

Orthopaedic Surgeons are Highly Satisfied with Their Careers: Results From a Nationwide Cross-Sectional Study

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were less likely to have considered leaving orthopaedic surgery in the last year ($p < 0.001$).

DISCUSSION: Australian orthopaedic surgeons are highly satisfied with their jobs. There may be a role for active interventions aimed at improving hours of work and work-life balance.

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Key words: Job satisfaction; Australia; Orthopaedic surgeons; Workload; Work-life balance; Surgeons

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ABSTRACT

AIM: High job satisfaction has positive outcomes for patients, health institutions and surgeons. There has been no work into job satisfaction primarily among Australian orthopaedic surgeons and its driving and deterrent factors. The aim of this study was to assess job satisfaction and associated factors among Australian orthopaedic surgeons.

METHOD: We conducted a nationwide survey using a 24-item questionnaire consisting of a self-developed item set of 14 questions and a 10-question modified version of Warr-Cook-Wall Job Satisfaction instrument to assess job satisfaction. The survey was emailed to 1,393 orthopaedic surgeon members of the Australian Orthopaedic Association.

RESULTS: 217 surgeons completed the survey. 88% of responders were either very satisfied or moderately satisfied with their jobs. 20% of responders were dissatisfied with their hours of work and a further 15% of responders were dissatisfied with the lack of recognition they get for good work. Surgeons with higher job satisfaction were less likely to feel that workload severely compromises their personal/family life ($p < 0.001$), have better perceived self-health ($p = 0.04$) and

INTRODUCTION

Job satisfaction is a dynamic concept based on cognition and affect – two linked domains of human psychology. It is defined as “a pleasurable or positive emotional state resulting from the appraisal of one’s job or job experiences”^[1].

Job satisfaction has gained heightened coverage among physicians, the public and the media, recently. Physician career satisfaction has been found to correlate strongly with patient satisfaction^[2]. High physician satisfaction is also associated with better physician health and well-being^[3], reduced physician turnover^[4], improved morale of health care workers and staff, and quality of care in general^[5]. Conversely, physician dissatisfaction is associated with poorer physician health^[6], inappropriate prescribing behaviours^[7], lower levels of patient satisfaction and decreased patient compliance with prescribed medications and follow-up appointments^[8].

In a systematic review of 97 American studies on job satisfaction, Scheurer *et al* (2009) found that factors associated with physician satisfaction include both physician factors (age and specialty), and job factors (job demands, job control, collegial support, income and incentives)^[9].

Despite, the importance of physician satisfaction, little work has been performed into job satisfaction among orthopaedic surgeons. Career satisfaction in a study of American orthopaedic surgeons over the age of 50 was high (80%)^[10] and contrasts with levels (47.1%) in a larger nationwide American study^[11]. A recent large US cross-sectional study found that half of orthopaedic surgeons were satisfied with their work-life balance^[12].

Most research on job satisfaction amongst orthopaedic surgeons has been conducted in North America. We therefore undertook this study to contribute an Australian perspective to the current body of knowledge. The aim of this study was to assess job satisfaction and potential associated factors among Australian orthopaedic surgeons.

METHOD

Study design and setting

This nationwide, cross-sectional study was conducted in March 2013 through the Australian Orthopaedic Association (AOA). Permission for the study was granted by the Human Research Ethics Committee of the University of New South Wales and the AOA.

Participants

All orthopaedic surgeon members of the Australian Orthopaedic Association (AOA) current as of March 2013 were eligible for the study. All surgeons ($n=1363$) with email contact information held by the AOA were invited to take part in the survey via email.

Survey Instrument

The questionnaire was administered to volunteer surgeons ($n=10$) in November/December 2012 to assess electronic survey feasibility, survey length, whether any questions were unclear or ambiguous and/or any questions that responders felt uncomfortable answering. Final survey design was based on feedback received from this preliminary evaluation.

All orthopaedic surgeons were emailed a 24-question survey via SurveyMonkey (Melson Creek, CA, USA). A reminder email to complete the survey was sent one and a half weeks later. The link to the survey was closed three weeks after the initial email. The emailed invitations were sent by the AOA. The survey instrument consisted of two sections: a self-developed item set (Section I) and a modified version of a validated instrument to assess job satisfaction (Section II).

