ORIGINAL ARTICLE

ANALYSIS OF LEVEL OF SATISFACTION OF POSTGRADUATE TRAINEES ON SURGICAL FLOOR

Tahira Hameed, Naeem Zia, Haleema Saadia Khan, Ammarah Zia, Rameez Ahmed, Aurangzaib Hameed, Murtaza Ahmed, Abdul Qadeer Khan

Surgical Unit I, Benazir Bhutto Hospital, Rawalpindi-Pakistan

Background: Organizations flourish with a satisfied workforce. There is little known information on demographic characteristics and motivators for job satisfaction among Pakistani postgraduate trainees in surgery. Job satisfaction is predicted by intrinsic motivators (personal growth and perceived ability to work) and extrinsic motivators (perceived social support). Work family interference/enhancement and job stressors (workload and long working hours) also impacts job satisfaction; predicting overall life satisfaction. This study aims at examining life satisfaction predicted by personal and professional characteristics. **Method:** The postgraduate trainees in the public and private hospitals of Rawalpindi and Islamabad were surveyed using validated measures of life satisfaction, personal growth, perceived social support, perceived ability to work, work family interference/enhancement, job stressors, co-workers support, supervisors support, and job satisfaction from September 15 to December 28, 2017. **Results:** Personal growth, perceived ability to work, availability of social support, and work family enhancement positively correlate to job and life satisfaction. Work life interference and job stressors negatively relate to job and life satisfaction. Job satisfaction is also partially mediated by intrinsic and extrinsic motivators on life satisfaction, whereas job stressors weakened the relationship between job satisfaction and life satisfaction. Long working hours is negatively related to job satisfaction and life satisfaction. **Conclusion:** Life satisfaction is predicted by job satisfaction that is characterized intrinsic and extrinsic motivators. Healthcare organizations face challenge of providing reduced working hours, increased salaries, supportive working environment, and increased supervision to enhance the job satisfaction of employees and to improve the functioning of the healthcare environment.

Keywords: Life satisfaction; Job satisfaction; Postgraduate trainees; Long working hours

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INTRODUCTION

Despite the benefits of a career in surgery, there are significant challenges that can cause substantial distress for the training surgeons and their families. Practicing and training for the specialty of surgery is stressful.[1] Profession in surgery demands lots of physical and emotional labour. Surgeons need to remain vigilant and attentive during their regular shifts and duties. Especially in case of emergency situations the working hours get very long and the surgeons get restless and deprived of sleep. Irrespective of their physical and mental condition they are expected to perform well. Quality healthcare for patients is highly dependent on timely access to care where the healthcare providers are optimally functioning. If the surgeons are emotionally exhausted, dissatisfied with their careers and lack meaning in their lives; it hampers healthcare delivery.[2,3]

Pervasive restlessness and fatigue in one's career directly correspond to lower satisfaction and wellbeing. Personal wellbeing encompasses mental, emotional, and physical health including positive aspects such as job satisfaction, personal growth, ability to work, and work family balance.[4,5] Job satisfaction is defined as positive feelings towards one's career.[5] Job satisfaction is characterized by both intrinsic and extrinsic motivating factors. Intrinsic factors include personal growth, perceived ability to work, responsibility and recognition of work tasks, whereas extrinsic factors include working environment, job security, salary, workload, supportive supervisors, and colleagues.[5,6] Presence of intrinsic and extrinsic motivators increases level of satisfaction, whereas absence of motivators causes dissatisfaction. The level of satisfaction of the healthcare providers is directly proportional to the quality of healthcare they provide.[7] Healthcare workers who have high level of satisfaction are more productive, own their profession and take responsibility for providing quality service.

A healthcare system should strategically aim at increasing the level of satisfaction among the staff as it facilitates the efficient working of the organization and is cost effective too.[4,5,8] A number of studies show that doctors suffer from occupational stress and get exhausted from the stress of their jobs.[9-12] When the physicians get dissatisfied with

their job they feel detached, become cynical, become ineffective at work with low personal accomplishment. This impairs their clinical judgment and leads to poor patient care and low empathy.[13, 14] Low satisfaction among physicians leading to a shrinking workforce in the hospital and shrinking of responsibility by the physicians.[5,15]

Level of satisfaction and work-life balance is gradually decreasing in all medical and surgical specialties and practice settings globally.[8,13,16] Research carried out in surgical units in Europeans countries demonstrate that both male and female residents show job dissatisfaction, whereas in US, female residents are more inclined to consider leaving surgery residency program.[17] Female surgeons are dissatisfied on the basis of lack of autonomy and clinical pressures, while they rely heavily on professional and personal networks as a source of success.[18] Emotional fatigue and exhaustion also affect the work-life balance substantially thus impacting the overall life satisfaction.[10,19]

