and overseas (Barr & Crawford, 2005), has led to increasing debate about its desirability. While governments have defended student loans by pointing to the increased participation in tertiary education (Ministry of Education, Inland Revenue, & Ministry of Social Development, 2002, 2006), critics have suggested a number of undesirable consequences. For example, it has been suggested

that student debt causes New Zealand graduates to emigrate to facilitate faster debt repayment or to avoid repayment entirely (Brown & Matthews, 2003). In the United Kingdom, it has been suggested that the accumulation of student debt may encourage students both to become more tolerant of debt in the future (Davies & Lea, 1995) and to be more spendthrift when studying (Morgan, Roberts, & Powdrill, 2001).

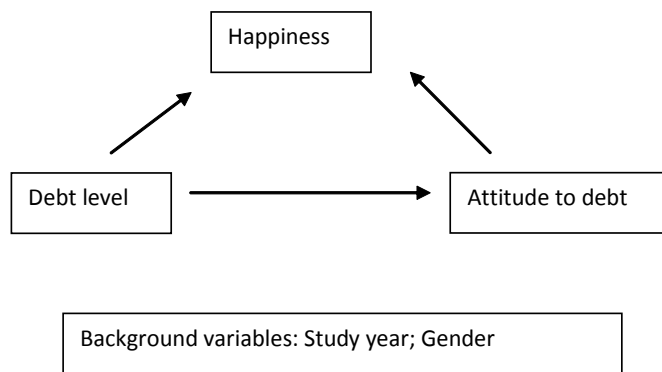
The relationship between student debt and tolerance of debt has been perhaps the most frequently studied. Davies and Lea (1995) developed a scale to measure attitudes to debt and found that students with higher debt levels were more tolerant of debt. Clearly, such a relationship could be explained either by the more tolerant students borrowing more or by the students who borrow more developing a greater tolerance for debt. However, Davies and Lea found that, in fact, increases in debt level preceded greater tolerance, a finding that has since been replicated both in the United Kingdom and in New Zealand (Boddington & Kemp, 1999; Lea, Webley & Bellamy, 2001), strongly suggesting that the acquisition

of debt brings about increased tolerance rather than vice versa. This suggestion is reinforced by the consideration that the phenomenon of student debt in both countries has not arisen spontaneously but as the result of governmental and societal action. Moreover, in Italy, which has taken a different path to financing tertiary education and where student debt is infrequent, students did not exhibit debt tolerance (Vicenzi, Lea & Rumiati, 2001).

The present paper focuses on the relationship of student debt with three other variables: happiness or subjective well-being; academic performance; and motivation to study. These three variables were chosen for two reasons. Firstly, they are important outcome variables that contribute to an individual's tertiary experience. Secondly, previous work suggested a reasonable possibility that each might be affected by the acquisition of debt (e.g., Davies & Lea, 1995; Stradling, 2001; Scott, 2006).

Happiness, or subjective well-being, is a systemically important psychological variable that has frequently been the subject of psychological interest (e.g. Diener, Suh, Lucas & Smith, 1999). This is not at all surprising: Being happy (or in a state of positive subjective well-being) is often regarded as a vital criterion of success in one's life. However, in recent years there has also been a new focus on using the variable to evaluate social policies. So, for example, Diener & Seligman (2004) have argued that happiness should be routinely measured and examined along with such variables as per capita income

Figure 1 Possible causal model of the relationship between happiness and debt level in New Zealand students.



motivation comes from outside the individual. For example, I may work at my job principally for the pay. We thought it possible that debt might focus students' attention on the eventual financial payback, and this might increase their extrinsic motivation and also direct their attention towards academic accolades. Alternatively, it may be that those who acquire more debt do so because they are more focussed on their eventual future employment.

