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Job satisfaction among academic staff: An international perspective

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Abstract. This study examined aspects of academics' satisfaction with their job across the eight nations (Australia, Germany, Hong Kong, Israel, Mexico, Sweden, UK, USA). Interesting patterns emerged across countries reflecting differences in the international academic climate. The study also explored patterns of job satisfaction and dissatisfaction more closely for the Australian data, and examined the impact of context elements, including working climate and atmosphere, on general levels of job satisfaction. Results indicated that factors related to the environment in which academics work, including university atmosphere, morale, sense of community, and relationships with colleagues, are the greatest predictors of job satisfaction. Implications for university management and governing bodies are discussed.

Introduction

Job satisfaction is an elusive, even mythical, concept that has been increasingly challenged and refined particularly since the Herzberg, Mauser and Snyderman study in 1959. The present analysis considers the job satisfaction of academic staff, examining both general levels of job satisfaction, as well as different factors which seemed to account for satisfaction or dissatisfaction. Job satisfaction in this study is identified in relation to a sub-set of data, from the major study on the academic profession in fourteen countries, carried out under the auspices of the Carnegie Foundation for the Advancement of Teaching, and for which the national data were collected in 1991/92. An overview of these data is presented in Boyer, Altbach, and Whitelaw (1994).

While there was a common 'master' survey instrument, national research teams had considerable autonomy. Items for the national instruments were varied or sometimes omitted, and other items were substituted or added (not only in terms of language translation, but often to tap the same dimension by culturally 'tuning' an item or series of items to the particularities of national conditions and culture). While these factors were taken into account in the choice of countries for the present analysis (i.e., the survey materials and

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methodologies appeared to be comparable), cautionary signals relating to cross-national and cross-cultural comparisons must be borne in mind: the data sources have not been sufficiently validated in cross-cultural terms to yield unequivocal findings.

It is nevertheless interesting, and potentially instructive, to identify patterns of differences among academic staff nationally and internationally in relation to indications of satisfaction with their jobs. The 1980's and 1990's have seen many systems of higher education expand, while resource levels have not kept pace. This has led to rising expressions of concern over the quality of higher education, and high levels of unease reported among academic staff. Indeed, it has been commonplace in many universities for some years to hear academic staff comment that 'morale has never been lower', or that 'staff are at breaking point', but it is also notable that the commitment of academic staff, regardless of perceptions of 'morale', is lauded as being high. While the particular point of the distinction between 'commitment' and 'morale' is not tested in the present analysis, it gives rise to questions about the nature and level of satisfaction of academic staff with their work and employment.

These patterns of differences are explored for eight countries selected from the fourteen countries participating in the international survey: Australia, Germany, Hong Kong, Israel, Mexico, Sweden, UK and USA. The study also explores in somewhat more detail, the impact of university atmosphere on the general job satisfaction of Australian academic staff. For the purposes of this analysis, no distinction is drawn between those staff who engage in both teaching and research and those who may be engaged in full-time research.

Since the late 1950's numerous researchers have theorised the nature of job satisfaction, developed models which explain differences in job satisfaction, and conducted empirical studies to test their models. Herzberg, Mauser and Snyderman (1959) posited the view that job satisfaction is not a uni-dimensional concept, but rather that work-related variables which contribute to job satisfaction are separate and distinct from those factors which contribute to job dissatisfaction. By 1968 Herzberg had advanced the dual factor theory, which held that to not have job satisfaction does not imply dissatisfaction, but rather no satisfaction, whereas the absence of job dissatisfaction does not imply satisfaction with the job, but only no dissatisfaction. Looked at in terms of 'opposites', the 'opposite' of job satisfaction is no satisfaction rather than dissatisfaction and the 'opposite' of job dissatisfaction is no job dissatisfaction, rather than satisfaction.

