

## Chapter 3

### Factors associated with job satisfaction amongst Australian university academics and future workforce implications

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#### 3.1 Introduction

The goals of Australian higher education have undergone dramatic transformations in recent decades, from broadly defined social, cultural and political goals; towards explicitly contributing to national productivity and economic growth (Lafferty & Fleming, 2000). The late-1980s Dawkins reforms reoriented universities towards private funding, while the post-1996 Howard reforms further limited the role of public funding in universities. In some respects the results have been impressive. Higher education has expanded domestically with increased participation and a bi-product of these policy changes has been the growth in higher education as a major export industry. Education-related travel services (fees and living expenses of foreign students studying in Australia) is Australia's largest services export worth A\$18.5 billion in 2010, of which international higher education students account for A\$10.6 billion (Australian Government, 2011). However, the dramatic changes in funding and governance have also raised concerns from within the academy. Studies of job satisfaction in Australian universities have routinely offered a somewhat depressing image of life in the academy, calling into question the sustainability of an industry reliant upon autonomously motivated knowledge workers. For universities to reverse the despondent outlook of their academic staff, one must pay attention to their primary sources of satisfaction and dissatisfaction. The purpose of this chapter is to examine the factors associated with job satisfaction amongst Australian university academics, with reference to Hagedorn's (2000) conceptual framework. For only if we know what these primary sources are, appropriate policy responses at the national and institutional level can be initiated.

Concerns about job satisfaction in academia are nothing new. In their analysis of the 1991/92 Carnegie survey, Lacy and Sheehan (1997, p. 306) found less than half (49%) of Australian academics were satisfied with their jobs. McInnis (1999, p.8) found a similar level of job satisfaction (51%) in a 1999 survey, but this represented a decline from 67% satisfaction compared to another 1994 survey (McInnis & Anderson, 2005). Across a range of work factors, McInnis and Anderson (2005) concluded that satisfaction had 'plummeted'. Internationally, Lacy and Sheehan (1997) found academics in Australia were less satisfied than academics in most other countries, while more recent studies show an even bleaker international position (Coates et al., 2009). Poor job satisfaction in the 1990s was blamed on increasing accountability requirements, competition for diminishing resources, poor salaries and unmanageable workloads. Lacy and Sheehan (1997) believed it was commonplace to hear assertions that 'morale has never been lower' and 'staff are at breaking point'. To McInnis and Anderson, it became 'obvious to the most casual observer that a crisis in the management

of academic workloads and satisfaction had been met' (2005, p. 133). While other surveys in 2000 and 2003/4 showed job satisfaction had stabilised, their authors believed the majority of academics were at risk of psychological illness due to stress (Winefield, Boyd, Saebel, & Pignata, 2008; Winefield et al., 2003; Winefield & Jarrett, 2001). They hypothesised that this stress was an outcome of reduced collegial control and autonomy over workloads (Winefield et al., 2003).

In a separate study in 2002, Anderson and colleagues (2002) concluded that the Australian academic profession had lost its attractiveness due to declines in status, control, prestige and salary. Salaries of the highest ranking academics declined from greater than three times the average weekly earnings in 1979, to roughly two and a half times the average in 2002 (Horsley & Woodburne, 2005). Salaries in the lowest ranks dropped below the average during the same period. Coates and Goedegebuure (2010) estimated that the relative salaries dropped further during the mid-2000s, with salaries at the bottom at around 80% of average weekly earnings in 2008. While salaries at Australian universities are relatively high compared to other English speaking countries (Coates et al. 2009), there are concerns that the academic career is unattractive to new entrants. With an ageing academic workforce Australian universities face a 'demographic time-bomb' and may struggle to recruit replacements following the retirement of the baby boomers generation (Hugo, 2005).

Despite the negativity from within the academy, there does not appear to be a lack of aspirants trying to navigate their way into an academic career. Edwards and colleagues (2011) report that the vast majority (83%) of Australian research higher degree students have seriously considered an academic career and more than half (54%) intend to pursue such work. Edwards and Smith (2010) argue that security of tenure and the lure of overseas positions are the most serious inhibitors for attracting or retaining mid-career staff within mathematics and science, threatening to the long-term sustainability of science faculties in Australian universities, but very little data is used to support these claims. The competitiveness and shortage of tenured positions relative to qualified applicants is hardly indicative of a problem attracting qualified staff. Both studies by Edwards (Edwards and Smith, 2010; Edwards et al., 2011) note that early career researchers see an overseas career as inevitable due to the lack of opportunities in Australia. However, there is no data to show that overseas positions are more attractive and the best candidates are pursuing careers outside Australia. McInnis and Anderson (2005, p. 134) argue that academics are simply less motivated by 'extrinsic rewards' rewards such as salary, compared with the satisfaction of the work itself. Academic work may also simply be a better option than the alternatives for those who value autonomy and challenge. Benchmarked against workers in other large public sector organisation and industries, Australian academics enjoy greater job satisfaction, organisational commitment, intentions to remain in their current positions and very positive experiences with their co-workers (Langford, 2010). However, his results also show a sobering array of areas where academics are less satisfied than their industry colleagues, including almost all aspects of work-life balance, organisational participation and resources.

Few would argue that universities lack room for improvement when it comes to the morale and satisfaction of their workers. However, after years of declining resources, increased accountability requirements and work intensification, it is unlikely that resource capacities will dramatically increase in the near future and allow universities to meet all demands. In times of resource constraints, universities must prioritise resource allocations to areas believed to achieve the greatest positive impact. By analysing the factors most strongly

associated with higher levels of job satisfaction, this study will help identify the areas of academic work with the strongest potential for improved morale.

### 3.2 Theoretical framework

Hagedorn (2000, p.321) theorises the factors associated with job satisfaction within academia through her ‘Conceptual Framework for Academic Job Satisfaction’. She argues that academic job satisfaction is an outcome of two interacting constructs: *mediators* and *triggers*. Mediators refer to interacting factors providing the context through which job satisfaction can be understood and include: motivators and hygienes (intrinsic and extrinsic rewards associated with one’s work), demographics and environmental conditions. By contrast, triggers are significant work or non-work events affecting one’s reference point, such as receiving a promotion, moving institution or starting a family. Hagedorn’s (2000) conceptual framework is summarised in Table 3.1 with reference to the variables operationalised in this study.