Figures 1 and 2 present two plausible causal scenarios for the effects of student debt on happiness and academic performance. These are by no means the only models that could be suggested, and the direction of many of the arrows could be debated. For example, debt level may affect one's academic achievement level, but it is also possible that the level of debt a student is prepared to run up might be influenced by the grades he or she expects to get. Nonetheless, overall it seemed more plausible that the major causal influence – if there is one at all – would run from debt level to happiness and academic performance than vice versa. There are a number of reasons for preferring this directionality. First, as mentioned above, there is reasonably good prior evidence that one of the mediating variables – attitude to debt – is actually influenced by debt level rather than vice versa. Second, recent

or life expectancy to assess how well a society is doing. The Eurobarometer now routinely includes the variable to survey the different countries of the European Union. Emphasis on reducing unemployment in western economies is strongly reinforced by the massively replicated finding that unemployment has a major effect on happiness (e.g. Frey & Stutzer, 2000; Lucas, Clark, Georgellis, & Diener, 2004). Thus, determining the relationship between student debt levels and happiness is important for evaluating student debt policies.

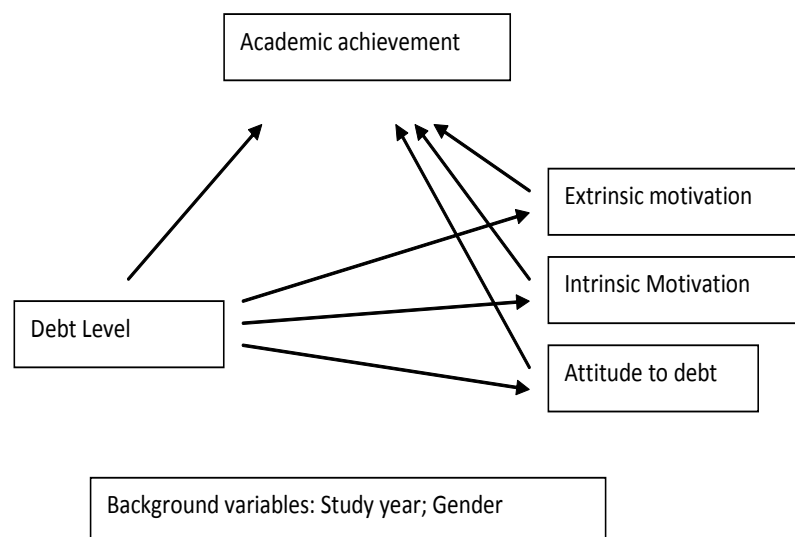
To date, the evidence is inconclusive. Many United Kingdom students state that their financial circumstances reduce their enjoyment of the university experience (Scott & Lewis, 2002). On the other hand, Kemp, Horwood and Fergusson's (2006) study of student debt in a large New Zealand cohort found no evidence that accumulating student debt produced substantial mental health problems. However, neither study asked after students' happiness using the kind of question that has been used in other policy-related surveying.

Surveys of UK students (Stradling, 2001; Scott & Lewis, 2002) also showed that many believed their academic achievement to be affected by their financial position. While the student debt may be perceived to have an effect on one's academic achievement, the actual effects of student debt in New Zealand have not been measured in the studies to date. In order to assess the financial impact of student debt on ones' academic performance, both perceived

and actual effects were measured to determine the relative impact on both.

The final psychological variable investigated here was that of motivation. We did not find it easy to decide on a priori grounds whether the accumulation of debt should serve to increase or decrease motivation. It is also quite possible that one's willingness to take on debt might depend on one's motivation. Moreover, it is possible the distinction between people's intrinsic and extrinsic motivation to perform in tasks, particularly real-world tasks (e.g. Deci & Ryan, 1985, 2000), might be important here. Intrinsic motivation comes from within the person. For example, I am intrinsically motivated to read if I enjoy doing it and if I do it in the absence of any reward. Extrinsic

Figure 2 Possible causal model of the relationship between academic achievement and debt level in New Zealand students.



history suggests that students take on at least some debt largely in response to government policy. Third, happiness is usually regarded as a state that is influenced by external variables rather than as a quasi-autonomous trait (e.g. Diener et al., 1999).