According to Herzberg (1959), intrinsic elements of the job are related to the actual content of work, such as recognition, achievement and responsibility. These were referred to as 'motivational' factors and are significant elements in job satisfaction. By contrast, Herzberg described extrinsic factors as ele-

ments associated with the work environment, such as working conditions, salary, class size, staff assessment and supervisory practices, and benefits. These were referred to as 'context' or 'hygiene' factors which are related to job dissatisfaction. Herzberg concluded that satisfaction and dissatisfaction are not on the same continuum. As a result, he argued that motivational factors can cause satisfaction or no satisfaction, while hygiene factors cause dissatisfaction when absent, and no dissatisfaction when present. Such theories are, of course, somewhat tenuously founded in Maslow's theory of a hierarchy of needs (e.g., Maslow, 1954) as applied to work situations, with lower order needs requiring satisfaction before higher-level needs emerge and determine motivation. Since 1968 numerous competing theories have been postulated; while there is general recognition that Herzberg's simple two-factor theory does not adequately explain a very complex concept (which may itself be flawed), no stronger explanatory tool has emerged.

Hill (1986) adopted Herzberg's two-factor theory and assessed the utility of the theory for explaining faculty job satisfaction. In noting that research into higher education that has used the Herzberg approach has supported the two-factor theory, Hill argued that, if Herzberg's theory is applied to academics, satisfaction should come from the 'professional' model – that is, ministering to clients (students) and working fairly autonomously in their respective disciplines. The principal sources of satisfaction should therefore be those things intrinsic to the work – teaching, scholarly achievements and creativity, and the nature of the work. Principal contributors to dissatisfaction would be expected to be things extrinsic to the actual work – salary, fringe benefits, administrative features and collegial associations. Hill's study provided support for the two-factor theory and he suggested that the model could be successfully applied to academic staff in higher education institutions. He concluded that job satisfaction of academic staff in universities and colleges is related to intrinsic factors (in particular, ministering to students and the work itself), and dissatisfaction is related to extrinsic factors, and arises from factors external to the job.

More recently, while some researchers continue to examine, test and advance models of job satisfaction, other studies have used variants of Herzberg's approach to explore and describe patterns of job satisfaction, and motivators for staying or leaving employment in various academic settings. For instance, Flowers and Hughes (1973) developed the notion of the relationship between job satisfaction and environmental factors, particularly in accounting for reasons that employees stay in their jobs. Further, Matier (1990) examined the influence of three types of 'environmental' factors on decisions to leave the job; these were identified as the intangible, the tangible, and the non work-related aspects of the job. Such research advances the field of study

by providing interesting insights into the various aspects of higher education employment, their impact on job satisfaction, and the flow-on effect in terms of decision making about future directions in employment.

A study of university academic staff by Pearson and Seiler (1983) focussed on Herzberg's notion of context elements of the job, investigating academics' levels of satisfaction with the environment in which they work. They found that academics levels of satisfaction with the environment in which they work. They found that academics were generally more satisfied than dissatisfied with their work environment, but that there were high levels of dissatisfaction with compensation-related elements of the job (e.g., fringe benefits, pay, performance criteria). Pearson and Seiler commented that higher order needs tend to dominate in a university setting, where academics generally have a high degree of control over content factors, including the process of teaching and moulding minds. By contrast, academics generally have limited control over context factors, such as the university environment in which the teaching and research processes take place. Because academics have high degree of control over content elements, perceptions of the job are particularly dependent on the degree of satisfaction with the context factors.

A study by Moses (1986) tended to support the view that levels of dissatisfaction relate to context factors. She found, for example, that faculty were dissatisfied with the undervaluing of teaching excellence in promotion decisions. She concluded that tenured and well-paid employment provides satisfaction of the lower-order needs, whereas prestigious and autonomous work enables academic staff to satisfy to a greater degree higher-order needs than is possible for the general population (e.g., esteem need the need for self-actualisation). Moses comments, however, that closure of academic departments and institutions, what are characterised as 'attacks' on tenure, and the institution of longer probation periods, have resulted in a fear of job loss for untenured academics and sense that their lower order needs for security are threatened.