Table 3. 1 Conceptual Framework for Academic Job Satisfaction (Hagedorn 2000)

	Mediators		Triggers
	Motivators and Hygienes	Demographics	Environmental conditions
Achievement	Gender	Collegial relationships+	Change in life stage
Recognition	Ethnicity+	Student quality or relationships	Change in family-related or personal circumstances+
Work itself	Institutional types	Administration	Change in rank or tenure
Responsibility+	Academic discipline	Institutional climate or culture+	Transfer to new institution
Advancement			Change in perceived justice+
Salary+			Change in mood or emotional state+
Institutional resources*			

\*Additional variable, not included in Hagedorn’s (2000) original framework

+ Measures not available in the CAP data

Hagedorn’s framework is clearly inspired by the two-factor theory of job satisfaction and motivation developed by Herzberg and colleagues (1993). The two-factor theory considers job satisfaction and dissatisfaction as separate constructs. Factors associated with job satisfaction, labelled ‘motivators’, are different from the factors associated with dissatisfaction, labelled ‘hygienes’. Motivators are associated with the job itself, such as achievement, challenging work and professional development. Hygienes are contextual factors surrounding the work, such as policies, supervision and collegial relationships, and to a lesser extent salary and working conditions. Herzberg and colleagues found that motivators were more frequently cited by their interviewees when referring to positive work situations, but their presence had minimal relationship with reported feelings of dissatisfaction with one’s job. By contrast, dissatisfaction was most strongly associated with contextual factors, which had little or no association with positive work experiences. Contextual factors were

labelled 'hygienes' because the presence of a satisfactory work context appeared to prevent job dissatisfaction, rather than leading to positive feelings, akin to good hygiene which prevents illness rather than curing it. In other words, the two-factor theory postulates that supportive policies and collegial relationships do not lead to higher levels of job satisfaction, but that they do help to prevent job dissatisfaction.

Lacy and Sheehan (1997) applied Herzberg and colleagues' two-factor theory to their study of academic job satisfaction in Australia and seven other countries. They concluded that 'no pattern emerges which offers the possibility of a challenge to the Herzberg two factor theory as an explanatory model for the concept of job satisfaction' (p. 321). The two-factor theory has also underpinned McInnis' (1999) observations that job satisfaction amongst Australian academics was more closely related to the work itself and autonomy, compared with extrinsic 'contextual' factors which were of relatively less importance. However, neither study measured job satisfaction and job dissatisfaction as separate constructs, meaning their strongly worded conclusions should be treated with a good deal of caution.

Hagedorn (2000) departs from Herzberg and colleagues' (1993) work by bundling motivators and hygienes into a single category (albeit with separate sub-categories) and separating the influence of workplace relationships and culture into its own category 'environment'. Hagedorn's model is adapted slightly in this study by including 'institutional resources' as a sub-category within the motivators and hygienes. Institutional resources include satisfaction with twelve types of institutional physical, financial and human resources. The rationale is that institutional resources can also be considered mediators for job satisfaction because a lack of resources hinders performance, similar to policies and other hygiene factors.

Hagedorn further departs from Herzberg's theory by introducing demographic factors as mediators for job satisfaction. Hagedorn also theorises the importance of external events in triggering a re-shaping of one's job satisfaction. However, August and Waltman's (2004) study of factors associated with job satisfaction amongst female and minority staff in an American research university found only weak effects for trigger variables. This was probably because triggers are difficult to operationalise without longitudinal data to measure satisfaction before and after a given event. Triggers may also affect other mediators, such as achievement and workplace relationships.

### **3.3 Data**

The data for this study came from the Changing Academic Profession (CAP) project. Analysis is restricted to survey respondents answering the relevant questions regarding job satisfaction (N=1097). The response rate for the Australian survey was 25%. The relatively low response rate was probably due to the long length of the survey, and use of an online survey and email invitations, whereby inactive email addresses and email filters meant an unknown number of invitations were not received. However, the sample of respondents closely matched their population on the strata of gender, rank and institutional type, and is suitable for national-level generalisations. Further details on the conduct of the CAP survey in Australia can be found in Coates, Goedegebuure, Van Der Lee, and Meek (2008).

### **3.4 Methodology**

Job satisfaction was measured as a single continuum and factors associated with higher levels of job satisfaction were examined through linear and binary logistic regression. The

independent variables contained dichotomous and ordinal variables, some of which were transformed into multiple dichotomous variables. Bi-variate relationships with job satisfaction were examined with a Pearson correlation coefficient, and along with the descriptive results, these are shown in Table 3.2. All independent variables, regardless of the strength of their bi-variate relationship with job satisfaction, were included in the regression calculations. Linear multiple regression treated the dependent variable, a job satisfaction index, as a scale variable (see below). The dependent variable was then transformed into a binary variable for binary logistic regression. The reason for this was to test whether the same independent variables associated with higher levels of overall job satisfaction predicted the likelihood of being satisfied (or not). All independent variables were coded positively such that higher scores represented their presence (dichotomous variables) or a stronger level of agreement/satisfaction (ordinal variables).

### ***3.4.1 Dependent variable***

Job satisfaction was calculated as a factor-based score, an unweighted sum of four Likert scale items measuring satisfaction with different aspects of academic work. The three questions required responses from 'strongly agree' (1) to 'strongly disagree' (5) for the following questions: 'This is a poor time for any young person to begin an academic career in my field.', 'If I had it to do over again, I would not become an academic', 'My job is a source of considerable personal strain'. The fourth question asked for a rating from 1 to 5 for: 'How would you rate your overall satisfaction with your current job?'

The choice of a four-item composite scale was based on the improvement in reliability that comes from measuring job satisfaction as a multi-faceted construct. The approach differed from previous Australian studies which have utilised a single item response (Lacy & Sheehan, 1997; McInnis, 1999; McInnis & Anderson, 2005), but consistent with Fredman and Doughney (2011) who used a composite of items as a reliability check of satisfaction. The factor-based score was transformed into a binary variable for 'satisfied' (job satisfaction index greater than 3) or 'not satisfied' (job satisfaction index of 3 or less).

The Pearson bi-variate correlation matrix between the four items and a principal component analysis indicated the factor-based score was appropriate. Bi-variate correlation coefficients for the four items ranged from 0.35 to 0.52. The principal components analysis showed a Kaiser-Meyer-Olkin (KMO) index of 0.75, which indicated the correlations amongst the items were sufficient for a factor-based score (Todman & Dugard, 2007). The Bartlett's test of sphericity also indicated that the correlation matrix was not an identity matrix (Chi-Square 953.5, df 6, Sig. 0.001). Only one component achieved an eigenvalue greater than one (2.28) and explained 57% of the variance, suggesting that the four items selected measured a single latent variable. All four items achieved high factor loadings, ranging from 0.67 to 0.80. Tests of internal consistency further suggested the four items tapped into a single construct, with a Cronbach alpha of 0.74. Based on these results, we can be confident that the factor-based measure is appropriate for measuring job satisfaction in the Australian sample.

### ***3.4.2 Independent variables***

The independent variables were classified according to the Hagedorn's (2000) framework into four categories: motivators and hygienes (achievement, recognition, work itself, advancement, institutional resources), demographics (academic discipline, institutional type, gender), environmental (student quality/relationships, administration processes and

departmental influence), and triggers (change in rank/tenure, transfer to new institution). The CAP survey did not contain data for the following: responsibility, ethnicity, collegial relationships, institutional climate or culture, change in perceived justice, mood or emotional state or family-related/personal circumstances.