Method

Participants and Procedure

Seventy-five participants were recruited by approaching selected classes. The remainder were recruited through advertising at different sites around the campus. Altogether, 355 questionnaires were completed by currently enrolled students at the University of Canterbury; those with omitted data or completion errors were discarded, leaving a total of 328.

The participants consisted of 176 undergraduate students enrolled for general degrees, 83 enrolled for undergraduate professional degrees, and 69 postgraduate students. Eighty-five were in their first year of study for the course; 83 in their second year; 82 in their third; 43 in their fourth; and 35 in their fifth or later year. Their ages ranged from 17 to 68 years old ($M = 22.1$, $SD = 5.7$): 175 were female and 153 male. These statistics indicate the sample was reasonably representative of the university student body.

Measures

The study received approval from the University of Canterbury Human Ethics Committee. With signed consent from the participants, a copy of each participant's academic record was retrieved during September 2006 from the academic records of the university. The two variables taken from the academic records were their overall grade point average (GPA) values (taken over all the years they had been enrolled) and the most recent year's GPA value (current GPA). University of Canterbury grades are recorded on a scale from 9 (A+) to 0 (E), and the results are averaged over all the papers taken to provide the GPA. The use of two academic performance measures are due to the relevance they present towards the relative relationships examined. For example, while current GPA might provide an in-progress understanding of students' achievements, the overall

GPA may be more relevant in examining overall effects of student debt across the years.

All other data were recorded from a single questionnaire that was the same for all participants. In total the questionnaire took about 15 minutes to complete. However, answers to some questions are not analysed in this paper, and their description is omitted.

Participants were asked whether they had any debt, and if so to describe the amount (in New Zealand \$) currently owing to a number of sources, including the Government Student Loan scheme. Participants' motivation towards their 2006 academic year courses was assessed using subscales from the Motivational Strategies for Learning Questionnaire – MSLQ (Pintrich & Garcia, 1991). Previous research suggests that the MSLQ is a valid and reliable measure of motivation orientation and task utility that is applicable to university samples (e.g., Husman, Derrybobby, Crowson, & Lomax, 2004; Turner & Schallert, 2001). Four subscales from the MSLQ were presented in the questionnaire, and the results from two of them, intrinsic motivation (Cronbach $\alpha = .74$) and extrinsic motivation (Cronbach $\alpha = .62$) are presented in the results section. 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. Participants responded to each item on a seven-point scale ranging from 1 (not at all true for me) to 7 (very true for me).

Participants also completed the Attitude to Debt Scale (Davies & Lea, 1995). 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). Each item is rated on a seven-point scale from 1 (strongly disagree) to 7 (strongly agree). The scale has been used on

student samples in different countries, Davies and Lea (1995) obtained a Cronbach's alpha of .79 in the United Kingdom. A previous New Zealand university student study conducted by Boddington and Kemp (1999) found a Cronbach's alpha of .67. A positive scale score implies overall tolerance of debt, a negative score intolerance.

Students' happiness and their perception of how debt affected their happiness were assessed using four questions, adapted from measures used by Andrews and Withey (1976) and Diener (2000). Participants were asked how happy they were with their life as a whole (1 = terrible through to 7 = delighted). The choice of this brief measure rather than a scale tapping different contributions to one's happiness reflects the predominant use of single-item happiness scales, including this one, in previous subjective well-being research. Participants were also asked how much they were enjoying their university experiences as a whole (1 = not enjoyable through to 7 = extremely enjoyable). Participants were asked to rate the extent to which they perceived debt to affect their overall life satisfaction, and the extent to which they perceived their accumulated debt to affect their enjoyment of the university experience. These responses were also made on a seven-point scale with labelled endpoints, with 1 indicating not affecting and 7 indicating very affecting.

The questionnaire was completed with requests for demographic information.