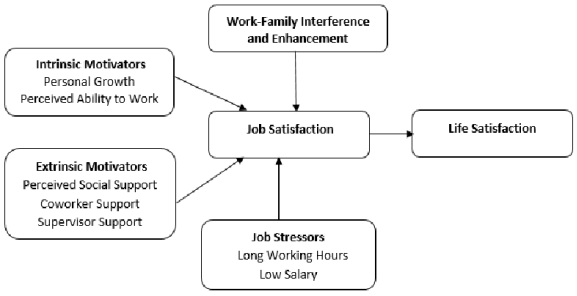

Figure-1: Conceptual model of the study

Medical profession is seen as highly attractive and fascinating in Pakistani society. Despite this apparent attraction and charm the doctors are getting more dissatisfied by their jobs. The current study aimed at exploring the intriguing factors affecting job satisfaction and life satisfaction. The objectives of the study were: (1) to see the role of intrinsic and extrinsic motivators on job satisfaction (2) to see association between work-family interference, work family enhancement and job stressors on job satisfaction among the postgraduate trainees of private and public hospitals of Rawalpindi and Islamabad, (3) to see the role of job satisfaction on overall life satisfaction.

MATERIAL AND METHODS

The data of the current study is collected from postgraduate trainees (*n*=99) on the surgical floors of various private hospitals (*n*=24) and public sector hospitals (*n*=74) in Rawalpindi and Islamabad. Private hospitals included in the study were Capital Development Authority Hospital, Islamabad (CDA); Kahuta Research Laboratories Hospital, Islamabad (KRL); Shifa International Hospital, Islamabad (SIH); and Railway Hospital Rawalpindi (RHR). Public hospitals included Benazir Bhutto Hospital, Rawalpindi (BBH); Federal Government Poly Clinic, Islamabad (FGPC); Pakistan Institute of Medical Sciences, Islamabad (PIMS); District Headquarters, Rawalpindi (DHQ); and Holy Family Hospital, Rawalpindi (HFH). The data was obtained through convenient purposive sampling. The response rate was 79.2 % as only 99 out of 125 questionnaires distributed among the participants were returned and used in the study for analysis.

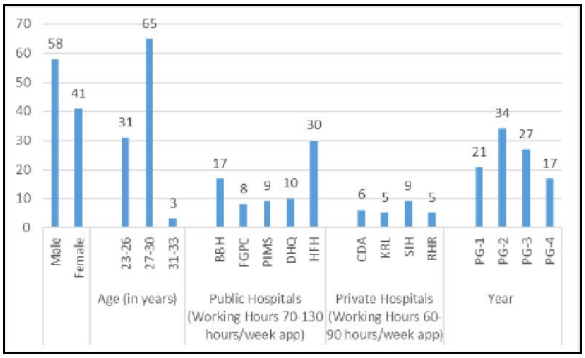

Figure-2: Frequency of demographic variables (n=99)

Note. BBH= Benazir Bhutto Hospital; FGPC= Federal Government Poly Clinic, PIMS= Pakistan Institute of Medical Sciences; DHQ= District Head Quarters; HFH= Holy Family Hospital; CDA= Capital Development Authority, Hospital; KRL= Kahuta Research Laboratories; SIH= Shifa International Hospital; RHR= Railway Hospital Rawalpindi; PG= Postgraduate Trainees

The postgraduate trainees were surveyed on a questionnaire with socio-demographic information including age (M=27.5; SD=1.8), gender, year of training, department, working hours and the following validated measures:

Diener's Measure of Life Satisfaction.[20,21] It is a well-established measure reliably used with an alpha reliability of 0.89. It has five items rated on 7- point Likert scale where 1=Strongly disagree, 2=Somewhat disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Somewhat agree, 7=Strongly agree. The scale is interpreted by an index of life satisfaction that is created by averaging the scores across all items.

