
How do life goals and motivations of international students studying in Australia impact their achievement outcomes?

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Many international students aim beyond their country boundaries by moving away from home and studying abroad. This longitudinal design addressed a gap in current research, by linking together antecedent life goals and motivations on entry to students' studies, to predict exit achievement scores, to provide information concerning optimising international students' engagement and learning.

Participants were international students ($N = 342$) from South-East Asian backgrounds who at arrival to Australia did not meet university requirements and therefore enrolled in a university preparatory course. At its beginning and end, they completed ethically approved reliable psychological survey measures which elicited information on a range of study motivations; a measure of general life goals was purpose-developed and validated. Exit achievement data were provided by course administrators.

The stereotypical view that international students' goal is to migrate to Australia was not supported, being the lowest rated life goal. Students rated future career and life enjoyment highest, and also family related goals were regarded highly. Regression analysis showed these goals impacted academic 'task value', which subsequently was the sole motivational factor significantly predicting course achievement. Promoting and sustaining these life goals should foster academic task value and actual achievement.

Key words:

international students in Australia, life goals, motivations, achievement outcomes, longitudinal

Australia continues to host many international students from diverse locations for higher education studies. To date in 2012, there are 223,043 international students enrolled in higher education institutions across Australia (AEI, *International Student Enrolment Data 2012*). Compared to last year there was a 3.5 % decline in international students' enrolment in higher education. This urges the need for research in regard to international students' aspirations when coming to Australia. Researchers have increasingly been investigating how these international students fare once they are in Australia as the pressures of tertiary study are compounded by the need to adjust to a foreign culture. The current longitudinal study investigated antecedent life goals and motivations in order to predict exit achievement scores, to look at what makes a difference for international students' performance. This is particularly important in difficult and uncertain times when the "market" of international students is volatile and highly sensitive to international financial markets and government policies.

International education in Australia

Australia has been educating foreign students since 1904. Australia's involvement in international education has undergone several significant policy changes since World War II (Smart & Ang, 1996). In January 1950, the Colombo Plan was formulated by Commonwealth Foreign Ministers while they were at a conference in Colombo, Sri Lanka. They established a framework in which developed countries transferred technology and skills to developing countries. Under the Colombo Plan scholarships and fellowships were given to foreign students to study in Australia, at that time education was seen as an 'aid'.

In 1972, the Labour government of Gough Whitlam decided on an abolition of university tuition fees in order to increase the number of international students. By introducing an Overseas Student Charge in 1986, non-government sponsored overseas students could also enrol if they paid one third of their tuition. In general in the 1980s there was a shift from 'aid' to 'trade'. By implementing the Jackson report (Jackson, 1984), the aid stopped and education became more competitive. Students could enrol as long as they met the institutions' requirements and paid full tuition. This resulted in a spectacular growth of international students in Australia. By the overemphasis on foreign students and a short-sighted vision on recruitment of those students at that stage, universities lost their good reputation abroad. Seeing education as trade and wanting to create an export income out of recruiting students is opposed to the traditional Asian views of education.

In the early 1990s the government realised this and changed the focus from 'trade' to 'internationalisation'. International students were now a component of a truly internationalised sector. In many countries export of education was still seen as controversial and was not considered as a legitimate aspect of internationalisation (Harman, 2005). The General Agreement of Trade in Services (GATS), set up by the World Trade Organisation in January 1995, aimed to promote liberalisation in services including education. But as Hamilton (1998) observed, internationalisation had grown to be "much broader than the export of education services; it involves scholarship, research and management issues as well as staff, domestic student and curriculum issues" (p. 1).

Adams (2007) described how by 2006, international education had become worth "some \$8 billion per annum and is Australia's fourth largest earner of export income" (p. 411). "Universities could set their own fee levels and made their own decisions on how they invest in marketing and recruiting, infrastructure, student support, and teaching" (p. 411). International education had become a true industry. On 14 October 2011, Minister Evans, in a keynote speech at the premier international education conference in Australia (AIEC, 2011), announced the establishment of the new International Education Advisory Council and the development of a five year strategy for international education. The Minister also addressed major reforms to the sector including the Australian Government's response to the Baird Review and the Knight Review including the focus on enhancing student experience.

There has been a concern about referring to Asian students studying in Australia as a homogeneous group of people (Burns, 1990). Although it is important to realise the differences between these students, there are also similarities between them; they all moved to a different country to study, learning does not happen in their native language and learning contexts are often different (Chalmers & Volet, 1997). Because we recognise the differences and similarities between these groups of students, we will report on the differences between them based on the demographic results, but we will also look at them as a group who shares similar experiences for further analyses.

Academic engagement

In the past, Asian students were often conceived to be surface learners who preferred to memorise material in a rote manner than gain a deeper understanding of the course content (Ballard, 1987, 1989; Burke, 1986; Kim, Crowley, Innes-Brown & Hedges, 1989; Samuelowicz, 1987). In a survey of academic staff at an Australian university, overseas students were perceived to be overly dependent on rote learning and taking a surface approach to study. Staff believed these learning approaches were related to overseas students' difficulties with integrative, analytic, and problem solving skills (Samuelowicz, 1987).

More recently, there has been a surge in research indicating that these conceptions of Asian students' learning strategies are misguided. Studies have found that Asian overseas students are less likely than Australian students to engage in surface learning, and are more intrinsically involved in their studies (Niles, 1995; Ramburuth & McCormick, 2001). Recent findings also illustrate that although Asian students use repetition and memorisation more often as a learning strategy compared to Western students, they do this for a different reason. For them it is not a surface approach to learning, but a way of understanding and processing the information (Chalmers & Volet, 1997; Marton, Dall'Alba & Tse, 1996; Marton, Watkins & Tang, 1997; Tang, 1993).

In order to look into the academic engagement of international students in this study we used the MSLQ scale of Pintrich, Smith, Garcia, & McKeachie (1993), which measures both motivations and learning strategies. The six motivations that will be examined are intrinsic goal orientation (focus on learning and mastery), extrinsic goal orientation (focus on grades and approval from others), task value (looks into the judgments of how interesting, useful and important the course content is to students), self-efficacy (e.g., believing in being able to understand the material), control of learning beliefs (e.g., studying in an appropriate way will enable me to learn the material) and also test anxiety (concentrates on students' worry and concern over taking exams). The nine learning strategies that will be investigated are rehearsal (e.g., repeating the words over and over to oneself to help in recall of information), elaboration (e.g., summarising), organisation (e.g., outlining), critical thinking (e.g., making critical evaluations of ideas), metacognitive self-regulation (e.g., planning), time and study environment (e.g., using their time well), effort regulation (e.g., persisting in the face of difficult or boring tasks), peer learning (e.g., using a study group or friends to help learn), and help seeking (e.g., seeking help from peers or instructors when needed).