Results

Thirty-four participants had accumulated no debt during their studies; the remaining 294 had at least some debt. The average total debt was \$12,751 ($SD = \$11,496$) with a range up to \$65,000. The most important debt source was the government Student Loan (taken up by 271 participants, with an average amount owing of \$10,980). Unsurprisingly, higher average debts were held by those in their fourth or subsequent years of study ($M = \$20,284$) than those in their first year ($M = \$5,792$), and indeed there was an overall correlation of 0.49 ($p < .05$). Such results are similar to those found in previous research into New

Table 1 Pearson correlation coefficients between variables in a student sample ($n = 328$).

	2	3	4	5	6	7	8	9	10
1. Total Debt	.10	.49	.21	.15	-.16	-.06	.05	-.01	-.02
2. Gender		.05	.01	-.06	-.20*	-.21*	-.21*	.00	-.05
3. Study Year			.03	.16	-.13	.07	.20*	.08	.02
4. Attitude to Debt				.03	-.16*	-.15*	-.08	.08	.02
5. Intrinsic motivation					.20*	.20*	.24*	.31*	.07
6. Extrinsic motivation						.22*	.20*	.02	.23*
7. Overall GPA							.84*	.07	.00
8. Current GPA								.05	.04
9. Happiness									-.21
10. Rated extent to which debt affects happiness									-

Zealand student debt (e.g. Boddington & Kemp, 1999; Kemp et al, 2006).

Average intrinsic and extrinsic motivation scores were 5.5 (out of a maximum 7, $SD = 1.0$) and 5.4 ($SD = 1.0$) respectively. Thus both types of motivation were reasonably high on average. They were also significantly correlated ($r = .20$, $p < .01$), and thus suggesting these attributes are not opposed, or different endpoints on a continuum, at least for this sample. Participants' scores on the Attitude to Debt Scale ranged between -38 and 27, with a median of 4.5, mean of 3.8, and a standard deviation of 10.9. The current sample had a similar attitude towards debt to previous UK samples (Davies & Lea, 1995; Lea et al, 2001), but were less tolerant than Boddington and Kemp's (1999) New Zealand sample.

When students were asked how satisfied they were with their life as a whole, 86.9% responded in the positive range, above the neutral mid-point of the scale, 15 % of the participants were "delighted" with their life as a whole, which is a comparatively high figure (cf. Cha, 2003; Diener & Diener, 1995; Diener, Diener & Diener, 1995), with a mean rating (out of 7) of 5.6. Participants rated how much they enjoyed their university experiences as a whole on a seven point scale (1 = not enjoyable, 7 = extremely enjoyable). The mean value for students' enjoyment of their university experience was 5.6, with a standard deviation of 1.0. Thus, the vast majority of the students

were positive about both their life and university experience. For academic achievement, the sample yielded an average overall GPA of 5.0 ($SD = 2.0$) and an average current GPA of 5.3 ($SD = 2.1$). Both distributions were close to normal.

Table 1 shows the Pearson correlations among the key variables. The most notable features of the table for the present study are the relationships between debt level and the other variables. Higher debt levels are associated with a more positive, that is, more tolerant, attitude to debt. Higher debt levels were also associated with higher intrinsic motivation but lower extrinsic motivation. However, there were no significant correlations with either of the academic performance variables (current or overall GPA), the students' own rated happiness, or (perhaps more surprisingly) the extent to which the students rating of how their happiness had been affected by debt.

Figures 1 and 2 hypothesise that quite complex causal patterns might operate among the variables featured in the table. Moreover, it is clear from Table 1 that there are a number of significant correlations between the different variables. Thus, a number of regression analyses were carried out to investigate a few of the more important patterns a little further.

Students' rated happiness was regressed on attitude to debt, debt level and the two background variables,

gender and year of study. This regression explained a statistically insignificant ($p < .05$) 1.9 percent of the variance in rated happiness and there were no statistically significant ($p < .05$) beta-weights.