Ryff Measures of Psychological Well-being; Personal Growth Dimension.[22] The Ryff measure of psychological well-being has two dimensions: personal growth and self-acceptance. The current study has only used personal growth dimension as the theoretical model followed in the study focuses on the outcomes of job satisfaction. Personal growth

dimension has 7 items that are rated on six-point Likert scale where 1=Strongly disagree, 2=Somewhat disagree, 3=Slightly disagree, 4=Slightly agree, 5=Somewhat agree, 6=Strongly agree. Item number 1, 3, 5, and 6 are negatively phrased so we recoded them for this study. The average of the scores across items created an index of personal growth, with high scores indicating positive personal growth. The Cronbach's alpha reliability of the scale was reported to be .76.[24]

Perceived Ability to Work.[23–25] This scale has 4 items that are about physical, mental, and interpersonal demands at job with respect to perception about ability to work. The items of the scale are rated on a continuum of 0–10. Items are then summed up to create an index for perceived ability to work. The scale has high reliability with Cronbach alpha = .96.[23]

Work/ Non-Work (Family) Interference and Enhancement.[23] The items of this scale assess positive and negative effect of work on one's personal life and vice versa. The scale has 12 items that are rated on four points where 1=Rarely, 2=Sometimes, 3=Often, 4=Most of the time. The scale measures four dimensions of work family interface. Items 1, 2, and 3 measure work interference with personal life, item 4, 5, and 6 measure personal life interference with work, items 7, 8, 9 measure work enhancement of personal life and items 10, 11, and 12 measure personal life enhancement with work. Cronbach's alpha reliability of the dimensions is .70, .77, .78 and .81 respectively. The items are averaged separately for each dimension. [23]

Job Stressors and Job Satisfaction.[23] The scale has 15 items that are based on demand/control model of stress . Items 1, 3, 4, 5, 6, 9, 10, 11, and 14 measure job satisfaction and items 2, 7, 8, 12, 13, and 15 measure job stressors. Responses are obtained on a 5-point scale where 1=Strongly disagree, 2=Disagree, 3=Agree, 4=Strongly agree, 5=Does not apply. Items 5 and 6 were reverse coded as they are negatively phrased. Items of both the factors are separately averaged to create an index of job satisfaction and job stress.

Co-worker Support.[23–25] Three items measure co-workers' support on a scale where 1=Strongly disagree, 2=Disagree, 3=Agree, 4=Strongly agree, 5=Does not apply. Scores across the scale are averaged to create index for co-worker support. The reliability of the scale is .91.

Supervisor Support.[23–25] Four items measure the support that the participants receive from their supervisors. The responses are obtained on a five-point scale where 1=Strongly disagree, 2=Disagree, 3=Agree, 4=Strongly agree, 5=Does not apply. The items of the scale are averaged to get the index for supervisor support. The reliability of the scale is .93.[25]

These sets of instruments along with the demographic sheet were filled by the postgraduate trainees and they were informed about the nature of the study. The willing participants proceeded to fill in the questionnaires and they were ensured privacy and anonymity, and were assured that the data obtained will be used for research purpose only. After data collection, statistical analyses such as correlations, mediation, moderation, and independent sample *t*-test were carried out in IBM SPSS version 23 to deduce results.

RESULTS

The present study explored the role of intrinsic and extrinsic motivators on job satisfaction. The direct effect of work family enhancement and interference were seen on job satisfaction, the effects of stressors on job satisfaction were also revealed. The ante ceding effect of job satisfaction on life satisfaction was also seen. Results were deduced on the basis of reliable measures. The reliability and correlations of the variables is listed below in table-1.

Table-1 shows significant positive correlation between life satisfaction and intrinsic motivators for satisfaction, i.e., personal growth and perceived ability to work. The extrinsic motivators for job satisfaction, i.e., co-worker support and supervisor support also have significant positive relationship to life satisfaction. Life satisfaction is positively related to job satisfaction whereas the job stressors and work-family interference have significantly negative relationship to job satisfaction and life satisfaction.

Table-2 shows the mediating effect of job satisfaction between intrinsic motivators (personal growth and perceived ability to work), extrinsic motivators (supervisors support, colleagues support) and life satisfaction; the effect is significantly partially mediated where Sobel test statistics are (3.73, $p<.01$). Table-3 shows that moderating effect of job stressors in relationship between job satisfaction and life satisfaction is negative. Job stressors are significantly diminishing the strength of relationship between job satisfaction and life satisfaction.

Table-4 shows that there are significant statistical differences on perceived ability to work, job satisfaction and life satisfaction whereas there are no differences on the other study variables among postgraduate trainees of private and public hospitals.

Table-1: Mean, standard deviation, alpha reliability and correlation between study variables among postgraduate trainees on surgical floors.