Life goals

Life goals have largely been overlooked in research on international students; however studies of school-aged migrants suggest that it is critical to develop an understanding of these elements. Previous research (Bankston & Zhou, 2002; Portes & MacLeod, 1996; Windle, 2008) has shown that for some groups of migrant students, making their parents happy and bringing pride to the family within their community are important motivators. One concern sometimes raised is that a focus on these goals can result in high levels of pressure and stress (Bankston & Zhou, 2002). They can also result in shame and depression when desired success is not achieved. Such extrinsic motivation is not always sufficient to sustain students' engagement with the academic content of the subjects they are studying (Windle, 2008).

Anecdotal evidence suggests that many international students undertake university courses chosen by their parents and are driven by a desire to please their parents which can result in unhappiness when the students' own interests lie elsewhere or they are struggling with the course. Overseas students based at a Northern Territory university were more motivated by social-approval, which is indicative of family pressure to succeed at university and prepare for a good career (Niles, 1995). A further motivation for study which may result in weak engagement is attaining permanent residency. This desire has been raised in a number of recent reports and public statements (Baird, 2010; Jackling, 2007; Ross, 2009) and requires some more empirical examination.

The general life goals that were examined in this study by a purpose-developed scale include life goals related to 'Career and Life' (e.g., having a job they enjoy), 'Family' (e.g., making their parents happy), 'Community' (e.g., being respected in their community) and migration to Australia.

Hypotheses

The main reason for this research was to better understand the support needs of students as they transition from their countries and institutions into Australian social, cultural and educational practices, which for many are quite foreign.

In this paper we hypothesize that the general life goals international students have will affect their academic engagement. Students who value community and family goals highly will be more extrinsically motivated, since they value other people opinions very highly and students who value their own career and life highly will be more intrinsically motivated since they want to create something good for themselves. The next hypothesis is that community and family goals will be considered as very important motivators for South-East Asian students (Bankston & Zhou, 2002; Portes & MacLeod, 1996; Windle, 2008). It is known that international students need to pay a very high tuition fee when coming to study in Australia. This puts a lot of pressure on those students because they do not want to disappoint their community or family who are paying a lot of money in order to let them study. A final hypothesis is that students' life goals, motivations and learning strategies will impact their achievement outcomes. By knowing what exactly makes a difference in international students' outcomes it will be possible to support them better at their arrival to Australia.

Method

Participants and Procedure

At the time data collection commenced in 2009, there was considerable media attention being paid to providers of educational services to international students and to the low quality of some of the providers on the market. Participants of this study were international Business students who enrolled in a university preparatory course because they did not meet the university requirements at arrival in Australia. The course was designed to provide a bridge to university study; it offers a tertiary orientation program culminating in a Diploma degree, and academic credit towards entry to Year 2 of relevant undergraduate studies. At its beginning and end, the students completed ethically approved, reliable, psychological survey measures.

In the first data collection, at entry to the course, 342 students completed the survey. Of the expected class population of 457, 354 were in attendance in class at the time of the survey, and of those, 351 completed the survey (response rate of 99.15% of those present), 9 surveys were not able to be used as a result of high missing data. The sample included 147 men and 194 women (1 participant did not provide gender, 0.3% of the sample), with an average age of 19.48 years ($SD = 1.58$; range 16-26 years). Questionnaires were administered during regular class time, across 9 different classes and 3 survey administration days, within the one week. Participants mostly originated from 5 Asian countries, namely China ($N = 156$), Indonesia ($N = 70$), Hong Kong ($N = 40$), Vietnam ($N = 25$) and Singapore ($N = 13$). The majority of the participants, 64.6%, had been living in Australia for 6 months or less; a further 15.3% had lived in Australia 7-12 months.

Two hundred students or 58.5 % of the original sample also took part in the second data collection¹ near the end of their course. The course providers identified those students who had consented to complete the second survey. Students were invited to complete the survey in a special ‘class’ that followed a regular class time slot, 124 women and 76 men took part in the second survey, at average age 20.40 years ($SD = 1.52$; range = 17-27).

Measures

The finalised questionnaire version was based on pilot testing of the questionnaire items for timing and English-language difficulty. The study aimed to assess students’ life goals (Time 1 and 2), academic engagement (Time 1 and 2), perceptions of instructors (Time 2) and achievement goals (Time 2). Within each of these broad dimensions, a number of constructs were assessed. Demographic data such as age, gender and time in Australia were also measured at Time 1. Constructs were assessed by established measures where available and purpose-developed scales where not.

Demographic variables

Demographic variables included birth date, gender and time in Australia (months in total and since most recent arrival). Participants were provided with fixed-choice response options for gender, as well as open response options for birth date and describing the amount of time they had lived in Australia.

Academic engagement

The academic engagement dimension included motivation strategies and learning strategies. Students’ motivation and learning strategies were assessed at both time points as part of the academic engagement dimension using the widely-used established scale of the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, Garcia, & McKeachie, 1993). The MSLQ is an 81-item self-report scale measuring two broad constructs of motivational orientation and use of learning strategies, related to a university or college class. These broad constructs were subdivided into 6 motivation variables: intrinsic goal orientation ($\alpha=.62_{T1}/.67_{T2}$), extrinsic goal orientation ($\alpha=.78_{T1}/.73_{T2}$), task value ($\alpha=.81_{T1}/.83_{T2}$), control of learning beliefs ($\alpha=.57_{T1}/.66_{T2}$), self-efficacy for learning and performance ($\alpha=.87_{T1}/.88_{T2}$) and test anxiety ($\alpha=.70_{T1}/.71_{T2}$); and 9 learning strategy variables: rehearsal ($\alpha=.65_{T1}/.63_{T2}$), elaboration ($\alpha=.74_{T1}/.68_{T2}$), organisation ($\alpha=.65_{T1}/.67_{T2}$), critical thinking ($\alpha=.74_{T1}/.76_{T2}$), metacognitive self-regulation ($\alpha=.75_{T1}/.75_{T2}$), time and study environment management ($\alpha=.57_{T1}/.63_{T2}$), effort regulation ($\alpha=.45_{T1}/.53_{T2}$), peer learning ($\alpha=.55_{T1}/.57_{T2}$) and help seeking ($\alpha=.49_{T1}/.48_{T2}$). Responses were made on a seven-point Likert-type scales (1 = not at all true of me; 7 = very true of me) on which participants were asked to select the number that best described themselves in relation to each item.