Overall GPA was regressed on extrinsic and intrinsic motivation, attitude to debt, debt level, year of study and gender. This regression explained 12.7 percent of the variance in overall GPA ($p < .001$). The significant ($p < .05$) beta-weights showed that overall GPA was higher for students with higher levels of either intrinsic ($\beta = .16$) or extrinsic ($\beta = .14$) motivation, for those with less tolerant attitudes to debt ($\beta = -.12$) and for women (Gender $\beta = -.17$).

When current GPA was regressed on the same variables, they explained 15.3 percent of the variance ($p < .001$). Current GPA was again higher for students with higher intrinsic ($\beta = .17$) and extrinsic ($\beta = .14$) motivation. It was also higher for women ($\beta = -.18$) and increased with study year ($\beta = .21$). (This last result most likely reflects the fact that students generally receive higher grades in more advanced papers.)

Regressing intrinsic motivation on debt level, study year and gender explained 3.0 percent ($p < .01$) of its variance; there were no significant ($p < .05$) beta-weights. A similar regression explained 6.3 percent of the variance in extrinsic motivation: examination of the beta-weights showed women ($\beta = -.19$) tending to display higher extrinsic

motivation. Finally, the regression of attitude to debt on these three variables explained 5.4 percent of the variance, with the only significant ($p < .05$) beta-weight showing that more tolerant attitudes to debt accompanied increased debt levels ($\beta = .27$).

Discussion

The study found a number of significant relationships. Firstly the study showed students acquired more debt the longer they were at university. Students with higher motivation, intrinsic or extrinsic, do better academically. Female students achieve slightly better academically than male. Such results are in line with previous research and will surprise few readers (for findings showing that New Zealand females have higher educational achievement than males, see, e.g. Gibbs, Fergusson & Horwood, 2008). Replicating them here serves two purposes. Firstly, they indicate that the sample generally behaved consistently with other studies. Secondly, they indicate that the methodology had sufficient statistical power to obtain at least some of the expected results.

The original component of the current research focussed on student debt levels. The previously reported finding that increased student debt levels are associated with increased tolerance of debt was replicated in the present results (cf. Boddington & Kemp, 1999; Davies & Lea, 1995; Lea et al., 2001). The correlational results also suggest that students who are more tolerant towards debt tend to have higher intrinsic and lower extrinsic motivation but these associations diminished when gender and (more importantly) study year were controlled for. There are a number of possible explanations for such results. It may be for example, that a reasonably high level of intrinsic motivation or increasing intellectual absorption in one's work is necessary to keep someone at university and those who do not have it leave, and certainly this explanation is consistent with the additional finding that intrinsic motivation was higher in the students who had engaged in a longer period of tertiary study. It is also possible that people employ some cognitive dissonance reduction, i.e., "Well, I am

not improving my financial prospects by staying here so I must be doing it for the joy of it". (cf. Festinger, 1957; Festinger & Carlsmith, 1959).

From either an individual or a societal viewpoint, the relationships of student debt level with happiness and academic achievement are important. The results of our research into these relationships are quite clear-cut. In general, students with higher debt levels were as happy as those with no debt. Although many of the students of the present sample reported that their financial concerns detracted both from their overall life satisfaction and from their satisfaction with university, results echoing those found in previous UK studies (e.g. Scott & Lewis, 2002), the overall rated level of these effects was moderate rather than high. Moreover, and more importantly, both the lack of significant correlation between debt level and rated satisfaction and the regression results show that any effects of debt on subjective well-being to be either non-existent or small. Similarly, the results indicate that level of debt did not have a substantial adverse effect on academic performance, using either overall or current GPA measures. Moreover, those who were more tolerant of debt tended to have lower GPAs, a result which disconfirms the hypothesis that tolerance of debt might cushion the effect of the debt itself.