Discussion by Finkelstein (1984) of patterns of staff job changes also gives some weight to the thesis that job satisfaction levels, as likely to be reflected in decisions to change jobs, are more determined by the perceptions of a supportive 'culture'. Finkelstein reported that when faculty change jobs, they do not conform to the rational economic labor market model (i.e., they do not put very much weight on extrinsic factors, such as income), and that such decisions are influenced by intrinsic motives, such as seeking opportunities for professional growth through compatible work activities and colleagues. Manger and Eikeland (1990) also examined factors that impact on academics' intentions to leave the university, and found that relations with colleagues was the largest predictor of intention to leave. They also found that general

job satisfaction was a further strong predictor of intention to leave. In short, academics who found their work less intrinsically satisfying than others, more commonly intended to leave the university. Salary or economic resources as such did not appear to influence intentions to stay or go. Such studies indicate that the 'climate' or 'culture' of the environment in which academics work has a large influence on their feelings of satisfaction with the job as a whole, and their commitment to stay in the job rather than seeking to fulfill intrinsic needs elsewhere.

The present study examines selected data available from the international survey in order to explore aspects of academics' satisfaction with their job and examine how this compares across the eight nations. Exploration and discussion of various aspects of job satisfaction evident across the eight nations compared (Australia, Germany, Hong Kong, Israel, Mexico, Sweden, UK, USA) is not only interesting in itself, but may question some myths and lead to more informed choices in an increasingly internationalized and mobile academic profession (see the article by Welch, 1997, in this issue). The study also focuses on the Australian data as an individual case study, in order to: (1) examine patterns of job satisfaction and dissatisfaction more closely; and (2) explore the impact of context elements on general levels of job satisfaction.

Analysis

A series of variables selected as likely indicators of the extent to which academic staff are satisfied with different aspects of their jobs (teaching, professional relationships, job security, promotion prospects academic freedom, management, etc.) was entered into a factor analysis. One job satisfaction factor was found which accounted for 41 per cent of the variance, and with an alpha of 0.76. This factor was entered as a dependent variable in a number of Multivariate Analyses of Variance. Job satisfaction items were also examined individually.

Job satisfaction items were presented in the original survey with a 5-point Likert response scale ranging from '1' (very satisfied), through '3' (neutral), to '5' (very dissatisfied). For the purposes of analyses presented here, the scoring was reversed for ease of interpretation. Consequently, a high mean scale score indicates high global job satisfaction. The scoring scale was collapsed to a 3-point scale for analysis of individual job satisfaction items: dissatisfied, neutral, and satisfied. The paper explores the patterns of job satisfaction in relation to respondents' age, gender, income, time fraction, and department both globally and across the eight countries.

Table 1. International data: mean job satisfaction by gender and country

	Male			Female		P<
	N	Mean	SD	Mean	SD	
Australia	1394	3.36	0.71	3.18	0.70	0.001
Germany	2723	3.17	0.65	2.92	0.66	0.001
Hong Kong	468	3.33	0.77	3.16	0.76	0.05
Israel	496	3.53	0.70	3.45	0.69	N.S.
Mexico	1001	3.54	0.91	3.51	0.89	N.S.
Sweden	1110	3.54	0.67	3.40	0.72	0.01
UK	1917	3.40	0.73	3.25	0.73	0.0001
USA	3490	3.66	0.73	3.50	0.79	0.001

Findings and discussion

International comparisons

A total of 12,599 academics was involved in the analyses for this paper. The numbers for each country are indicated in Table 1. Academics across the eight nations had an overall mean job satisfaction of 3.4, indicating that they were generally satisfied with their position at the university. Academics in the USA tended to be most satisfied (3.61), especially compared to those in Germany (3.13), while the mean job satisfaction of Australian respondents was 3.35. Table 2 presents percentage satisfaction levels for individual issues relating to the academic's job. As an international group, academics across the eight nations reported were generally satisfied with their relationships with colleagues (70.4 per cent), job security (62.2 per cent), the opportunity to pursue their own ideas (64.4 per cent), and their job situation as a whole (51.1 per cent). A substantial proportion of respondents (44.1 per cent), however, was dissatisfied with prospects for promotion, compared with 27.6 per cent who indicated satisfaction. Respondents from the US, Mexico, (40.5 and 40.9 per cent, respectively) and Israel (38.7 per cent) were most satisfied with promotion prospects (see Table 1). German respondents, on the other hand, expressed the lowest levels of satisfaction with their prospects for promotion (15.2 per cent) compared with the other countries, followed by academics in Sweden (20.1 per cent), UK (21.0 per cent), Hong Kong (23.9 per cent) and Australia (25.1 per cent). It should be noted here that the German survey excluded former East German institutions, and was conducted at a time before East German institutions had largely been re-staffed with West German faculty.