S #.	Scales	1	2	3	4	5	6	7	8	9
1.	Life Satisfaction	-								
2.	Personal Growth	.54**	-							
3.	Perceived Ability to Work	.62**	.51**	-						
4.	Work Family Interference	-.13*	-.12*	.23*	-					
5.	Work Family Enhancement	.16	.15**	.22**	-.35**	-				
6.	Job Stressors	-.38**	.21**	.19	.10	.21*	-			
7.	Job Satisfaction	.72**	.29**	.58**	-.17**	.51**	-.12*	-		
8.	Co-worker Support	.41*	.40**	.36**	.05	.14	.19	.76	-	
9	Supervisor Support	.47**	.42**	.37**	.13	.01	.12	.74	.57**	-
	A	.86	.65	.90	.72	.67	.83	.68	.71	.82
	M	4.02	3.61	24.8	7.9	6.74	25.30	18.16	12.22	15.19
	SD	1.41	.94	8.4	2.15	2.24	3.82	3.01	2.94	4.01

*p<.05, **p<.01

Table-2: Mediating effect of job satisfaction between intrinsic extrinsic motivators and life satisfaction (n=99)

	Life Satisfaction			
		Model 2		
			CI (95%)	
Predictors	**Model 1 B**	**B**	**LL**	**UL**
Constant	14.14**	8.32**	2.69	13.95
Intrinsic and Extrinsic Motivators	.26**	.01	-.13	.16
Job Satisfaction		.22**	.15	.30
R^2	.03	.12		
F	14.90**	28.20**		
ΔR^2		.08		
ΔF^2		40.04**		

Note. B = Unstandardized beta; β = Standardized beta; CI = confidence interval; LL = lower limit; UL = upper limit; R^2 = Variance; ΔR^2 = Change in variance; F = F. statistic; ΔF^2 = Change in F. Statistic. *p<.05, **p<.01

Table-3: Moderating role of job stressors in relationship between job satisfaction and life satisfaction (n=99)

	Life Satisfaction		
Predictors	**B**	**S.E**	**B**
Job Satisfaction	-.41	.17	-.13**
Job Stressors	.07	.04	.05**
Job Satisfaction*Job Stressors	.02	.02	.04**
Constant	.32	.50	
R^2	.02		
Adjusted R^2	.01		
F	5.87**		
Slope (t-value)	2.21		
	10.03**		

Note. B = Unstandardized beta; β = Standardized beta; S.E = Standard Error; R^2 = Variance; □R^2 = Change in variance; F = F. statistic
*p <.05, **p <.01

Table-4: Analysis of level of satisfaction while comparing public and private hospitals (n=99)

	Private Hospitals (n=25)		Public Hospitals (n=74)						
Average Working Hours/Week	**60-90 hrs/wk**		**70-130 hrs/wk**				**95% CI**		**Cohen's D**
Variables	M	SD	M	SD	t	P	UL	LL	
Personal Growth	4.86	.58	3.58	.98	-.92	.09	-.88	.32	1.59
Perceived Ability to Work	28.4	5.8	24.3	8.6	-1.5	.02	-9.47	1.22	0.07
Job Stressors	26	2.28	28.2	3.97	-.64	.12	-3.21	1.64	0.68
Co-worker Support	12.90	3.11	12.13	2.93	-.81	.89	-2.64	1.09	0.26
Supervisors Support	17.45	2.71	14.9	4.05	-2.02	.21	-5.04	-.04	0.73
Work Family Interference	8.36	2.87	7.89	2.06	.88	.62	-1.84	.91	0.19
Work Family Enhancement	6.18	2.52	6.81	2.24	-.82	.47	-.78	2.05	0.26
Job Satisfaction	19.34	2.89	17.43	3.03	.61	.05	-1.33	2.51	0.65
Life Satisfaction	4.87	.62	3.92	1.44	-2.15	.00	-1.83	-0.7	0.85

Note. CI = confidence interval; LL = lower limit; UL = upper limit. *p < .05. **p < .01.

DISCUSSION

Life satisfaction in postgraduate trainees, in our study, is predicted by satisfaction with their jobs; where job satisfaction is characterized by certain motivating factors that are either intrinsic or extrinsic in nature. The extrinsic factors such as lack of stressors at work, reduced working hour, good incentives, support from colleagues and supervisors can directly impact the satisfaction at work and later leading to overall life satisfaction. The stressors at job, work family interference reduce life satisfaction. The public sector hospitals have greater workload and greater number of working hours so their

postgraduate trainees have significantly low job satisfaction and life satisfaction as compared to private hospitals.[26–28]

Postgraduate training in surgery is physically demanding, tiring, and stressful. In emergency settings surgeries are carried out in high pressure situations. Working on a surgical floor is typically for long hours with emergency calls and long operative procedures depriving the surgeons of their sleep[29,30] Past researches show that these stressors at job lead to low level of satisfaction.[2,31–33] Low satisfaction at work is directly linked to impaired performance, medical and technical errors; and physical and mental problems.