In some cases, there were survey questions addressing Hagedorn's mediators but responses were highly correlated with other questions. For example, university salary was very highly correlated with the academic rank for full-time academics (Pearson correlation coefficient = 0.81). Academic salaries are determined by academic rank and salary structures are similar across universities due to collective agreements negotiated with a common national union, the National Tertiary Education Union. Given the presence of part-time academics in the sample, academic rank offered a more suitable proxy for advancement than salary. It would also have been preferable to examine the role of administrative decision-making and leadership separately, but responses were highly correlated. Therefore, responses were aggregated into a single, and therefore less precise, variable for 'administration process'.

A further complication was the broadness of Hagedorn's categories. For example, self-perceived influence within one's department measures relationships with superiors, consistent with Hagedorn's theory, but probably also reflects perceptions of institutional culture or collegial relationships. Imprecise operationalisation, overlapping categories and the omission of certain variables, means caution must be taken when generalising results for individual variables. The relationships between mediators and job satisfaction are complex, meaning independent variables can capture the effects of other factors absent from the model. The independent variables and their operationalisation are summarised in Table 3.2 and presented below in more detail.

*Achievement* is a square root transformation of the weighted sum of an individual's journal articles (1 point), edited books (2 points) and authored books (5 points) in the previous three years. A weighted index is consistent with previous Australian studies and helps control for disciplinary differences in publishing channels (Ramsden, 1994), while the square root transformation normalises the skewed distribution of publications within a small number of highly publishing academics.

*Work itself* is a dichotomous variable for alignment between research interests and research time. Academics were categorised as having sufficient research time if: (1) their primary interest was research and they spent at least 30% of their time on research; (2) they held both teaching and research interests and spent at least 20% of their time on research; or (3) they held a primary interest in teaching.

*Recognition* is a dichotomous variable for having served in at least one of the following roles in the previous year: a member of a national/international scientific board; elected leader of a professional association or union; or elected leader of a professional/academic organisation.

*Advancement* is operationalised as three dichotomous variables based on academic rank: 'Senior rank' (Associate Professor/Professor); 'Middle rank' (Senior lecturer); and 'Junior rank' (Lecturer and below).

*Institutional resources* is an ordinal variable based on mean satisfaction with twelve factors: classrooms; technology for teaching; teaching support staff; laboratories; research equipment; research funding; research support staff; computer facilities; libraries; office space;

telecommunications; and secretarial support. Ideally these factors would have been operationalised separately to account for which institutional resources have the strongest relationships with job satisfaction. However, high bi-variate correlation amongst the factors required them to be aggregated into a single variable.

*Gender* is a dichotomous variable for being male.

*Institutional types* is operationalised as three dichotomous variables based on formal and informal groupings: 'Group of Eight'; 'Australian Technology Network' (ATN); and 'Other universities'.

*Academic discipline* is operationalised as five dichotomous variables based on the UNESCO (1978) guidelines: social science; humanities; technology; natural sciences; and medicine.

*Student quality or relationships* is an ordinal variable based on the degree to which one agreed they spent 'more time than you would like teaching basic skills due to student deficiencies'.

*Administration* is operationalised as two variables. The first is satisfaction with 'administrative processes' and is based on ordinal responses to the presence of: cumbersome administrative process (reverse coded); collegiality in decision-making; good communication between management and academics; supportive attitude of administrative staff towards teaching; and supportive attitude towards research. Item responses were highly correlated (Pearson correlation coefficient of greater than 0.5 between all pairs), justifying their operationalisation as a single variable. The second administration variable, 'departmental influence' is based on an ordinal response to self-perceived influence within one's department. This variable was not highly correlated with any items within the 'administrative processes' variable (maximum Pearson correlation coefficient of 0.25).

*Career stage* is operationalised as three dichotomous variables based on age group: 'Early career' (under 40 years of age); 'Mid career' (40 to 55 years of age); and 'Late career' (Over 55 years of age). These categories are consistent with Hagedorn's (1994) American study.

*Change in rank or tenure* is a dichotomous variable for years since appointment or promotion to current rank. Those with five or fewer years at current rank were considered 'recently promoted'.

*Transfer to new institution* is a dichotomous variable for the length of tenure within one's current institution, with those having fewer than 4 years at current institution considered a 'new appointment'.

Table 3.2. Variable means, standard deviations, Pearson correlation coefficients with job satisfaction index, respondents (n) and descriptions.

	Mean	SD	Corr.	n	Variable description
<i>Motivators and Hygienes</i>					
Publications index <sup>a</sup>	2.52	1.59	0.08*	978	Square root transformation of publications in the previous three years
Recognition <sup>b</sup>	0.43	0.50	0.00	950	Elected academic leadership position or scientific board member
Available research time <sup>b</sup>	0.78	0.41	0.11**	1056	At least 30% research time (primary research interest); or 20% research time (research and teaching interest); or primary interest in teaching.
Junior rank <sup>b</sup>	0.52	0.50	-0.07*	1097	Lecturer and below (Level A / Level B)
Middle rank <sup>b</sup>	0.25	0.43	-0.05	1097	Senior Lecturer (Level C)
Senior rank <sup>b</sup>	0.23	0.42	0.14**	1097	Associate Professor/Professor (Level D / Level E)
Institutional resources <sup>d</sup>	3.22	0.68	0.39**	1090	Degree of satisfaction with 12 institutional resource variables
<i>Demographics</i>					
Male <sup>b</sup>	0.50	0.50	0.04	1006	Male
Group of Eight university <sup>b</sup>	0.42	0.49	-0.02	1097	Employed at a Group of Eight university
ATN university <sup>b</sup>	0.21	0.41	0.05	1097	Employed at an Australian Technology Network university
Other university <sup>b</sup>	0.36	0.48	-0.02	1097	Employed at another university
Social sciences <sup>b</sup>	0.33	0.47	-0.01	871	Current academic unit in the social sciences
Humanities <sup>b</sup>	0.14	0.34	-0.01	871	Current academic unit in the humanities
Natural sciences <sup>b</sup>	0.22	0.41	0.02	871	Current academic unit in the natural sciences
Technology <sup>b</sup>	0.06	0.24	0.02	871	Current academic unit in technology or engineering
Medicine <sup>b</sup>	0.25	0.44	-0.01	871	Current academic unit in the medical/health sciences
<i>Environment</i>					
Poor student quality <sup>d</sup>	3.61	1.17	-0.23**	867	Agreement that one spends too much time teaching basic skills to students
Dept. influence <sup>c</sup>	2.38	1.00	0.17**	940	Perceived influence at the departmental level
Administration processes <sup>d</sup>	2.54	0.83	0.46**	998	Degree of satisfaction with 4 administration support variables
<i>Triggers</i>					
Early career <sup>b</sup>	0.26	0.44	-0.01	998	Under 40 years of age
Mid career <sup>b</sup>	0.52	0.50	-0.11**	998	40 to 55 years of age
Late career <sup>b</sup>	0.23	0.42	0.14**	998	Over 55 years of age
Recently promoted <sup>b</sup>	0.73	0.44	0.11**	1014	Promoted/appointed to current rank within the last 5 years
New appointment <sup>b</sup>	0.43	0.50	0.07*	1033	Less than 4 years at current institution

Notes: <sup>a</sup> Scale variable; <sup>b</sup> Dichotomous variable; <sup>c</sup> Four-point ordinal variable; <sup>d</sup> Five-point ordinal variable.