Table 2. International data: percentage satisfaction with aspects of the job by country

	Australia	Germany	Hong Kong	Israel	Mexico	Sweden	UK	USA	Total
Courses you teach	77.2%	59.3	72.1	81.3	78.6	74.1	76.2	85.8	75.6
Relationships with colleagues	69.1	70.9	66.0	73.6	69.3	69.9	73.6	69.3	70.4
Job security	57.6	59.6	55.7	69.3	64.8	55.5	61.1	67.8	62.2
Prospects for promotion	25.1	15.2	23.9	38.7	40.5	20.1	21.0	40.9	27.6
Opportunity to pursue own ideas	65.4	51.5	57.2	24.2	62.8	72.8	66.6	77.0	64.4
Way the institution is managed	17.8	10.7	15.7	38.0	43.5	36.9	21.0	26.8	23.7
Job situation as a whole	48.7	41.1	50.2	-	46.3	60.0	49.0	59.6	51.1
Mean job satisfaction	3.3	3.1	3.3	3.5	3.5	3.5	3.4	3.6	3.4
s.d.	0.7	0.7	0.8	0.7	0.9	0.7	0.7	0.8	0.8

Significant differences emerge when nations are compared on individual job satisfaction items. For instance, while the majority of academics as a whole (75.6 per cent) indicated that they were satisfied with the courses they teach, different patterns emerged for each country. Academics in Germany were significantly less satisfied with the courses they teach (59.3 per cent) than those from other nations. Academics in Israel and the USA indicated the highest levels of job satisfaction with the courses they teach (69 per cent and 68 per cent respectively), compared to academics from Hong Kong and Sweden, who each indicated around 56 per cent satisfaction. Respondents from Germany (65 per cent), Australia (55 per cent), UK (54 per cent), Hong Kong (51 per cent), and the US (45 per cent), all showed substantial dissatisfaction with the way their institution was managed. Respondents from Mexico, Israel, and Sweden were more satisfied than dissatisfied with the way the institution is managed, although satisfaction was still below 50 per cent. Although there have been some common trends, contextual factors are likely to have been important determinants of these differences.

While the majority of academics across nations was satisfied with the opportunities to pursue their own ideas in their working environment, academics in Israel appeared to be ambiguous about this issue. Only 24 per cent of Israeli academics indicated satisfaction with their ability to pursue their own ideas, while 38 per cent said that they were neutral and a further 38 per cent said they were dissatisfied. It is not immediately clear what this pattern represents. High dissatisfaction may reflect current cultural, social, and/or political issues particular to the Israeli context (more detailed discussion of job satisfaction in Israel is provided by Gottlieb, 1997, this issue).

In reviewing their job as a whole significant differences between academics in different countries emerged. Around sixty per cent of academics in Sweden and USA were satisfied, compared to their colleagues in Germany, Mexico, Australia, and the UK, who indicated less than 50 per cent satisfaction with their job as a whole. Again, it appears that differences in job satisfaction reflect individual differences particular to the circumstances for academics in each country. Further focussed analyses of these findings is necessary in order to examine the various cultural, social, economic, and/or political influences on job satisfaction for academics in each country.

Gender

Different patterns emerged for each nation when individual aspects of job satisfaction were investigated, but, consistent with the research literature, male academics tended to be more satisfied than females with most aspects of their job. This is illustrated in Table 1, where males in comparison to females showed a tendency towards higher overall satisfaction on the job satisfaction

scale ($3.44 > 3.30$) and, again, this difference was significant for all nations with the exception of Israel and Mexico. Little difference in satisfaction levels was apparent between male and female academics from most nations, according to the courses they teach. However, in both Australia and Israel, females were significantly more satisfied than males with this aspect of their job. Likewise, female academics from Israel and Hong Kong were slightly more satisfied with their relationships with colleagues, while in Sweden and the USA the opposite was true.