To some extent, these conclusions must be moderated by the relatively small sample used, but it is worth recalling that a number of significant results were obtained in the study. However, these were mostly with regard to issues that were not of central concern to the study. Moreover, the present absence of striking adverse consequences of student debt in New Zealand mirrors previous results from rather different samples obtained by Kemp et al (2006) and Rawson (2005). Overall, the present, if tentative, conclusion should be that there is little evidence that the accumulation of student debt has substantial adverse consequences on the individuals' actual and perceived outcomes.

References

- Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being*. New York: Plenum Press.
- Barr, N. A., & Crawford, I. (2005). *Financing higher education: Answers from the UK*. London, UK: Routledge.
- Boddington, L., & Kemp, S. (1999). Student debt, attitudes towards debt, impulsive buying, and financial management. *New Zealand Journal of Psychology*, 28, 89-93.
- Brown, E., & Matthews, R. (2003). *The impact of student debt on nurses: An investigation*. Wellington: New Zealand Nurses Organisation, New Zealand University Students' Association.
- Cha, K. (2003). Subjective well-being among college students. *Social Indicators Research*, 62, 455-477.
- Davies, E., & Lea, S. E. G. (1995). Student attitudes to student debt. *Journal of Economic Psychology*, 16, 663-679.
- 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, 34-43.
- Diener, E., & Diener, M. (1995). Cross-cultural correlates of life satisfaction and self-esteem. *Journal of Personality and Social Psychology*, 68, 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., & Seligman, M. E. P. (2004). Beyond money: Toward an economy of well-being. *Psychological Science in the Public Interest*, 5, 1-31.
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125, 276-302.
- Gibb, S. J., Fergusson, D. M., & Horwood, L. J. (2008). Gender Differences in Educational Achievement to Age 25. *Australian Journal of Education*, 52, 63-80.
- 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.
- Frey, B. S., & Stutzer, A. (2000). Happiness,

- economy, and institutions, *The Economic Journal*, 110, 295-307.
- Husman, J., Derrybobby, 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.
- Kemp, S., Horwood, J., & Fergusson, D. M. (2006). Student loan debt in a New Zealand cohort study, *New Zealand Journal of Educational Studies*, 41, 273-291.
- 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* (pp 37-47). Bristol: The Policy Press.
- Lucas, R. E., Clark, A. E., Georgellis, Y., & Diener, E. (2004). Unemployment alters the set point for life satisfaction. *Psychological Science*, 15, 8-13.
- 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. (2006). *Student loan scheme annual report: Incorporating the financial statements to 30 June 2006*. Wellington: Ministry of Education.
- Ministry of Education (2008). *Student loan scheme annual report: Incorporating the financial statements to 30 June 2008*. Wellington: Ministry of Education.
- 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* (pp 19-35). Bristol: The Policy Press.
- Pintrich, P. R., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. *Advances in Motivation and Achievement*, 7, 371-402.
- Rawson, R. (2005). Student debt and graduate decision-making. Christchurch, N.Z.: *University of Canterbury Applied Psychology Project*.
- Scott, A. J. (2006). Does size really matter [PhD]. pp. 135-166 (University of Bath, The UNITE Group.).
- Scott, A. J., & Lewis, A. (2002). Does size really matter? The burden of student debt and its impact on university life and student wellbeing. In *Stability and Dynamics of Power* (pp 352-358). Turku, Finland: XXVII Annual Colloquium on Research in Economic Psychology/SABE 2002 Conference on Behavioural Economics, 30 June - 4 July, 2002.
- 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. 59-74). Bristol: The Policy Press.
- Thorp, C., & Ung, B. (2001). Recent trends in household financial assets and liabilities. *Reserve Bank of New Zealand Bulletin*, 64, 14-24.
- Turner, J. E., & Schallert, D. L. (2001). Expectancy-Value Relationships of Shame Reactions and Shame Resiliency. *Journal of Educational Psychology*, 93(2), 320-329.
- Vicenzi, G., Lea, S. E. G., & Rumiati, R. (2001). Student attitudes towards credit and debt: aq 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* (pp. 77-92). Bristol: The Policy Press.

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