Life goals

General life goals were measured by a purpose-developed scale by the researchers at both time points. The items were preceded by the question: “In your life in general, how important to you are the following goals?”, and the responses could be rated from 1 = not at all important to 7 = extremely important. A principal component analysis (PCA) was conducted on the 11 items with orthogonal rotation (varimax) at Time 1. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, $KMO = .835$ (Field, 2009; Hutcheson & Sofroniou, 1999). All KMO values for individual items were $> .54$ which is above the acceptable limit of $.5$ (Kaiser, 1974). Bartlett’s test of sphericity $\chi^2(55) = 1072.979, p < .001$, indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigenvalues for each component in the data. Three components had eigenvalues over Kaiser’s criterion of 1 and in combination explained 58.56 % of the variance (see Table 1).

¹ We are currently looking into what happened with the 142 students that did not participate in the second survey.

Table 1
General Life Goals, Factor loading and Cronbach's Alpha Reliabilities Time 1

Item		Career & Life ($\alpha_{T1} = .732$)	Community ($\alpha_{T1} = .753$)	Family ($\alpha_{T1} = .611$)
LG_6	Having good career opportunities	.743		
LG_10	Enjoying my life	.680		
LG_9	Starting my own business	.659		
LG_1	Having a job I enjoy	.637		
LG_8	Earning lots of money	.568		
LG_5	Having an international career (travel)	.440		
LG_4	Contributing to my community		.813	
LG_11	Protecting the environment		.718	
LG_12	Being respected in my community		.637	
LG_7	Making my parents happy			.862
LG_3	Caring for a family			.637

At Time 1 the life goal “Migrating to Australia” was also measured, but was analysed as a single item since it did not load on any of the 3 components. It was of strong interest given popular stereotypes. Since this item was rated very low at Time 1, the item “Being granted permanent residency in Australia” was added at Time 2 to strengthen the analysis of the phenomenon that is so often quoted by the media as a reason why international students come to study in Australia.

After the second data collection a confirmatory factor analysis (CFA) was conducted on the 11 general life goals items using AMOS to evaluate fit of the desired factor structure from Time 1. This analysis was conducted after the second data collection because a CFA on a different data set is much more valuable than performing an exploratory and confirmatory analysis on the same data set. CFA is a current state-of-the-art method to assess and evaluate factor structure, because it simultaneously estimates measurement error and factor loadings. Maximum likelihood was the method of estimation used for the model. Each item was specified to load only on its assigned factor and all error variances were freely estimated. On the basis of high modification indices and substantive justification 3 error covariances were also estimated (see Figure 1). The CFA fitted the data across a range of frequently emphasized fit indices, $\chi^2(37, N = 193) = 67.666$; RMSEA = .066, NFI = .906, TLI = .931, CFI = .954. Cronbach's alpha reliabilities demonstrated acceptable internal consistency also at the second data collection round ($\alpha_{\text{Career \& Life}(T2)} = .761$; $\alpha_{\text{Community}(T2)} = .783$; $\alpha_{\text{Family}(T2)} = .567$). The factor structure of our purpose-developed Life goals measure was thereby confirmed.

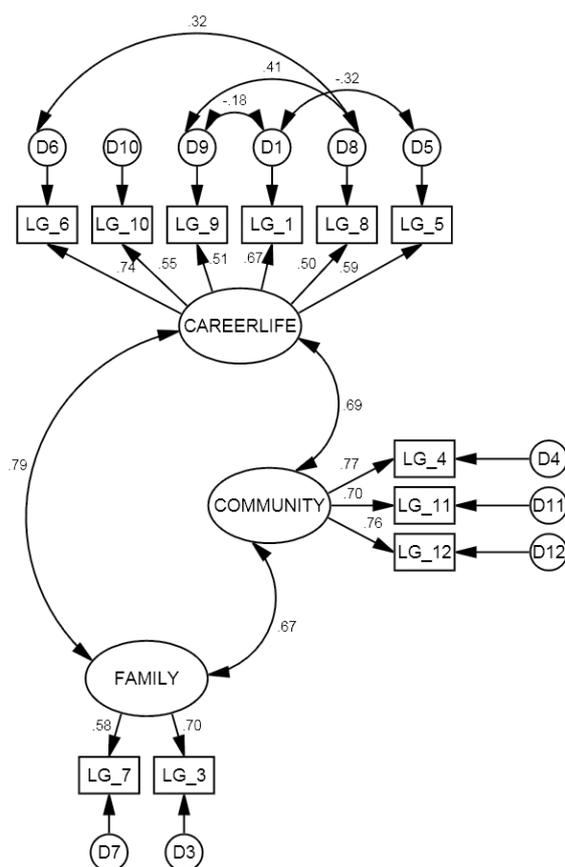


Figure 1. Final confirmatory factor analysis (CFA) model of the Life goals scale (standardised solution)

Instructors' variable

The instructors' variable was only measured at Time 2 and asked students about their experiences of teaching and learning in the course. The scale to measure this variable was developed by McKeachie in 1994 (Student Perceptions of Learning and Teaching Questionnaire) and consisted of 3 components (instructors' warmth and openness, instructors' encouragement of student participation, instructors' organisation).

Achievement scores

Achievement scores were provided by the course convenors; for this analysis the focus was on the overall achievement score students received at the end of their preparatory course, this score consisted of scores on assignments throughout the trimester and exams. Results for the first core assignment of the first trimester were taken into consideration as a baseline measure for prior student achievement in order to permit explorations of prior achievement with other constructs of interests.

Results

Demographic variables

Participants were categorised into 5 groups based on the country nominated by participants as their place of upbringing. Table 2 provides the descriptive statistics for the participants from each country at Time 1. There were significant differences between participants from the 5 countries for both age and length of total time in Australia. Students from China and Singapore were significantly

the eldest participants in the sample ($M = 20.05$, $SD = 1.37$; $M = 20.85$, $SD = 1.35$, respectively), followed by students from Hong Kong ($M = 19.38$, $SD = .90$) and Vietnam ($M = 18.76$, $SD = 1.05$). Students from Indonesia were significantly the youngest ($M = 18.18$, $SD = 1.38$), with statistically similar mean ages to students from Vietnam. In terms of time in total spent living in Australia, students from Vietnam had been living in Australia significantly longer than students from Hong Kong ($M = 10.42$ months, $SD = 13.72$; $M = 3.94$ months, $SD = 6.48$, respectively), with participants from China, Indonesia and Singapore having been in Australia for similar amounts of time. However, when considering the amount of time spent in Australia since their most recent arrival, students from China had been in Australia significantly longer than students from Indonesia ($M = 6.34$, $SD = 5.81$; $M = 2.94$, $SD = 7.92$, respectively). In this analysis we focused on the differences between the 5 main countries that were represented in our sample, but in all further analyses described in this paper the cohort will be looked at as 1 entity.