The issue of job security generated clear differences between academics, with males showing significantly greater satisfaction than females. This may be reflective of prevailing gender hierarchies in the academic profession in several of the countries surveyed. This pattern of difference was particularly evident for academics from Germany, Australia, USA, and UK. While most academics indicated low satisfaction with promotional prospects, gender difference were still evident for some nations. In the case of Israel, Mexico, and USA males indicated higher satisfaction with their prospects for promotion. Interestingly, in Hong Kong, the reverse was true with females slightly more satisfied than males. There was a trend across nations for males to be more satisfied with the opportunity to pursue their own ideas, with the exception of Israel and Mexico where there was little difference between males and females. Likewise, in evaluating their job as a whole, males showed higher satisfaction than females across nations with the exception of Mexico where differences were not apparent.

Academic department. Mean jobs satisfaction scale scores were significantly different across academic departments (which provides a reasonable surrogate for academic disciplines). Academics in Mathematics, Humanities, and Education yielded higher mean satisfaction than academics from Physical, Biological, and Health Sciences. Once again, different patterns emerged for each country, reflecting contextual variations.

An individual case study: Australia

The study also closely examined the Australian data as an individual case study. This more extensive focus on Australian data (see below) examines specifically demographic trends, and the impact of university atmosphere on job satisfaction and reported intention to leave the institution. Differences are examined according to gender, rank, university type, and department (generally a useful surrogate for discipline). The study by Moses (1986), discussed above, was carried out during a period of some perturbation in Australian higher education. It was prior to a massive wave of reform from the late 1980's, which saw a substantial consolidation of universities and colleges of advanced education from 65 to 35 larger institutions (all universities), the

introduction of student tuition charges through the taxation system, decreased per capita funding for students, withdrawal and reallocation of substantial research funding, massive growth in student numbers, reallocation of student numbers, funds and staffing from teacher education to other disciplines, and the introduction of a Relative Funding Model used to shift federal funding between universities. (National Board of Employment, Education & Training, 1990; Baldwin, 1991; Commonwealth Tertiary Education Commission, 1986; Karmel, 1989). This is the first known analysis of data collected on job satisfaction issues since the implementation of these changes. An exploratory analysis of the data is discussed in terms of some interesting findings and their implications for university managers, administrators and governing bodies.

Close examination of the Australian data also offers the opportunity to explore how the working climate or atmosphere in universities impacts upon academics' levels of satisfaction with their job. 'Climate' and 'atmosphere' are used here to refer to the broad perceptions of the sense of community, relationships with other staff, intellectual atmosphere, morale and alignment with the mission of the university.

While international patterns can be significant and interesting, analysis of an individual case allows greater precision. For the Australian study, a two-stage sampling process was adopted in which the primary sample units were universities and secondary sampling units were individual staff in selected universities. Eight 'research' universities were identified according to operational definitions of research orientation and performance, and there were 12 'other' universities in the sample, with 1420 respondents overall.

Differences in job satisfaction among academics

Australian male respondents tended to be more satisfied than females with most aspects of their job. No significant difference in job satisfaction on the combination of measures used in this study was found between those working at 'research' or 'other' universities. The lowest rank on the job satisfaction scale (Level A academic staff-previously termed tutors), 64 per cent of whom are female, indicated less satisfaction with their jobs in general than their highest ranking Level E (full professorial) colleagues. When asked about their job situation as a whole, 75 per cent of respondents said that they were either neutral or satisfied, while 25 per cent said they were dissatisfied.

When respondents were asked to indicate their level of satisfaction with various aspects of their work, the areas in which they were most satisfied were with the classes they teach (77 per cent satisfaction), their relationships with colleagues (69 per cent), the opportunity to pursue their own ideas (65 per cent), and job security (58 per cent). Academic staff were least satisfied with their prospects for promotion (25 per cent satisfaction) and the way the

Table 3. Australian data: percent satisfaction and dissatisfaction with various aspects of the job by gender