Section I consisted of 14 questions that assessed factors potentially associated with job satisfaction. These included age, gender, relationship status, physician partner, region of practice, years worked in orthopaedics, number of half-sessions in public and private practice, and smoking status. There was one question to assess surgeon perception of income versus colleagues in orthopaedic surgery, and one question to assess whether orthopaedic surgeons felt their workload severely compromised their work-family balance. There was one question related to attrition, and a single item subjective measure to assess overall health of responders which was adapted from the Short Form Health Survey (SF-36)^[13]. These latter two questions used a 5-point Likert scale.

Section II assessed job satisfaction with the use of a 10-item version of the Warr-Cook-Wall Job Satisfaction Scale^[14], that evaluates nine components of job satisfaction and a single item measuring overall job satisfaction. The modified instrument has been validated in the Australian clinical setting with a high internal reliability^[15].

Statistical Analysis

The overall satisfaction item was converted to a binary variable for analysis, and characteristics of participants were compared according to satisfaction status. Overall satisfaction was dichotomized, defining satisfied as either “very satisfied” or “moderately satisfied”. Satisfaction for other parameters (such as hours of work, collegial support etc.) was reported using the same method. Categorical variables (both ordered and non-ordered) were presented as proportions and compared using the Fisher’s exact test. Ordered categorical variables with greater than two categories were further analysed using the nptrend test for trend, an extension of the Wilcoxon rank-sum test. Analyses were conducted using STATA v11 (StataCorp LP, Texas, USA).

RESULT

Sample Description

Demographic characteristics of the 217 responders are presented in table 1. 20% of responders felt their workload severely compromised their family/personal life. 25% of responders had considered leaving the orthopaedic profession in the last year. 70% of responders work 0-3 half-day sessions per week in public practice, whereas 54% of responders work more than 5 half-day sessions per week in private practice.

Satisfaction

Satisfaction data for all ten items on the job satisfaction instrument are presented in table 2. Overall, 50% of responders were very satisfied with their choice of orthopaedics as a career, with a further 38% moderately satisfied. Median overall job satisfaction of all responders on Likert scale was 4 (inter-quartile range: 4-5). Over 65% of the responders for each parameter of job satisfaction were satisfied (score of 4 or 5 on Likert scale). Of note, 20% of responders were dissatisfied with their hours of work and 15% of responders were dissatisfied with the recognition they get for their good work.

Factorial analysis of the single item measure of overall job satisfaction is presented in table 3.

Job satisfaction was significantly associated ($p<0.001$) with a feeling that workload severely compromises family/personal life – surgeons who felt their workload severely compromised their family/personal life were 7 times more likely to be dissatisfied with their jobs. However job satisfaction was not significantly associated with more hours of work per week in either public or private practice.

Job satisfaction was significantly associated with perceived self-health ($p=0.04$) – this association demonstrated a trend with increasing probability of satisfaction with increasing self-reported health ($p=0.012$).

Job satisfaction was significantly associated with whether a surgeon had considered leaving the orthopaedic profession in the last year ($p<0.001$) – surgeons who had considered leaving the orthopaedic profession in the last year were 7 times more likely to be dissatisfied with their jobs than those who hadn’t.

Surgeons who worked more years in the orthopaedic profession showed a trend for increasing job satisfaction, however this was not significant ($p=0.263$).

DISCUSSION

Australian orthopaedic surgeons are highly satisfied with their jobs and with the components of their jobs assessed in this study. Australian orthopaedic surgeons were twice as likely to be satisfied

Table 1 Demographic characteristic of the sample population (n=217).

Variable	Sub-variable	n	%
Gender	Male	200	93.5
	Female	13	6.5
Age (years)	20-29	5	1.1
	30-39	43	20.4
	40-49	57	25.3
	50-59	61	30.6
	60+	50	22.6
Relationship Status	Married	181	85.5
	De Facto	13	5.4
	Separated	5	2.7
	Divorced	7	3.2
	Widowed	2	0.5
	Never Married	7	2.6
Partner a doctor	Yes	46	23.7
	No	164	76.3
Number of children	0	21	9.9
	1	17	7.5
	2	73	34.4
	3	66	32.3
	4+	36	16.7
Years worked as an orthopaedic surgeon	0-9	68	31.1
	10-19	56	24.7
	20-29	53	26.3
	30-39	28	12.9
	40+	11	4.8
Current state of practice	New South Wales	70	36
	Queensland	44	20.4
	Victoria	51	23.1
	Western Australia	16	7
	South Australia	22	9.1
	Tasmania	5	2.7
Number of half-day sessions in a usual week in public practice	Australian Capital Territory	2	1.1
	Northern Territory	1	0.5
	0-1	81	39.8
	2-3	65	30.6
	4-5	29	13.4
	6-7	5	2.2
	8-9	10	4.8
Number of half-day sessions in a usual week in private practice	10+	21	9.1
	0-1	37	15.1
	2-3	28	13.4
	4-5	33	17.2
	6-7	58	26.3
Workload severely compromises family/personal life	8-9	42	21.5
	10+	16	6.5
Income bracket best fit into versus peers and colleagues	No	169	79.6
	Yes	45	20.4
Smoker	Bottom 25%	56	25.3
	25-49%	72	34.4
	50-74%	60	29.6
Health	Top 25%	25	10.8
	No	209	97.8
	Yes	4	2.2
	Poor	3	1.6
Considered leaving orthopaedics in the last year	Fair	18	9.1
	Good	75	35.5
	Very Good	79	36.6
	Excellent	39	17.2
	No	162	75.3
	Yes	53	24.7