Statistical significance: \*\* $p < 0.01$  \* $p < 0.05$ .



## 3.5 Results

### 3.5.1 Mean satisfaction

On a scale of one to five, Australian academics reported a mean job satisfaction of 3.1. Just over half (51%) reported an index score above 3 and were, therefore, considered ‘satisfied’. The mean and proportion of ‘satisfied’ academics likely underestimated overall satisfaction. The mean score for the question regarding ‘overall satisfaction with current job’ was higher (3.4) and 55% of academics reported to be satisfied (4) or very satisfied (5). These results are similar to the recent survey by Bexley and colleagues (2011) which found 58% of academics were generally satisfied, and are slightly more positive than McInnis’ (1999) survey (51% satisfied) and the Carnegie survey of 1991/92 (49% satisfied) (Lacy & Sheehan, 1997). Most negativity focused on the two questions relating to personal strain of an academic career and poor conditions for young academics. Only 28% of academics disagreed with the statement ‘My job is a source of considerable personal strain’. This is similar to the 2010 survey by Bexley and colleagues (2011) which found 30% disagreement with the statement ‘My job is a source of considerable personal stress’, and an improvement upon the 21% disagreement with the same question in McInnis’ (1999) survey. Just over a third (36%) disagreed with the statement ‘This is a poor time for any young person to begin an academic career in my field’, but this was also higher than in 1999 where only 23% disagreed (McInnis, 1999). These results are shown in Table 3.3.

Table 3.3. Satisfaction with academic work: mean (*M*), standard deviation (*SD*) and % reporting satisfaction (% reporting a score above 3)

	<i>M</i>	<i>SD</i>	%	<i>n</i>
Job satisfaction index	3.11	0.95	51	1097
This is a poor time for any young person to begin an academic career in my field <sup>a</sup>	2.77	1.39	36	1089
If I had it to do over again, I would not become an academic <sup>a</sup>	3.60	1.30	58	1092
My job is a source of considerable personal strain <sup>a</sup>	2.64	1.26	28	1093
Overall satisfaction with current job <sup>b</sup>	3.42	1.09	55	1097

Note: <sup>a</sup> 1 = strongly agree; 5 = strongly disagree; <sup>b</sup> 1 = very dissatisfied; 5 = very satisfied;

A standard multiple regression was performed with the job satisfaction index as the dependent variable. The adjusted square multiple correlation for Australia was significantly different from zero ( $F= 13.196, p<0.01$ ) and 32% of the variance in the job satisfaction index was explained by the set of independent variables. The adjusted R-square was less than the 40% of variance in job satisfaction explained by Lacy and Sheehan’s (1997) model for the 1991/92 Carnegie data. However, the difference may be less than this because it is unclear whether Lacy and Sheehan were reporting an adjusted or unadjusted R-square. The data satisfied the assumptions of multicollinearity (variance inflation factors reached a maximum of 2.0), and residual plots indicated normality of residuals and homoscedasticity.

While most independent variables showed significant bi-variate relationships with job satisfaction, only a minority uniquely and significantly contributed to the prediction of job satisfaction. For example, the relationship between academic rank and job satisfaction, while statistically significant in bi-variate terms, was not significant once other variables were

controlled for in the regression results. This illustrates the difficulty in accurately predicting how job satisfaction is influenced by any one variable in isolation, particularly when a variable captures both intrinsic and extrinsic rewards. Nonetheless, statistically significant positive relationships were found between job satisfaction and: supportive administrative processes; satisfactory institutional resources; available research time; being a late-career academic; and having spent less than five years at one's current rank (recently promoted). Poor student quality was also highly significant in its negative relationship with job satisfaction, while being employed at a Group of Eight university was also significant and negatively related with job satisfaction. The regression results are shown in Table 3.4.

Table 3.4. Linear multiple regression results for factors associated with higher levels of job satisfaction

	Beta	S.E.	Std. B.	t	Sig.	Toll.	VIF
(Constant)	1.29	0.28		4.69	0.00		
<b>Administration processes<sup>d</sup></b>	<b>0.36</b>	<b>0.05</b>	<b>0.31</b>	<b>6.82</b>	<b>0.00</b>	<b>0.62</b>	<b>1.61</b>
<b>Institutional resources<sup>d</sup></b>	<b>0.27</b>	<b>0.06</b>	<b>0.19</b>	<b>4.23</b>	<b>0.00</b>	<b>0.65</b>	<b>1.54</b>
<b>Available research time<sup>b</sup></b>	<b>0.20</b>	<b>0.09</b>	<b>0.09</b>	<b>2.35</b>	<b>0.02</b>	<b>0.89</b>	<b>1.13</b>
<b>Late career<sup>b</sup></b>	<b>0.21</b>	<b>0.09</b>	<b>0.09</b>	<b>2.28</b>	<b>0.02</b>	<b>0.76</b>	<b>1.31</b>
<b>Recently promoted<sup>b</sup></b>	<b>0.20</b>	<b>0.09</b>	<b>0.09</b>	<b>2.13</b>	<b>0.03</b>	<b>0.67</b>	<b>1.49</b>
Departmental influence <sup>c</sup>	0.06	0.04	0.06	1.46	0.14	0.70	1.43
Humanities <sup>b</sup>	0.13	0.11	0.05	1.12	0.26	0.79	1.27
Publications index <sup>a</sup>	0.02	0.03	0.04	0.83	0.40	0.60	1.65
Senior rank <sup>b</sup>	0.07	0.11	0.03	0.65	0.51	0.55	1.83
Technology <sup>b</sup>	0.09	0.15	0.02	0.56	0.58	0.87	1.15
Early career <sup>b</sup>	0.04	0.10	0.02	0.38	0.70	0.73	1.37
New appointment <sup>b</sup>	0.04	0.09	0.02	0.46	0.64	0.62	1.62
Male <sup>b</sup>	-0.01	0.07	0.01	0.17	0.87	0.91	1.10
Other university <sup>b</sup>	0.01	0.10	0.01	0.11	0.91	0.49	2.04
Medicine <sup>b</sup>	0.03	0.10	0.01	0.27	0.79	0.76	1.31
Natural sciences <sup>b</sup>	0.00	0.10	0.00	0.04	0.97	0.74	1.34
Recognition <sup>b</sup>	-0.01	0.08	-0.01	-0.18	0.85	0.85	1.18
Junior rank <sup>b</sup>	-0.08	0.10	-0.04	-0.78	0.43	0.55	1.81
<b>Group of Eight university<sup>b</sup></b>	<b>-0.26</b>	<b>0.10</b>	<b>-0.14</b>	<b>-2.60</b>	<b>0.01</b>	<b>0.49</b>	<b>2.05</b>
<b>Poor student quality<sup>d</sup></b>	<b>-0.14</b>	<b>0.03</b>	<b>-0.17</b>	<b>-4.37</b>	<b>0.00</b>	<b>0.88</b>	<b>1.14</b>
Adjusted R-Square	0.32						

Notes: <sup>a</sup> Scale variable; <sup>b</sup> Dichotomous variable; <sup>c</sup> Four-point ordinal variable; <sup>d</sup> Five-point ordinal variable; Statistically significant ( $p < 0.05$ ) results shown in **bold**.