	Dissatisfied		Neutral		Satisfied	
	Male	Female	Male	Female	Male	Female
Courses you teach	8.0	5.7	17.8	11.3	74.1	83.0
Relations with colleagues	9.1	12.8	22.1	18.0	68.8	69.2
Job security	19.5	38.4	16.1	17.0	64.4	44.5
Prospects for promotion	43.2	50.4	31.0	26.6	25.9	23.0
Opportunities to pursue own ideas	14.0	21.3	17.3	20.1	68.7	58.6
Way the institution is managed	54.1	56.0	27.0	28.4	18.9	15.6
Job as a whole	22.3	29.4	26.1	27.5	51.7	43.1

institution is managed (18 per cent). Respondents from 'research' universities expressed generally lower satisfaction than academics from 'other' universities with regard to job security (54 per cent satisfaction compared with 61 per cent), and with their prospects for promotion (23 per cent compared with 27 per cent). Male academics expressed significantly greater satisfaction than female academics with regard to job security (64 per cent compared to 45 per cent), opportunity to pursue their own ideas (69 per cent compared with 59 per cent), and their job situation as a whole (52 per cent compared with 43 per cent). More female than male academics stated that they were satisfied with the classes they teach (83 per cent compared with 74 per cent).

Perceptions of job benefits also revealed some differences, both according to gender and type of institution. In the 'research' universities 37.1 per cent of all respondents indicated that special studies (sabbatical) programs available to them were good or excellent, compared with 27 per cent in 'other' universities. In the latter group, about 65 per cent overall saw the provision as fair or poor and 8.5 per cent believed such programs to be unavailable to them. Twenty-seven per cent of female respondents at Level D (Associate Professor) rated their opportunities for sabbatical as good, compared with 40 per cent of males at this level. Female Level E or full professorial staff (40 per cent) were less likely to give positive ratings than their male colleagues (49 per cent).

Thirty-one per cent of Australian respondents indicated that relationships between academic staff and the administration of the university were good or excellent. However, a further 38 per cent indicated that these were only fair. More academics from 'research' universities indicated good or excellent relationships with the administration than those from 'other' universities (36 per cent compared to 28 per cent). Significant percentages of respondents gave poor assessments of academic staff morale at their institution (39 per cent), sense of community (36 per cent), and the clarity of institutional mission (31

Table 4. Australian data: percent satisfaction and dissatisfaction with various aspects of the job by university type

	Dissatisfied		Neutral		Satisfied	
	Research	Other	Research	Other	Research	Other
Courses you teach	7.0	7.4	15.6	15.6	77.4	77.0
Relations with colleagues	10.4	10.3	21.7	19.7	67.9	69.9
Job security	28.7	24.2	17.6	15.3	53.7	60.5
Prospects for promotion	48.9	43.1	28.1	30.4	23.0	26.5
Opportunities to pursue own ideas	13.5	18.1	17.7	18.6	68.8	63.2
Way the institution is managed	49.3	58.1	31.3	25.1	19.7	16.7
Job as a whole	24.0	25.2	28.4	25.4	47.6	49.4

Table 5. Australian data: percent ratings of conditions affecting academic life by university type

	Excellent/Good		Fair/Poor	
	Research	Other	Research	Other
Intellectual atmosphere	58.0	42.5	42.0	57.5
Academic-administration relationship	35.7	28.1	64.3	71.9
Faculty morale	26.5	21.1	73.5	78.9
Clarity of institutional mission	30.8	29.8	69.2	70.2
Sense of community	26.2	25.8	73.8	74.2

per cent). No differences were apparent between academics from 'research' and 'other' universities on these measures.

Levels of satisfaction also varied according to either research or teaching, while expressions of dissatisfaction did not entail a lack of commitment to the profession. The majority of respondents agreed that this was an 'especially creative and productive time' in their field. Respondents with a preference for research were more positive, with 74 per cent agreeing, compared with 60 per cent of those with a preference for teaching. Forty-six per cent of respondents disagreed that this was a poor time for a young person to begin a career in the academic's field of study, and about one third agreed with the statement. Sixty-six per cent of respondents did not agree with the statement, 'If I had to do it over again, I would not become an academic', and a further 18 per cent remained neutral.