with their jobs versus their North American colleagues^[16]. The reasons may be individual (individual attitudes to work and work-life balance etc.) or system-based (higher income, more autonomy, more job security etc.). A previous US study identified burnout as an important predictor of career satisfaction^[17], and the prevalence of burnout in the Australian orthopaedic community needs to be assessed as this may be a contributing factor.

Our study is subject to limitations inherent in survey studies. It is possible that individuals with high levels of dissatisfaction may be more likely to complete the survey to express opinions in the hope for change, or conversely, more dissatisfied people may

Table 3 Study factors versus single item measure of overall job satisfaction.

Variable	Sub-variable	Satisfaction		p-value
		No	Yes	
Gender	Male	27 (13.5)	173 (86.5)	0.47
	Female	1 (7.7)	12 (92.3)	
Age	20-29	1 (20.0)	4 (80.0)	0.34
	30-39	9 (20.9)	34 (79.1)	
	40-49	6 (10.5)	51 (89.5)	
	50-59	8 (13.1)	53 (86.9)	
	60+	4 (8.0)	46 (92.0)	
Relationship status	Married	22 (12.2)	159 (87.8)	0.39
	De Facto	2 (15.4)	11 (84.6)	
	Separated	1 (20.0)	4 (80.0)	
	Divorced	0 (0.0)	7 (100.0)	
	Widowed	1 (50.0)	1 (50.0)	
	Never Married	1 (14.3)	6 (85.7)	
Partner is doctor	No	19 (11.6)	145 (88.4)	0.33
	Yes	7 (15.2)	39 (84.8)	
Number of children	0	4 (19.1)	17 (80.9)	0.19
	1	5 (29.4)	12 (70.6)	
	2	7 (9.6)	66 (90.4)	
	3	8 (12.1)	58 (87.9)	
	4+	3 (8.3)	33 (91.7)	
Years worked	0-9	12 (17.7)	56 (82.3)	0.55
	10-19	7 (12.5)	49 (87.5)	
	20-29	5 (9.4)	48 (90.6)	
	30-39	2 (7.1)	26 (92.9)	
	40+	1 (18.2)	9 (81.8)	
	New South Wales	11 (15.7)	59 (84.3)	
State	Queensland	8 (18.2)	36 (81.8)	0.82
	Victoria	6 (11.8)	45 (88.2)	
	Western Australia	2 (12.5)	14 (87.5)	
	South Australia	1 (4.6)	21 (95.4)	
	Tasmania	0 (0.0)	5 (100.0)	
	Australian Capital Territory	0 (0.0)	2 (100.0)	
	Northern Territory	0 (0.0)	1 (100.0)	
Half-days/week public	0-1	10 (12.4)	71 (87.6)	0.51
	2-3	6 (9.2)	59 (90.8)	
	4-5	6 (20.7)	23 (79.3)	
	6-7	1 (20.0)	4 (80.0)	
	8-9	2 (20.0)	8 (80.0)	
	10+	2 (9.5)	19 (90.5)	
Half-days/week private	0-1	7 (18.9)	30 (81.1)	0.54
	2-3	3 (10.7)	25 (89.3)	
	4-5	4 (12.1)	29 (87.9)	
	6-7	6 (10.3)	52 (89.7)	
	8-9	4 (9.5)	38 (90.5)	
	10+	4 (25.0)	12 (75.0)	
Workload severely compromises family/personal life	No	12 (7.1)	157 (92.9)	<0.001 ¹
	Yes	16 (35.6)	29 (64.4)	
Income bracket best fit into versus peers and colleagues	Bottom 25%	11 (19.6)	45 (80.4)	0.1
	25-49%	7 (9.7)	65 (90.3)	
	50-74%	4 (6.7)	56 (93.3)	
	Top 25%	5 (20.0)	20 (80.0)	
Smoker	No	27 (12.9)	182 (87.1)	0.43
	Yes	1 (25.0)	3 (75.0)	
	Poor	1 (33.3)	2 (66.7)	
Health	Fair	5 (27.8)	13 (72.2)	0.04*
	Good	13 (17.3)	74 (93.7)	
	Very Good	5 (6.3)	74 (93.7)	
	Excellent	4 (10.3)	35 (89.7)	
Considered leaving orthopaedics in the last year	No	7 (4.3)	155 (95.7)	<0.001 ¹
	Yes	20 (37.7)	33 (62.3)	