Table 2
Descriptive Statistics for Participants from the Five Country Groups

Country	Gender		Time 1			Time 2	
	Male	Female	Age*	Time in Australia (months)*		Male	Female
	$N = 128$	$N = 175$	$M (SD)$	$M (SD)$	Most Recent Arrival $M (SD)$	$N = 72$	$N = 116$
China	58	97	20.05 (1.37)	7.00 (8.70)	6.34 (5.81)	31	53
Indonesia	28	42	18.18 (1.38)	6.13 (9.89)	2.94 (7.92)	15	31
Hong Kong	19	21	19.38 (0.90)	3.94 (6.48)	3.63 (7.91)	15	19
Vietnam	15	10	18.76 (1.05)	10.42 (13.72)	4.89 (6.22)	8	8
Singapore	8	5	20.85 (1.35)	6.00 (9.43)	6.21 (17.35)	3	5

Note: * Indicates a significant difference exists between participants from different countries on this demographic characteristic.

Academic engagement

Achievement motivation

On average, these international students were more motivated by extrinsic than intrinsic achievement goals during their studies. ‘Extrinsic Goal Orientation’ was rated the highest at both times ($M_{T1} = 5.94$, $M_{T2} = 5.85$) and ‘Test anxiety’ was rated the lowest at both times ($M_{T1} = 4.15$, $M_{T2} = 4.41$). Considering these goals it is clear that these students valued what they were doing for strong extrinsic reasons (e.g., good grades). Looking at the other motivations, students on average were effortful and confident in attempting to influence their learning outcomes, they were also moderately intrinsically motivated and they valued the task ahead.

A repeated-measures MANOVA was executed to check for changes in motivations over time. The multivariate test for a motivations main effect was significant (Pillai’s $F_{(6,169)} = 8.401$, $p < .001$, partial $\eta^2 = 0.230$) indicating that motivations were differently rated. Univariate tests revealed significant increases on *intrinsic goal orientation* ($F_{(1,174)} = 18.448$, $p < .001$, partial $\eta^2 = 0.096$), *control beliefs for learning* ($F_{(1,174)} = 7.277$, $p < .01$, partial $\eta^2 = 0.040$) and *test anxiety* ($F_{(1,174)} = 7.203$, $p < .01$, partial $\eta^2 = 0.040$). During their time studying their preparatory course students came to feel more intrinsically motivated, they also felt their own efforts had a greater influence on their results, and they became more anxious and concerned about taking tests and exams (see Table 3). The change in test anxiety may be explained by the timing of the second survey which took place just prior to the final examinations for the course. Results from these examinations are high stakes and influential in determining the level of entry into university, and it may not be surprising that test anxiety had risen at this time.

Table 3
Changes in Motivations Between Time 1 and Time 2

	Time 1		Time 2	
	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>
Extrinsic goal orientation	5.94	(0.84)	5.85	(0.85)
Task value	5.18	(0.78)	5.18	(0.81)
Control beliefs for learning	5.17	(0.82)	5.38	(0.87)
Intrinsic goal orientation	4.61	(0.92)	4.96	(0.89)
Self-efficacy for learning and performance	4.88	(0.85)	5.01	(0.83)
Test anxiety	4.15	(1.09)	4.41	(1.11)

Note. **Bold** indicates constructs that changed significantly over time (Bonferonni adjustment, $p < .008$).

Learning Strategies

On average, students scored the learning strategies above the 7-point scale mid-point, indicating moderate awareness of important learning strategies that should provide a foundation for achievement. At Time 1 'Effort regulation' was highest rated ($M = 4.80$), while at the second time point 'Elaboration' scored highest ($M = 4.93$). Students weakly endorsed 'Peer learning' as an aid to understanding course material ($M_{T1} = 4.04$, $M_{T2} = 4.36$), although group means for all 9 learning strategies were in the moderate range.

Repeated measures MANOVA showed that learning strategies changed significantly over time (Pillai's $F_{(9,157)} = 4.808$, $p < .001$, partial $\eta^2 = 0.216$). Univariate tests revealed significant increases on *elaboration* ($F_{(1,165)} = 10.036$, $p < .01$, partial $\eta^2 = 0.057$), *organisation* ($F_{(1,165)} = 10.909$, $p < .01$, partial $\eta^2 = 0.062$), and *peer learning* ($F_{(1,165)} = 18.674$, $p < .001$, partial $\eta^2 = 0.102$); and a significant decrease in *effort regulation* ($F_{(1,165)} = 7.933$, $p < .01$, partial $\eta^2 = 0.046$) from Time 1 to Time 2. Students therefore felt they used techniques to help with long-term memory retention more often and also felt more organised while studying. They also involved their friends and peers in their learning more at Time 2, but on the other hand they saw effort regulation as a less important learning strategy by the end of their preparatory study (see Table 4).

Table 4
Changes in Learning Strategies Between Time 1 and Time 2

	Time 1		Time 2	
	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>
Effort regulation	4.81	(0.79)	4.60	(0.88)
Elaboration	4.72	(0.79)	4.93	(0.77)
Time and study environment	4.70	(0.67)	4.63	(0.74)
Organisation	4.67	(0.90)	4.91	(0.92)
Help seeking	4.59	(0.67)	4.90	(0.81)
Rehearsal	4.58	(0.86)	4.75	(0.91)
Metacognitive self-regulation	4.57	(0.63)	4.66	(0.67)
Critical Thinking	4.48	(0.79)	4.64	(0.87)
Peer learning	4.03	(0.98)	4.40	(1.05)

Note. **Bold** indicates constructs that changed significantly over time (Bonferonni adjustment, $p < .006$).

Life goals

The means for the 3 main components in life goals (Career & Life, Community, Family) were all well above 7-point scale midpoint (see Table 5).

Table 5
Changes in Life Goals Time 1 and Time 2

	Time 1		Time 2	
	<i>M</i>	<i>(SD)</i>	<i>M</i>	<i>(SD)</i>
Career & Life	5.91	(0.67)	5.77	(0.82)
Family	5.80	(1.00)	5.98	(1.00)
Community	5.06	(1.05)	5.22	(1.08)
Migrating to Australia	4.06	(1.46)	3.86	(1.46)
Being granted permanent residency in Australia	/	/	4.22	(1.58)

Note. “/” indicates the construct was not asked at Time 1.