About 34 per cent of Australian respondents rated their salary as good or excellent and a further 44 per cent rated their salary as fair. There was no difference between respondents from 'research' and 'other' universities, but respondents from some fields of study were much more positive in their ratings of their salaries than others: 58 per cent of academics from Visual and

Table 6. Australian data: percent satisfaction and dissatisfaction with the courses the academic is currently teaching by academic department

	Dissatisfied	Neutral	Satisfied
Humanities	5.1	11.0	83.9
Social & Behavioural Sciences	5.5	11.8	82.7
Education	5.8	10.1	84.1
Science	7.4	21.7	70.9
Mathematics/Computing	7.9	18.4	73.7
Visual & Performing Arts	9.1	13.6	77.3
Engineering/Processing	10.7	25.0	64.3
Health Sciences	7.5	11.3	81.2
Administration, Business, Economics, Law	7.7	17.2	75.1
Built Environment	16.2	2.7	81.1
Agriculture/Renewable Resources	7.9	15.8	76.3

Table 7. Australian data: percent satisfaction and dissatisfaction with job security by academic department

	Dissatisfied	Neutral	Satisfied
Humanities	26.9	8.4	64.7
Social & Behavioural Sciences	23.9	17.7	58.4
Education	31.7	14.8	53.5
Science	22.5	23.4	54.1
Mathematics/Computing	25.2	18.3	56.5
Visual & Performing Arts	22.7	11.4	65.9
Engineering/Processing	14.3	11.9	73.8
Health Sciences	33.0	13.7	53.3
Administration, Business, Economics, Law	29.0	16.0	55.0
Built Environment	10.5	21.1	68.4
Agriculture/Renewable Resources	20.0	25.0	55.0

Performing Arts indicated their salary was good or excellent, compared with 26 per cent from Science. This could well relate to different perceptions of earning potential outside universities. Only 8 per cent of respondents indicated that the general level of benefits available to them was better than five years ago, and 66 per cent indicated that benefits were about the same or worse now than five years ago.

It is notable that respondents teaching in the humanities, social sciences and education were far more likely to express satisfaction with the courses they were teaching than academic staff in areas such as engineering and science. On the other hand, Engineers were more likely than any other respondents

Table 8. Australian data: percent satisfaction and dissatisfaction with prospects for promotion by academic department

	Dissatisfied	Neutral	Satisfied
Humanities	33.9	30.4	35.7
Social & Behavioural Sciences	44.0	25.7	30.3
Education	58.7	26.6	14.7
Science	42.1	36.5	21.3
Mathematics/Computing	47.3	32.1	20.5
Visual & Performing Arts	41.0	33.3	25.6
Engineering/Processing	48.7	34.6	16.7
Health Sciences	49.8	24.9	25.4
Administration, Business, Economics, Law	34.4	31.3	34.4
Built Environment	40.5	27.0	32.4
Agriculture/Renewable Resources	68.6	17.1	14.3

to indicate satisfaction with their job security, whereas education academics were among the least secure on this measure, and were among those least likely to express satisfaction with promotion prospects.

Predictors of job satisfaction

Predictors of job satisfaction were investigated for the Australian data. Several models were developed to examine predictors of job satisfaction. Individual variables were organised into meaningful categories believed to be most likely to influence or express levels of job satisfaction and were calculated in the following order: university atmosphere, research, teaching, administration, governance, staff evaluation and appraisal. An outline of the groupings of items is presented in Table 9. Job satisfaction categories were strategically entered into progressive regression equations, and after the first regression model, residuals were calculated for each of the analyses which follow, and items in each of the categories were entered to predict the residuals of the previous analysis.

All of the items in the categories related to factors associated with the environment in which academics work. The university atmosphere category was entered first, as it was expected that issues related to the larger environment in which academics work would be most predictive of levels of job satisfaction. Environmental factors relating to research and teaching respectively were entered next, followed by governance and staff appraisal and training.