¹Statistically significant.

be too dissatisfied to participate in the survey. Further, our survey instrument involved self-reports of factors being measured at a single point in time. It is possible that substantial variations in the level of satisfaction may occur in individuals over time. As with all cross-sectional studies, no determination of cause and effect can be made. Response rates were affected by our distribution methodology. It is possible that some members had migrated email addresses reducing penetration of our survey and hence response rate.

Table 2 Results for each component of job satisfaction and overall job satisfaction.

Satisfaction parameter	Very Dissatisfied (%)	Moderately Dissatisfied (%)	Not Sure (%)	Moderately Satisfied (%)	Very Satisfied (%)
Freedom to choose own method of working	4.3	5.4	5.4	3.3	51.6
Amount of variety	1.1	4.3	4.8	33.3	56.5
Physical working conditions	1.1	5.9	6.5	39.8	46.8
Opportunities to use own abilities	3.2	5.4	4.8	34.4	52.2
Colleagues and fellow workers	5.4	7.5	8.1	46.2	32.8
Recognition for good work	3.8	12.4	12.4	41.4	30.1
Hours of work	2.7	16.7	10.8	44.6	25.3
Remuneration	3.2	8.6	8.1	45.7	34.4
Amount of responsibility you are given	2.2	6.5	9.1	28	54.3
Overall satisfaction	1.1	7.5	3.8	37.6	50

Our study is the first in Australia to assess job satisfaction in orthopaedic surgeons. The strengths of this study include the sampling profile (nationwide study) and the use of validated instrument to assess job satisfaction.

One-fifth of orthopaedic surgeons in our study were dissatisfied with their hours of work and the recognition they get for their good work. The Australian medical workforce has recently introduced a set of policies to regulate physician work hours and the effect of this active intervention may take time to manifest.

One fifth of surgeons in our study felt their workload severely compromised their personal/family life and this was significantly associated with dissatisfaction with their jobs. There may be a need to reduce workload among surgeons or to encourage non-work aspects of life. Control over schedule and work hours are the most important predictors of work-life balance^[17]. Private practice offers greater control over such variables versus public practice however, in our study population, we found that increasing amount of private practice hours (half-day sessions per week) was not significantly associated with career satisfaction. The military deals with work-family conflict through the use of rest and recreational days, encouraging spouse/children centric social events, and morale and cohesion boosting exercises^[18]. Further, the Australian construction industry has trialed a novel initiative of the compressed work week (reducing the length of the working week, but increasing the length of the working day) and found this intervention to significantly improve employee work-life balance^[19]. There may be a role for trailing these interventions in the Australian orthopaedic community.

One quarter of orthopaedic surgeons in our study had considered leaving the orthopaedic profession in the last year, with higher dissatisfaction significantly associated with possible attrition. Self-reported intention to leave clinical practice has a high sensitivity but low positive predictive value as a measure of actual departure from clinical practice^[20]. However, the high potential attrition rates need to be addressed through improving employee satisfaction. A number of strategies are employed by various industries including participatory management in the managerial industry (whereby employees are given greater role in executive decision making)^[21] and in the military where high attrition rates are addressed through individual pre-training psycho-behavioural screening, individual behavioural health counseling and realistic job previews^[22]. Certain strategies can be translated to the orthopaedic setting to reduce attrition including counseling workshops, realistic job previews before trainees decide on orthopaedic training pathways and providing orthopaedic surgeons with greater role in executive decision making through increased participation at both regional and national orthopaedic committees.

SUMMARY

Australian orthopaedic surgeons are highly satisfied with their jobs

and the components of their jobs assessed in this study. Of concern are the relatively high levels of dissatisfaction with work hours and recognition for good work, the perception of poor work-life balance and the potential attrition rates.

CONFLICT OF INTERESTS

There are no conflicts of interest with regard to the present study.

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