There was a statistically significant multivariate difference found for general life goals over time when executing a repeated-measures MANOVA (Pillai's $F_{(3,188)} = 10.300$, $p < .001$, partial $\eta^2 = 0.141$) indicating that life goals changed differently through the course of those students' preparatory degree. By taking into account the Bonferroni adjustment, the p -values of the univariate tests were no longer significant indicating no significant changes within the 3 main components and the life goal about migrating.

The high scores for ‘Career & Life’ goals suggests that these students held similar values to young people from many Western countries. Despite coming from cultures where personal ambition is tempered in favour of more collectivist values, it would appear that this cohort of international students was rather focused on individualism and their own personal futures. However, this was balanced by the fact that ‘Family’ was rated even higher at the second time point. The values measured for the life goals related to migrating were low, at Time 2 the average of ‘Migrating to Australia’ was even below the midpoint. Also the newly added item ‘Being granted permanent residency in Australia’ at Time 2 was rated low.

How do general life goals impact motivations and learning strategies?

To see how students' general life goals may influence their motivations and learning strategies, regression analyses were conducted on the data from both time points. The 3 main components (Career & Life, Community, Family) of the general Life goals scale and the 6 motivations and 9 learning strategies were included in these analyses. First, the analyses done at Time 1 data will be explained, afterwards those done at Time 2 data in order to explain contemporaneous relationships.

At Time 1, the 3 main components in Life goals significantly influenced motivations and learning strategies, most of which were positively influenced, except for extrinsic motivation which was negatively impacted by ‘Community’. The proportion of variance explained by the regression models varied between .032 to .129 ($p < .05$) (see Figure 2). Students who rated ‘Career & Life’ goals highly were more likely to be more extrinsically motivated, to value the tasks they were doing higher, to feel more in control of their learning beliefs and to be more self-efficacious. They were also more likely to choose elaboration, organisation and peer learning as preferred learning strategies. Students who valued ‘Community’ highly were more intrinsically and less extrinsically motivated, although this negative relationship between ‘Community’ and extrinsic motivation could not be found within the bivariate correlations. They also practiced critical thinking and regulating themselves as preferred learning strategies. ‘Family’ goals positively predicted students' extrinsic motivation, task value and the control of their learning beliefs.

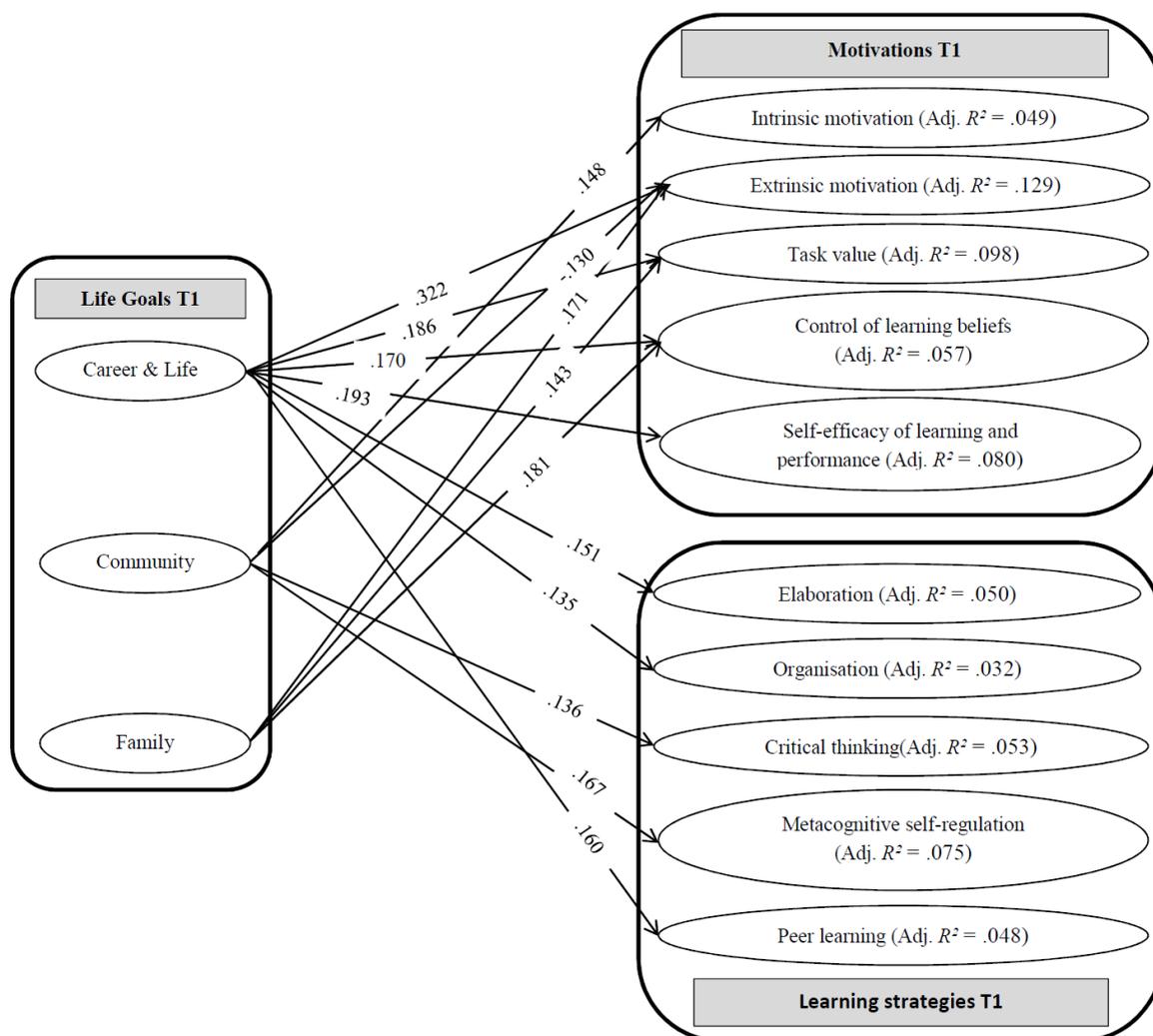


Figure 2. Regression analyses of life goals on motivations and learning strategies at Time 1 ($p < .05$)

At Time 2 the 3 life goals components again significantly predicted most motivations and learning strategies; also here one of them was negative. The proportion of variance explained by the regression models varied between .039 and .198 ($p < .05$) at Time 2 (see Figure 3). The life goals component 'Family' significantly negatively predicted peer learning, this negative relationship was also found within the bivariate correlations, but was not significant. Students who rated 'Career & Life' goals highly at the end of their course were likely to be more extrinsically motivated and value their tasks ahead higher, they also preferred elaboration as a learning strategy. 'Community' again predicted intrinsic motivation, and task value highly, were self-efficacious, and used rehearsal, elaboration, and organisation as preferred learning strategies; they were also more critical and self-regulated when studying.