Reference categories: Middle rank, ATN university, Social sciences and Mid career

Linear regression requires the dependent variable to be at least interval with equal distance between each pair of successive categories. One limitation of the job satisfaction index is that it is derived from ordinal responses, meaning the distance between category levels may not be equal. To check whether job satisfaction could be more appropriately operationalised as a dichotomous variable (for being satisfied or not) a binary logistic regression for the same independent variables was conducted. Binary logistic regression determines the impact of multiple independent variables on the likelihood of being classified in a particular dichotomous category, in this case, being classified as 'satisfied' (having a job satisfaction index of 3 or higher). The binary logistic regression results are shown in Table 3.5.

Table 3.5. Binary logistic regression for factors affecting the odds of being satisfied

	B	S.E.	Wald	df	Sig.	Exp(B)
<b>Promotion<sup>b</sup></b>	<b>0.72</b>	<b>0.27</b>	<b>7.01</b>	<b>1.00</b>	<b>0.01</b>	<b>2.05</b>
<b>Administration processes<sup>d</sup></b>	<b>0.66</b>	<b>0.16</b>	<b>17.87</b>	<b>1.00</b>	<b>0.00</b>	<b>1.93</b>
<b>Available research time<sup>b</sup></b>	<b>0.62</b>	<b>0.26</b>	<b>5.71</b>	<b>1.00</b>	<b>0.02</b>	<b>1.87</b>
<b>Institutional resources<sup>d</sup></b>	<b>0.48</b>	<b>0.19</b>	<b>6.58</b>	<b>1.00</b>	<b>0.01</b>	<b>1.61</b>
Other university <sup>b</sup>	0.37	0.30	1.50	1.00	0.22	1.45
Technology <sup>b</sup>	0.36	0.45	0.64	1.00	0.42	1.44
Late career <sup>b</sup>	0.33	0.27	1.52	1.00	0.22	1.39
Humanities <sup>b</sup>	0.29	0.33	0.77	1.00	0.38	1.34
Early career <sup>b</sup>	0.20	0.30	0.46	1.00	0.50	1.22
Departmental influence <sup>c</sup>	0.19	0.13	2.33	1.00	0.13	1.21
Publications index <sup>a</sup>	0.15	0.09	3.02	1.00	0.08	1.16
Male <sup>b</sup>	0.14	0.21	0.40	1.00	0.53	1.15
Senior rank <sup>b</sup>	0.12	0.30	0.17	1.00	0.68	1.13
New appointment <sup>b</sup>	0.10	0.27	0.12	1.00	0.73	1.10
Medicine <sup>b</sup>	0.06	0.28	0.04	1.00	0.84	1.06
Recognition <sup>b</sup>	0.04	0.22	0.04	1.00	0.85	1.04
Natural sciences <sup>b</sup>	0.03	0.28	0.01	1.00	0.91	1.03
Junior rank <sup>b</sup>	-0.38	0.28	1.82	1.00	0.18	0.69
<b>Poor student quality<sup>d</sup></b>	<b>-0.37</b>	<b>0.10</b>	<b>14.04</b>	<b>1.00</b>	<b>0.00</b>	<b>0.69</b>
<b>Group of Eight university<sup>b</sup></b>	<b>-0.68</b>	<b>0.30</b>	<b>5.15</b>	<b>1.00</b>	<b>0.02</b>	<b>0.51</b>
Constant	-3.93	0.85	21.23	1.00	0.00	0.02

Notes: <sup>a</sup> Scale variable; <sup>b</sup> Dichotomous variable; <sup>c</sup> Four-point ordinal variable; <sup>d</sup> Five-point scale variable; Statistically significant ( $p < 0.05$ ) results shown in **bold**.

Chi-square = 141.99 (sig. 0.01); -2 Log likelihood=567.13; Nagelkerke R Square=0.32  
Reference categories: Middle rank, Australian Technology Network university, Social sciences and Mid career

The logistic regression results indicated that the inclusion of the independent variables significantly improved the likelihood of being able to predict whether or not an academic is satisfied with their job (compared with a constant-only model). The factors associated with being satisfied were almost identical to the linear regression model, though with typically lower levels of statistical significance. Satisfaction with administration processes remained the strongest variable, with a one unit increase associated with being almost twice as likely to report being satisfied ( $\text{Exp}(B) = 1.93$ ). Being in one's current rank for less than five years (recently promoted) was also associated with being twice as likely to report job satisfaction ( $\text{Exp}(B) = 2.05$ ). Poor student quality and being located in a Group of Eight university remained negatively associated with the likelihood of being satisfied in the binary logistic model. Given the similarity and weaker levels of significance in the binary logistic model compared with the linear model, the following discussion will focus on the results from the linear regression.

### 3.5.2 Results for Environmental Conditions

Hagedorn's framework contained three types of mediators: motivators and hygienes, demographics, and environmental conditions. The results indicate that the strongest factors associated with job satisfaction are environmental conditions. Administration processes is the

single factor most strongly explaining the variation in job satisfaction between academics. A one unit increase in satisfaction with administration processes predicted an increase in job satisfaction of almost 0.4 units on our five-unit index. This was a broad variable capturing highly correlated responses to questions of communication, collegiality in decision-making, and relationships with administrators. The increased importance of good relationships with administrators and superiors has been discussed widely in the Australian and international literature on academic work. Academic work has traditionally been self-regulated, but autonomy has come under strain with increases in managerial control over work (Lafferty & Fleming, 2000). The importance of good relationships with administrators and superiors was consistent with Winter and Sarros' (2002) results, which indicated influence in departmental and university decision making was a significant factor affecting organisational commitment. The low mean score for administration processes (2.5 on a scale of 1 to 5) compared to satisfaction with other work aspects (e.g. institutional resources) lends support to Langford's (2010) findings that Australian universities have a relative weakness in institutional processes, co-operation and communication, and involvement in decision making.

The second administration variable in the model, departmental influence, showed a positive but insignificant relationship with job satisfaction. This result differed from previous studies from the United States, which found the level of faculty involvement and influence within one's unit was one of the strongest significant predictors of job satisfaction (August & Waltman, 2004; Iacocca & Schumacher, 1995). The results may indicate support for Lacy and Sheehan's (1997) claims that institutional 'governance' (such as departmental influence) has only a minor influence on job satisfaction when controlling for 'institutional atmosphere' variables (such as faculty-administration relationships). However, it is also likely that departmental influence affects how one evaluates relationships with institutional decision makers, and consequently, job satisfaction. Therefore, the importance of departmental influence should not be disregarded.