Model I, which examined the influence of academics environment on job satisfaction, accounted for 32 per cent of the variance, $F(5,1346) = 130.56$, $p < .001$. Standardised beta weights are presented in Table 9. The atmosphere

Table 9. Australian data: items in each of the five models of predictors of job satisfaction

Model I: Atmosphere	Rate the sense of community Rate the faculty-administration relationship Rate the intellectual atmosphere Rate the clarity of institution mission Rate the faculty morale
Model II: Research	Regular research activity is expected Frequently feel under pressure to do more research Evaluate the laboratories No political or ideological restrictions on publishing Research funding is easier to get Research grants received Rate training for role as researcher Evaluate the research equipment
Model III: Teaching	Number of undergraduate courses you teach Evaluate the classrooms Pressure to publish reduces quality of teaching Number of other undergraduate courses you teach Number of undergraduate introductory courses you teach Rate training for role as teacher Evaluate assistance with development of teaching skills Evaluate technology for teaching
Model IV: Administration	Evaluate secretarial support Rate paid sabbatical leaves Rate other fringe benefits Rate retirement arrangements Evaluate faculty offices Evaluate library holdings Evaluate computer facilities Rate travel funds for academics
Model V: Governance	Administration supports academic freedom Students should have a stronger voice in policy Personal influence at the department level Communication between faculty and administration is poor Senior administrators provide competent leadership Personal influence at the institutional level Administration is often autocratic I am kept informed about what is going on Lack of faculty involvement is a real problem Personal influence at the level of faculty or school level

Table 10. Australian data: regression of Model I (university atmosphere) items predicting job satisfaction

	Item	Beta
Model I: Atmosphere	Rate the sense of community	-.17**
	Rate the faculty-administration relationship	-.10**
	Rate the intellectual atmosphere	-.21**
	Rate the clarity of institution mission	-.12**
	Rate the faculty morale	-.16**

model included respondent's ratings of the sense of community, while faculty-administration relationships, intellectual atmosphere, clarity of the institutional mission and faculty morale were all significant predictors of job satisfaction. Model II, which examined the influence of research issues, accounted for only a further 4 per cent of the variance, $F(8,652) = 4.2$, $p < .001$. Model III, which examined teaching issues, accounted for a further 2 per cent of the variance, $F(8,139) = 1.45$, $p > .05$. Model IV, which looked at administration issues, accounted for a further 0.8 per cent, $F(8,102) = 1.10$, $p > .05$. Finally, Model V, which looked at governance issues, accounted for only a further 1.5 per cent of the variance, $F(10,99) = 1.16$, $p > .05$. Together the models accounted for 40.3 per cent of the explained variance. All beta weights were negative values, indicating that the regression items were predicting dissatisfaction, rather than satisfaction with the job.

It is significant that almost 60 per cent of the variance was not explained by the items contained in the models used in this study. Perhaps this is indicative of the elusive and intangible nature of job satisfaction, and further illustrates the apparent difficulties in defining the concept and examining its relationship with other factors. At face value, the findings of this study suggest that the academics environment has a significant influence on self-rated job satisfaction. This supports the arguments put forth by Pearson and Seiler (1983) and Moses (1986) that context elements (such as work environment) are the most influential factors for academics, who, by the nature of the profession, have a high degree of control over the content elements of the work.

Many of the items across the regression models were highly correlated. It is likely that issues related to research, teaching, administration, and governance impact upon academics' perceptions of the climate or atmosphere in which they work, and in turn, influence levels of dissatisfaction. Issues related to department, faculty and university climate can be regarded as umbrella concepts, under which other, more specific issues fall. While research, teaching, administration, and governance issues are important to Australian academics,

and are related to perceptions of work climate, they do not add to the explanation of general job satisfaction, after accounting for issues relating to climate.

Conclusion

As is often the case with analyses of relevant data in higher education, 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.

The implications for university management and governing bodies are self-evident. If academic staff are to be encouraged to express higher levels of job satisfaction and lower levels of dissatisfaction, attention must be paid to the environment ('climate' or 'atmosphere') in which they work. Those things which develop a sense of community-acknowledgment, support and appropriate levels of participation in decision making—are important to academics. nurturing of the *intellectual* environment, clarity of institutional mission and faculty-administration relations are, however, just as important and are clearly related to the climate factors. On the other hand, issues such as governance assume lesser importance relative to 'atmosphere'. Research, teaching, administration and governance are likely to increase in their level of emphasis as dissatisfaction with the 'atmosphere' variables is moderated.

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