It is interesting to see the shift between the two time points in the life goals that are influential, At Time 1, 'Career & Life' goals influenced most motivations and learning strategies, while at Time 2, Community was the component who impacted most. Looking at which component within life goals was the greatest predictor we see that 'Career & Life' showed the highest beta-values.

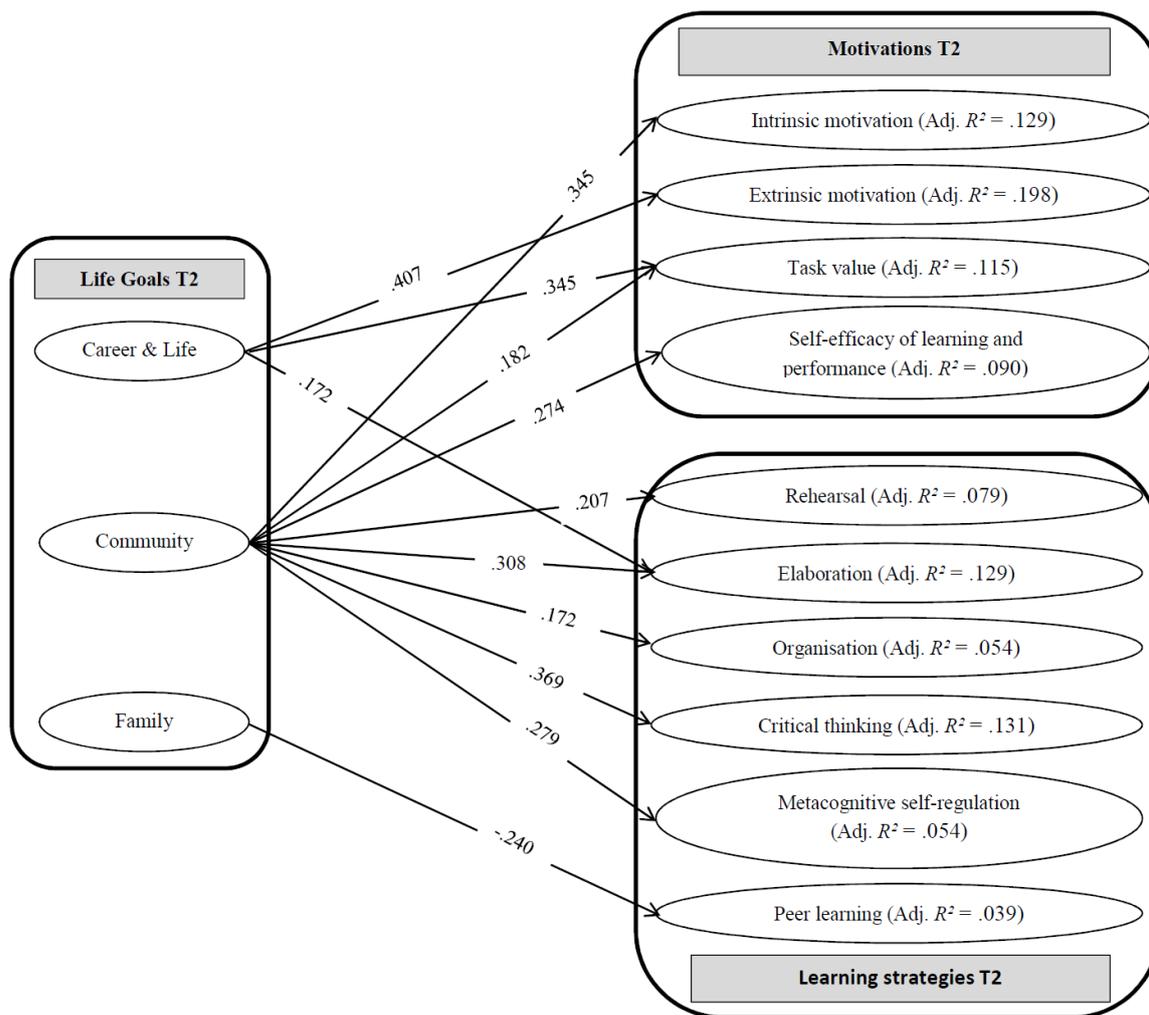


Figure 3. Regression analyses of life goals on motivations and learning strategies at Time 2 ($p < .05$)

How do motivations and learning strategies impact exit achievement scores?

Regression analyses next examined relationships between students’ motivations and learning strategies on their overall achievement score. The instructors’ variable (warmth, encouragement, organisation) was also taken into account in this analysis ($Adj. R^2 = .068, p < .05$). We found that ‘Task value’ measured at Time 2 was the sole motivation that influenced students’ achievement. Task value measured at Time 1 was a good predictor for task value at Time 2, indicating it was a rather stable motivation. Counter-intuitively the instructors’ variable affected the overall score significantly negatively and this was confirmed by a negative bivariate correlation. Figure 4 shows all regression paths.

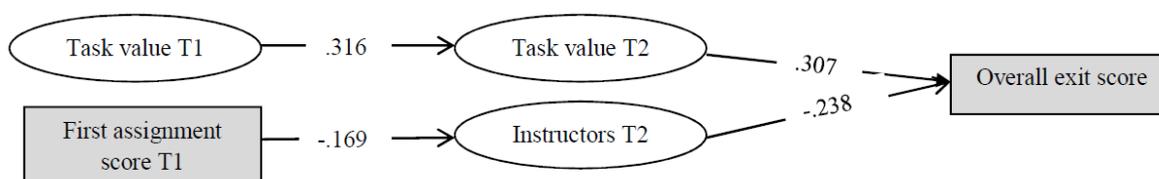


Figure 4. Significant predictors of achievement results

Students who scored task value highly at Time 2 received higher overall final achievement scores. So students who were interested in the course, thought the content of the course was useful and thought understanding the course was important were more likely to do well overall.