Poor student quality was the third strongest factor associated with job satisfaction. A majority (59%) of academics spent more time than they would have liked teaching basic skills to students with deficiencies. A one unit increase in agreement was associated with a 0.2 unit decrease in the job satisfaction index. Poor student quality was operationalised as a proxy for student relationships and achieved results similar to previous American studies (August & Waltman, 2004; Hagedorn, 2000). There are no previous Australian studies to draw direct comparisons, but the descriptive results were almost identical to Bexley and colleagues' (2011, p.65) and consistent with McInnis' (1999) regression results, which showed hindrances to teaching were significantly and negatively associated with job satisfaction. McInnis also found that the two greatest hindrances were 'too many students' (50%) and 'a too wide a range of students' abilities' (46%). More than a third of academics involved in undergraduate teaching in McInnis' survey, perceived a decline in the calibre of students over the previous five years.

The quality of academic-student relationships have arguably declined as massification of Australian higher education has brought an increase in student numbers, student diversity and declines in student funding (on a per capita basis) (McInnis, 2003; Moodie, 2008). The general perception that student preparedness is declining can be traced back to at least the late 1970s in Australia (Harman & Meek, 2007). Australian academics have also faced increased scrutiny of their undergraduate teaching portfolios when applying for tenure and promotion. Combined with the growth in international students, many academics have difficulties teaching to a larger, more diverse, and less academically prepared student cohort. This can be

particularly stressful where there is a mismatch between prior training and expectations, and current teaching duties (Winefield & Jarrett, 2001).

### ***3.5.3 Results for Motivators and Hygienes***

Institutional resources was the independent variable with the second strongest relationship with job satisfaction. Institutional resources did not form part of Hagedorn's (2000) theoretical framework, but, as argued before, one may expect that resources act similar to what Herzberg and colleagues (1993) identify as hygienes, whereby sufficient resources prevent dissatisfaction and barriers to completing one's work. The strength of this variable was unsurprising. Declining government funding of universities, combined with increasing student numbers and increased competition for research funding, has stretched the diminishing resources in Australian universities and intensified academic workloads (Harman, 2006). However, mean satisfaction with institutional resources was high (3.2 on a scale of 1 to 5) relative to administrative process (2.5), which was similar to Langford's (2010) findings for universities. Unfortunately, the broadness of this variable (due to high correlation amongst its components) makes it impossible to distinguish which component resource was most strongly associated with satisfaction.

The only other significant motivator and hygiene from Hagedorn's (2000) framework was available research time, which was a proxy for 'work itself'. To be considered as having adequate research time, academics with research interests were required to spend at least 20% of their time on research, increasing to 30% for those with primary research interests. Academics without research interests were considered to have adequate research time by default. The majority of academics (78%, including the 7% with primary teaching interests) met these thresholds. Available research time was associated with a 0.2 unit increase in job satisfaction. While this appears relatively minor, it is important given its cumulative effect after controlling for other variables affecting research time and performance, such as rank and student quality. The core areas of academic work are not always mutually reinforcing, with undergraduate teaching often 'at odds' with research (Mamiseishvili & Rosser, 2010, p.120). Winefield and Jarrett (2001, p. 296-7) have argued that the shift in control over workloads in Australian universities, away from collegial decision making and towards managerial autocracy, has increased the potential for mismatches between work requirements and one's abilities or expectations. As noted by one interviewee in Petersen's (2011) study of Australian early stage researchers: 'it feels like I spend most of my time on things that I loathe doing and am not very good at or trained to do, and almost none of my time on things I feel I should be doing; research and actual teaching' (p. 36). When academics are trained in and hold an interest in research, it is unsurprising that available research time is an important predictor of satisfaction.

None of the remaining motivators and hygienes — achievement (publications), recognition (leadership roles) and advancement (rank) — showed significant associations with job satisfaction. This was somewhat inconsistent with the expectancy-based and self-determination theories of motivation which underpin Hagedorn's (2000) theoretical framework (for a summary of the theoretical literature, see: Mamiseishvili & Rosser, 2010). As indicated before, Hagedorn's framework is strongly influenced by the work of Herzberg and colleagues (1993), who found achievement and recognition to have the strongest relationships with positive job attitudes. However, the regression results indicated that additional research publications had no significant relationship with job satisfaction. The bi-variate relationship between publications and job satisfaction was also very weak (Pearsson

correlation coefficient 0.08). A square root transformation of publication types (books and articles) was used because of the skewed distribution of publications. However, the square root transformation only marginally increased the strength of this variable compared with using the raw number of publications.

Considering the significant relationship between satisfaction and available research time, the insignificance of publications suggests that publishing research may be less intrinsically satisfying for academics than the research process itself. According to self-determination theory, if workers lack autonomous motivation for improved productivity in a given activity, they will derive little satisfaction from effective performance. The pressure to publish may mean that the motivation to publish additional research is not autonomous, but 'prompted by external or introjected contingencies' (Gagné & Deci, 2005, p. 353). Hagedorn proposed that academics with greater levels of publishing will be more satisfied, but qualified this as contingent upon their achievements being recognised and rewarded. While a large majority of academics surveyed by Bexley and colleagues in 2010 agreed that research/scholarly activities were currently rewarded by their universities (75%), this was noticeably less than the proportion agreeing in the 1999 survey (92%). Although academics believe research is rewarded by universities, when it comes to their own university valuing their individual contributions, Bellamy and colleagues (2003) found only a minority (41%) of Australian business academics felt this was the case. The complexity of appraising research performance probably means the relationship between performance and job satisfaction is weaker in academia than in other professions.

Academics in leadership roles, such as elected leaders of professional associations or members of international scientific committees, were no more satisfied with their jobs than other academics. Given that academics in such positions have received substantial recognition from their peers, the insignificance of this variable was surprising. It may be that leadership and committee responsibilities are relatively unimportant for academics, compared with the core duties of teaching and research. Leadership and community service are rarely listed as a reason for choosing an academic career in Australia compared with the traditional academic roles of teaching and research (Bellamy, et al., 2003).

The insignificance of the remaining motivator and hygiene variable — advancement (academic rank) — differs from the earlier Australian studies by Lacy and Sheehan (1997) and McInnis' (1999). Academic rank was expected to show a positive relationship with job satisfaction because autonomy has arguably been reduced in lower ranks (Lafferty & Fleming, 2000), but the negative effects of these changes for job satisfaction does not receive support amongst the fixed-term and ongoing staff included in the CAP survey.