Because it seemed surprising that the instructors' warmth, encouragement and organisation affected the students' overall score negatively, we checked the relationship between the first assignment results and the instructor variable ($\text{Adj. } R^2 = .027, p < .05$). There was a significantly negative correlation between the first assignment result and the instructor variable, indicating that if students scored badly on the first assignment they perceived more organisation, warmth and encouragement from their instructor. Following this, a possible explanation for the negative relationship between instructors and exit scores can be that students who were weaker to start with, got more attention from the instructor, which might have helped them to succeed better, but they still remained weaker at the end of their course than the high-achieving students.

How do life goals impact exit achievement scores?

None of the life goals directly impacted students' exit score of the preparatory course. However, life goals positively influenced 'Task value', which subsequently predicted students' achievement scores. Students who rated 'Career & Life' and 'Family' goals highly at the start of their preparatory course valued the task ahead more, which positively influenced their task value feelings at the end of their course. At the end of their study the life goals within 'Career & Life' and 'Community' enhanced the feelings of task value with students as well. So this means that students' life goals indirectly influenced the achievement score of the students at both time points (see Figure 5).

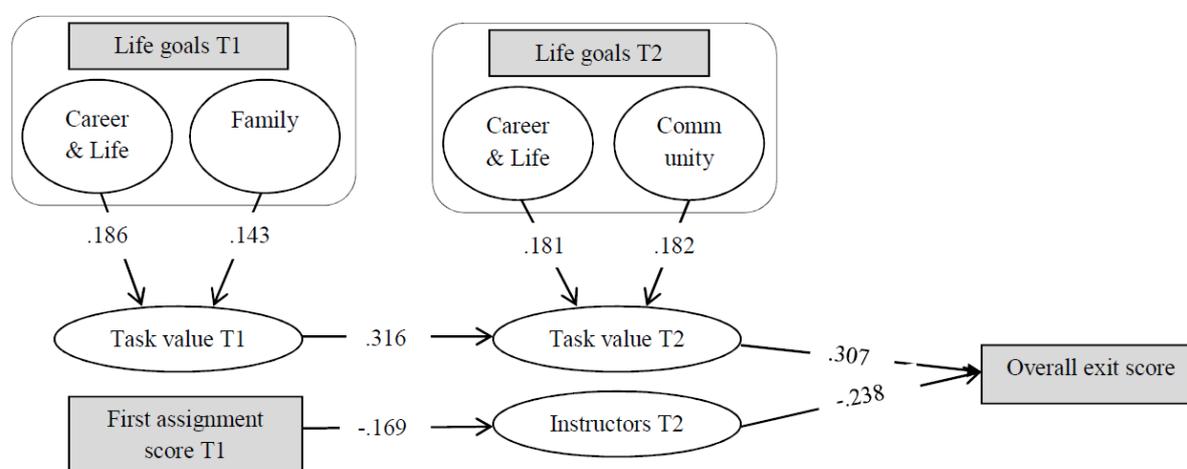


Figure 5. Integrated model of predictors for achievement scores

Discussion

Interpretations of findings

This study has demonstrated the utility of international students' life goals throughout their initial preparatory course. Students valued all life goals well above the midpoint, except for the life goal in relation to migrating to Australia, which did not seem as a big stimulation for those students despite all media coverage of this theme. Given the emphasis in the media on international students using the system of studying in Australia as a way of seeking permanent residency, it is intriguing that

across both rounds of data collection, the goal of migrating to Australia remained the least endorsed goal and the question of being granted permanent residence, which was only asked at the second time point, was also rated the second lowest of the general life goals.

Also 'Community' goals which have been pointed out as very important for this group of students (Bankston & Zhou, 2002; Portes & MacLeod, 1996; Windle, 2008) were scored the lowest of our three life goal constructs. We did find that 'Family' goals especially when students neared completion of their course, were very important stimuli. The level of parent investment in their son's or daughter's future is considerable and clearly something these young people were aware of and acknowledge. The fact that 'Career and Life' goals were fundamental appears similar to the life goals of Western students.

Students' life goals also influenced their motivations and learning strategies. At the end of their study, students who valued 'Community' goals highly, scored motivations and learning strategies higher. Compared to the start of their study, when 'Career & Life' goals were the most influential, this illustrates an interesting shift. Community goals might be scored the lowest of the three main components, but they definitely influenced most learning and motivational outcomes.

Contrary to our hypothesis, the life goals within 'Career & Life' did not predict the intrinsic motivations, but they did influence extrinsic motivation, 'Community' goals on the other hand only predicted intrinsic and not extrinsic motivations. This was found at both time points. Family on the other hand was only a predictor of extrinsic motivation at entry of the course, at the second data collection round, 'Family' no longer influenced extrinsic nor intrinsic goal orientation. In contrast to previous research (Niles, 1995; Ramburuth & McCormick, 2001) these students were mostly motivated by extrinsic goal orientation and not as much by intrinsic goal orientation.

When looking at the exit scores students obtained, there was no direct relationship between life goals and their score, but what we did find was that 'Task value' measured at the end of their course significantly impacted scores. Predictors of 'Task Value' were life goals and Task value at Time 1. Indirectly life goals do matter for achievement by influencing the sole motivation that positively predicted students' final scores. It is important that students see their task as important, since this is what will help them succeed. This finding can be seen as a part of the expectancy-value theory (Eccles, 2005, 2009; Eccles et al., 1983). In this finding is an important role for educators, they have to help students understand how important the task is for them.

Another very interesting thing we noticed was that only one out of 15 motivations and learning strategies influenced students' exit score, while controlling for the influence of the teachers. It seems like motivations and learning strategies are a very small indicator of how students are going to perform. This finding is imperative since lots of research is being conducted on how different learning strategies and motivations of international students are. Maybe it would be worthwhile to look for other indicators of academic success.

A final influence on students' scores was the one that instructors have, and counter-intuitively this was a negative impact. An explanation that we found was that students who scored weakly at the start of their course got more attention from the teachers, but did not necessarily score highest at the end of their course. By stimulating the weaker students more, the instructors might get them to succeed better, but not to the top of their class.

Improvements and future directions

The sample included South-East Asian background students from one institutions' Business course which does not warrant generalisations beyond. Most students in the sample came from China, which has a different cultural background compared to some other Asian countries. The sample size was also not extremely big, 342 at the first time point and 200 at the second time point. Since we are currently looking into the differences between Time 1 and 2 participation, we cannot yet say what the reason for this big drop-out is. Some will have left the course prematurely; others may have not been

present at the time of the second data collection and others were maybe no longer interested in participating in the survey.

This longitudinal study was only conducted at two time points due to course access agreements, whereas further time points and inclusion of observation and interview data could provide nuanced process explanations in future. The achievement scores that were used were a result of several assignments and exams at multiple times during the course, so since this is not the score of one exam done at the end, this might not be the best outcome variable. Maybe motivations and learning strategies measured at Time 2 can also be seen as achievement outcomes of the preparatory course.

Students' existing life goals impacted their motivation and use of learning strategies suggesting that these general predispositions can impact their student experience as well as specific events whilst studying. The commonly held view that international students aim to migrate to Australia should be re-examined based on the results of this study.

Current understanding of students' academic engagement and life goals that is built upon research looking at "Asian students" as a homogenous cohort may fail to identify important differences between students from specific Asian countries. Further research is needed to more closely identify these specific differences and their impact on outcomes for international students.

In future research this cohort of international students will be followed through their university studies to look deeper into their Australian experiences and future career decisions. At the same time there will be a new cohort of domestic students introduced to this research project in order to have a comparison group. This will add surplus value to this project by enabling researchers to look deeper into differences and similarities between these two student cohorts.

References

- Adams, T. (2007). The development of international education in Australia: a framework for the future. *Journal of Studies in International Education*, 11(3-4), 410. doi: 10.1177/1028315307304182
- AEI International Student Enrolment Data 2012. (2012). Retrieved from: https://www.aei.gov.au/research/International-Student-Data/Documents/Monthly%20summaries%20of%20international%20student%20enrolment%20data%202012/04_April_2012_MonthlySummary.pdf
- Baird, B. (2010) Stronger, simpler, smarter ESOS: supporting international students. Final report of review of the Education Services for Overseas Students (ESOS) Act 2000– February 2010. Commonwealth of Australia.
- Ballard, B. (1987). Academic Adjustment: The Other Side Of The Export Dollar. *Higher Education Research & Development*, 6(2), 109-119. doi: 10.1080/0729436870060203
- Ballard, B. (1989). Overseas students and Australian academics: Learning and teaching styles. *Overseas students in Australia: Policy and practice*, 87-98.
- Bankston, C. L., & Zhou, M. (2002). Being well vs. doing well: Self-esteem and school performance among immigrant and non-immigrant racial and ethnic groups. *International Migration Review*, 36(2), 389-415.
- Burke, B., Counselling, U. o. N. S. W. S., & Unit, R. (1986). *Experiences of overseas undergraduate students*: Student Counselling and Research Unit, University of New South Wales.
- Burns, R.B. (1990). The adjustment of overseas students: *A study of the academic, cultural, social and personal problems of overseas first year students at an Australian university*. Paper presented at the Internationalisation of Industry, Government and Education at Curtin University, Western Australia.
- Chalmers, D., & Volet, S. (1997). Common Misconceptions about Students from South-East Asia Studying in Australia. *Higher Education Research & Development*, 16(1), 87-99. doi: 10.1080/0729436970160107
- Eccles, J. S. (2005). Subjective task value and the Eccles et al. model of achievement-related choices. In A. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation*. New York: Guilford Publications.
- Eccles, J. (2009). Who am I and what am I going to do with my life? Personal and collective identities as motivators of action. *Educational Psychologist*, 44(2), 78-89.
- Eccles (Parsons), J., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L., & Midgley, C. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives* (pp. 75-146). San Francisco, CA: W.H. Freeman & Co.
- Field, A. P. (2009). *Discovering statistics using SPSS*: SAGE publications Ltd.
- Hamilton, S. (1998). *Setting the foundation for the internationalization of Australian higher education*. Paper presented at the Education '98: The Industry Practitioner Forum, Canberra.
- Harman, G. (2005). Internationalization of Australian Higher Education: A Critical Review of Literature and Research Internationalizing Higher Education. In P. Ninnes & M. Hellstén (Eds.), (Vol. 16, pp. 119-140): Springer Netherlands.

- Hutcheson, G., & Sofroniou, N. (1999). *The multivariate social scientist: Introductory statistics using generalized linear models*: Sage Publications Ltd.
- Jackling, B. (2007). The lure of permanent residency and the aspirations and expectations of international students studying accounting in Australia. *People and Place*, 15(3), 31-41.
- Jackson, R. (1984) Report of the Committee to Review the Australian Overseas Aid Program. Canberra: Australian Government Publishing Service.
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31-36.
- Kim, H., Crowley, M., Innes-Brown, M., & Hedges, P. (1989). A Study of ELICOS Students' Perceptions on Aspects of Studying in Australia: ELICOS association, Sydney.
- Marton, F., Dall'Alba, G., & Tse, L. K. (1996). Memorizing and understanding: The keys to the paradox. *The Chinese learner: Cultural, psychological and contextual influences*, 69-83.
- Marton, F., Watkins, D., & Tang, C. (1997). Discontinuities and continuities in the experience of learning: An interview study of high-school students in Hong Kong. *Learning and Instruction*, 7(1), 21-48. doi: 10.1016/s0959-4752(96)00009-6
- Niles, F. S. (1995). Cultural differences in learning motivations and learning strategies. *International Journal of Intercultural Relations*, 19(3), 368-385. doi: 10.1016/0147-1767(94)00025-S
- 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(3), 801-813.
- Portes, A., & MacLeod, D. (1996). What shall I call myself? Hispanic identity formation in the second generation. *Ethnic and Racial Studies*, 19(3), 523-547. doi: 10.1080/01419870.1996.9993923
- Ramburuth, P., & McCormick, J. (2001). Learning diversity in higher education: A comparative study of Asian international and Australian students. *Higher Education*, 42(3), 333-350. doi: 10.1023/A:1017982716482
- Ross, J. (2009). Skilled migration cut will cost international enrolments: Birrell. *Campus Review*, March 15. Retrieved 18 March 2010 from <http://www.campusreview.com.au/pages/section/article.php?s=News&idArticle=6781>
- Samuelowicz, K. (1987). Learning problems of overseas students: Two sides if a story. *Higher Education Research and Development*, 6(2), 121-133. doi: 10.1080/0729436870060204
- Smart, D., & Ang, G. (1996). The internationalisation of Australian higher education. *International Higher Education*, 6, 4-5.
- Tang, K. C. C. (1993). Spontaneous Collaborative Learning: A New Dimension in Student Learning Experience? *Higher Education Research & Development*, 12(2), 115-130. doi: 10.1080/0729436930120201
- Windle, J. (2008). *Ethnicity and educational inequality: An investigation of school experience in Australia and France*. Unpublished PhD, The University of Melbourne and l'Université de Bourgogne (joint award), Melbourne/Dijon.