#### ***3.5.4 Results for Demographics***

The regression model contained three demographics mediators — gender, institutional type and academic discipline — but only institutional type showed a significant relationship with job satisfaction. Academics employed with a Group of Eight university reported significantly lower levels of job satisfaction compared with those in the reference group, the Australian Technology Network universities. This was surprising because there were no significant differences between university types in mean job satisfaction via an ANOVA analysis ( $p>0.05$ ). The results also differ from Winefield and colleagues (2003), who reported higher levels of job satisfaction in older universities, and McInnis' (1999) study which indicated no effect of university type in the logistic regression results. There may be some overlap

between being in a Group of Eight and other mediators. Academics in the Group of Eight reported significantly higher scores for student quality and available research time than academics in the two other institutional types, and significantly higher satisfaction with institutional resources than academics in 'other universities' (ANOVA Games Howell,  $p < 0.05$ ). However, after recomputing the linear regression without the student quality, institutional resources and available research time variables, Group of Eight academics continued to be significantly less satisfied. The lower level of satisfaction amongst Group of Eight academics, despite their relatively favourable conditions, may be due to higher expectations of their employing institutions.

One can transfer between institution, but gender, and to a lesser extent discipline, are fixed demographic variables. None of the demographic variables were significant in explaining variation in job satisfaction. Nor were there any significant differences in mean satisfaction between gender or any academic field (ANOVA,  $p > 0.05$ ). This is different to Lacy and Sheehan's (1997) analysis of the 1991/92 Carnegie data, which found men were significantly more satisfied with most aspects of their academic work, including their job as a whole (52% satisfied versus 43%). However, other previous Australian studies have also found no effect of gender in job satisfaction (McInnis, 1999; Winefield & Jarrett, 2001) and quality of academic work life (Winter, Taylor, & Sarros, 2000). Bornholt and colleagues (2005) further analysed the 1991/92 Carnegie data and concluded that the effects of discipline and gender were indirect: 'It is evident that a sense of satisfaction with academic work is linked to social roles within highly stratified career structures, rather than directly to gender or [discipline]... gendered dissatisfaction with academic work therefore lies in the disproportionate numbers of academic women and men across ranks' (Bornholt, et al., 2005, p. 128). The insignificance of gender and academic field in this study also suggest that these variables do not explain variation in job satisfaction once other work-related factors are controlled.

### **3.5.5 Results for Triggers**

The final three mediators came from what Hagedorn (2000) described as triggers: change in life stage; change in rank or tenure; and transfer to new institution. Each of these changes can trigger a reinterpretation of one's work and career. Academics who were either promoted or appointed to their current rank within the last five years were significantly more satisfied than those who had spent at least five years at the same rank. These results were consistent with Winefield and colleagues' (2008, p.161) longitudinal study, which found that academics who had been promoted between their 2000 and 2003/4 surveys reported significantly higher job satisfaction in 2003/4, while the opposite was the case for those without promotion. This is an important result because the benefits to one's salary of a promotion can be relatively modest, given that collectively bargained salary structures in Australian universities reward length of service with incremental pay increases. For example, at the University of Melbourne the immediate pre-tax salary increase for an academic promoted to the next highest rank would be roughly 4%, if they had spent five to six years at their previous rank. Perhaps more than its positive impact on salary, promotion acts as a positive feedback on performance, particularly in Australian universities where promotion is based on demonstrated competence, rather than applying for vacancies.

Hagedorn argues that transferring to a new institution always affects job satisfaction as it involves fitting into new surroundings and responsibilities. There was no support in the regression results to indicate that recently transferred academics were any more or less satisfied with their jobs. However, the regression results do not directly measure the impact

of a transfer because the data are cross-sectional. More than one-third (34%) of satisfied academics declared that they had not considered making major changes to their job in the last five years, compared with just 16% of not satisfied academics. If dissatisfied academics are more likely to transfer to a new institution, and transferring has a positive effect on their job satisfaction, the effects would not be captured in the regression results because job satisfaction was only measured after the change.

Changes in life and career stage can encourage career reassessment and bring into question whether one's current work and career trajectory matches career goals. Based on her earlier research on the relationship between job satisfaction and proximity to retirement (Hagedorn, 1994), Hagedorn (2000) contended that the determinants of job satisfaction vary depending on whether one is an early career, midcareer or late career. In this study, age was used as a proxy for career stage and the regression results showed that late career academics (those over 55 years of age) were significantly more satisfied than midcareer and early career academics. These results were similar to McInnis' (1999) regression results which indicated early career academics (between one to seven years in academia) were significantly less satisfied.

Hagedorn (1994) contended that older academics may be more satisfied because they have had the time to align their work situation with their competences or interests. However, younger generations may never have the time to align their work situation with their competences if work requirements are always in flux. Again, the limitations of cross-sectional data make it impossible to reveal the effect of aging or changes in career stage on satisfaction, only differences between academics of different ages at the same point in time. Academics belong to different generations (or cohorts) and younger academics will experience vastly different careers from their predecessors. Teaching experience is often gained as a post-graduate researcher and doctorates now operate as a pre-requisite for secure employment, or even the 'treadmill' employment of sessional contracts (Coates & Goedegebuure, 2010). This should indicate greater preparedness of younger generations once they finally enter their academic careers, but these experiences act as a filtering process and will shape how young academics perceive their work.

The demands of academic work have also moved away from traditional research and teaching. In 2010, the activity most academics believed was rewarded in promotions processes was the ability to attract external funds (82.8% agreed) (Bexley, et al., 2011). Most also agreed research/scholarly activities were rewarded (74.7%), but few agreed effectiveness as a teacher was rewarded (29.3%). These results were different to the McInnis' (1999) survey which found stronger agreement for research (90.9%) and teaching (43.9%), but similar results for external funds (81.9%). Winefield and Jarrett (2001) argue that late-career academics are in the worst position to adapt to the comparably stronger importance of entrepreneurial activities because they were not recruited with these abilities in mind. However, older generations also have also benefitted from more generous retirement schemes (May, 2011) and increased concentration of power in higher ranking positions, more often held by older academics (Lafferty & Fleming, 2000). Changes in the nature of academic work and the stratification in conditions across ranks means, while it is possible to conclude that older academics are typically more satisfied, it is impossible to conclude that job satisfaction of younger generations will increase as they progress in their career.

### **3.6 Discussion**



When the CAP results on the attractiveness of the academic profession in Australia were first reported (Coates, et al., 2009), the apparent dissatisfaction and its implications for future staffing were questioned. One Vice-Chancellor claimed academics needed to “get rid of the old view of what universities were like and... get the new normal”, while another blamed the dissatisfaction on a small “band of ticked-off senior lecturers” frustrated by a lack of career progress (Trounson, 2009). This, in turn, triggered a series of angry reactions from academics arguing that these were typically management reactions ignoring the real issues and blaming it on staff unwilling to accept and support necessary changes. Our research presented in this chapter supports both positions.

Satisfaction tends to be higher amongst those who have recently been promoted and lower amongst mid-career academics. And Australian higher education has experienced profound change over the last fifteen years in all areas that matter to its primary functions of teaching and learning and research: financial resources, competition, volume of students and the diversity of the student body, accountability, regulation and governance. At the same time, the core issues identified in this chapter are not new. The degree of satisfaction has been an issue for concern since the early 1990s and academic time spend on non-academic activities in combination with the perceived inability to spend sufficient time on research have been persistent factors contributing to these relatively low levels of satisfaction. It would be very difficult to ignore management responsibility for ‘cumbersome administrative processes’ as it would be equally difficult to deny institutional management and academic leadership responsibility for both a reasonable work-life balance and a reasonable workload distribution that reflects both institutional/departmental needs and staff interests and abilities. Leaving aside the question of ‘blame’ for the moment, at a minimum we must conclude that all of the above are persistent issues that look unlikely to be resolved in the very near future. This, first, raises the question of what this means for Australian academe in the coming years, and second, what the implications are for the governance and management of the university system and its institutions.

As regards the ‘new normal’ the best that can be said for Australian university life probably is that it will be far from normal. All the major institutional drivers have been turned from stable to dynamic. Universities are being confronted with a ‘demand driven system’ meaning that the caps on funded student places are off and it is a free-for-all for the next years, or so it appears. This already has resulted in pro-active behaviour by universities over enrolling to as much as 30+% in an attempt to capture market share in this new competitive environment. But, of course, no guarantees have been provided as to the price-per-student level in this open market system. The recent government response to the so-called base-funding review ‘to establish enduring principles to underpin public investment in higher education’ (Lomax-Smith et al., 2011: viii) gives little cause for optimism: ‘expectations of new funding must be tempered, given the significant additional revenue streams that are now flowing to universities following the Government’s response to the Bradley Review’ (Evans, 2011). This clearly suggests that increased numbers of students will not be accompanied by a comparable rise in government funding. Universities therefore will have to educate more students under the existing government allocations. Admittedly, these show an increase of A\$4 billion over the last five years, but in large part these are compensations for part funding not keeping pace with inflation and infrastructural needs. So whilst the government policy squarely is focussed on increased participation, it is unlikely additional funding will flow to

the sector, especially in a context of international economic volatility. This brings the workload issues and the work-life balance for academic staff squarely back on the table.

However, if government policy is to become a reality universities not only will have to deal with increased student numbers, they also will have to cater for an increasingly diverse student body as policy indicates significant increases in the proportion of students from low socio-economic backgrounds. Hence the academic preparation of entering students will show a greater variability which we need to see in the context of problematic issue of teaching students basic skills, identified earlier in the chapter. Combined with the volume issue, this creates a challenging environment for both academics and institutional management.

Yet not only the teaching variables are in flux. As indicated before, Australia has had its first experiences with measuring research performance through the Excellence in Research for Australia project (ARC, 2011). Whilst to some extent the outcomes of this exercise have been predictable, in the sense that the traditional research intensive universities (Go8) have dominated, subsequent analysis also has demonstrated that in quite a few areas other universities are punching well above their weight (Pettigrew, 2011). This has further spurred the reputation race across the system with institutions either further backing their winners, or wanting to up the ante across the board. At the same time, government is raising the innovation game by introducing the Collaborative Research Networks (CRN) program, which 'is designed to encourage smaller less research-intensive and regional higher education institutions to develop their research capacity and adapt to a research system driven more strongly by performance outcomes by teaming up with other institutions in areas of common interest. The intention is that all participants in a collaborative network will benefit from the partnership, with flow-on effects for the research and innovation system as a whole.' (DIISR, 2011a). Together with this, a Research Workforce Strategy has been developed (DIIRS, 2011b) to address expected shortfalls in the number of qualified researchers. No doubt these are good and noble intentions, but they need to be addressed in a context where academics have indicated that they have problems finding sufficient time to engage in research activities.

Without going into the details of all of the above, it serves to highlight the fact that not only expectations are raised, from a government perspective, on increased teaching and learning outcomes and outputs, but also on research outcomes and outputs contributing to innovation and productivity. These can be seen as a further specification of the generic statement made at the beginning of this chapter on a much more direct link between higher education and socio-economic growth and productivity, ultimately to be formalized in legally binding compacts between the federal government and individual institutions. This complex policy environment combined with the results of a number of studies on the academic workforce and degrees of satisfaction raises fundamental questions on institutional profiles and a reconceptualisation of the nature of the academic profession.

Our survey results, supported by various other studies, suggest that in order to keep the future academic workforce vibrant, motivated and satisfied, continuing current practices across the sector will not suffice. Simply increasing teaching loads because of a growth in student numbers rather than employing more staff or increasing existing teaching productivities will only steer the sector on an irrevocable collision course which will have seriously damaging effects for our staff, students and institutional reputations. As has been argued by Coates and Goedegebuure (2010), trying to find the solution by further increasing the use of and dependency on casual staff may have serious consequences for quality and cohesion within

institutions. Increasing productivity through better use of staff, technology and innovative teaching and learning methodologies appears an option given the results obtained by the National Centre for Academic Transformation (NCAT) in the US (NCAT, 2012) but its potential for Australia is the object of a pilot project the results of which have to be awaited. However, there is growing evidence that alternative approaches to teaching and learning can result in improved student learning, retention and completion, whilst freeing up time for academic staff to engage in other relevant and rewarding work (UoW, 2009).

Ultimately, however, Australian universities will have to bite the profile button. Whilst the National Protocols define an Australian university as an organisation engaged widely in teaching and research, it appears untenable in the face of the pressures identified above that all universities can uphold the holy trinity of the 40-40-20 workload model: 40% of each academic's time devoted to teaching and research, with the remaining 20% for service, administration and outreach activities. Our survey data clearly indicate that this fictitious distribution does not reflect the 2007/08 realities. ERA results indicate that there is no equality in research performance. And our above discussion provides ample support for the argument that '40-40-20' needs to be buried and forgotten. This is not to say that universities should not engage in teaching and research, or that Australia should have 'teaching-only' institutions, but it is reinforcing the point made by Hattie and Marsh (1996) that the teaching-research nexus needs to be approached with care and an eye for diversity, and not as a blanket approach to either workload models or expectations on academic behaviour and productivity. It also implies that institutions should play to their existing strengths in terms of both teaching *and* research. This, in turn, implies the fundamental acceptance of differentiation across the Australian university sector and within its institutions.

The conclusion that Australian higher education is in need of further differentiation is not new (Meek et al., 1996) but so far has not been seriously acted upon by either the government or institutions. In itself this is not surprising as it is both a highly complex policy act to create an environment that promotes serious profiling and diversity and it is risky business from an institutional perspective and requires strong, visionary and persistent academic leadership. In the words of Niccolo Machiavelli, this type of change certainly isn't for the faint-hearted. But the international environment and its own national policy settings are such that Australian higher education must confront this issue and act decisively.

Acting decisively will also mean that within institutions and as a profession we will need to reconsider what academic careers in the 21<sup>st</sup> century truly entail, how we want to conceptualise progress and advancement, what appropriate reward structures are, and how academia can effectively compete with other sectors in offering an intellectually stimulating and rewarding environment that recognises *and* rewards different abilities of individual academics at different stages in their careers, and defines an academic career in much more versatile and individually tailored terms than the current straightjacket of the A-B-C-D-E pyramical ladder (for a further elaboration, see Coates & Goedegebuure, 2010).

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