Findings of the study are in line with past studies that there are varying motivators that lead to job satisfaction.[34] If both intrinsic and extrinsic motivators are present at the workplace the level of satisfaction of the employees rises and in the absence of both the intrinsic and extrinsic motivators at work, the employees feel dissatisfied with their job.[6,35] These factors play an important role in modifying the quality of healthcare. Job satisfaction is highly associated with the productivity at work and in balancing the family lives too. A focus on enhancing the work environment and providing opportunities to excel at work can substantially improve the satisfaction of the workers. It is necessary to reduce the working hours and workload so that the training surgeons can effectively balance the work and family life leading to more satisfied lives. Satisfaction at work allows the employees to work responsibly and own the workplace.[25,28,36,37]

Statistically significant differences were found in life satisfaction and job satisfaction among the postgraduate trainees of the public and private hospitals. This can be attributed to the difference in workload and differing length of working hours in these sectors.

There is no uniformity in the infrastructures of both setups; postgraduate trainees at the public sector have to work 70–130 hours per week whereas the private sector trainees work for approximately 60–90 hours in a week. Long working hours have significantly impaired the personal wellbeing of the trainees and reduced their satisfaction with their jobs. This is borne out by previous studies where long working hours related to trainees becoming more emotionally exhausted, tired and unhappy with their job and profession.[34-41] The adverse effects of long working hours also include sleep deprivation which may lead to issues in working memory. As the work of trainees is highly sensitive in nature, error and mistake can have fatal consequences.[30]

There is a high need for not only scheduling the shifts but also hours reduction for the health of both trainees and the patients.[42] High level of stress is found in the trainees during our study, this not only affects their performance but also overall perception of their work, in turn affecting their level of job satisfaction.[41–43] The distress in surgeons can be manifested in forms of anxiety, depression, suicide, substance abuse, and broken relationships.[43] The level of stress in surgery is unfortunately higher than some other professions. The findings of some studies show that nearly 15% of the surgeons will be impaired professionally at some point in their careers. They may fail to meet their professional responsibilities because of mental illnesses, alcohol abuse, and drug dependency.[43] Many surgeons are of the view that they are tough and more resilient than their colleagues in other specialties. The surgeons believe that they possess the defining traits of self-sacrifice, commitment, and can focus very well but in reality, the tough working environment on surgical floors makes them prone to fatigue and restlessness.[44] Reduction in working hours makes it feasible for a postgraduate trainee in surgery to obtain the core goals of training. Long working hours not only exhaust the trainees but also interfere badly with work family balance.[44]

The long duration of work not only makes the surgeons suffer from chronic fatigue but also compels them to compromise on the training objectives that include documentation and data entries. A leading factor causing dissatisfaction among trainees was noted to be non-uniformity of facilities and allowances across hospitals in Pakistan. Difference in internal and external motivators among junior and relatively experienced healthcare providers, can be one area to explore in future studies.[45–48]

This study has utilized available validated and standardized measures for carrying out the survey and identified the potential harms and instigating factors that reduce job satisfaction and life satisfaction. Nevertheless, there are a number of limitations of this study such as small sample size and not incorporating some potential factors associated with job satisfaction and life satisfaction. Future research needs to focus on factors that account for the wellbeing and satisfaction of individual healthcare workers. Research is also needed on the perceived procedural and distributive justice as predictors of job satisfaction.[45]

CONCLUSION

The current study is providing important information on the factors that influence life satisfaction among post graduate trainees. Life satisfaction in postgraduate trainees is predicted by their satisfaction with their jobs; where job satisfaction is characterized

by certain motivating factors that are either intrinsic or extrinsic in nature. The extrinsic factors such as lack of stressors at work, reduced working hour, good incentives, support from colleagues and supervisors can directly impact the satisfaction at work and later leading to overall life satisfaction. The stressors at job, work family interference reduce life satisfaction. The public sector hospitals have great work load and greater number of working hours so their trainees' have significantly low job satisfaction and life satisfaction as compared to private hospitals.

Healthcare organizations face challenge of providing reduced working hours, increased salaries, supportive working environment, and increased supervision to enhance the job satisfaction of the postgraduate trainees thus indirectly affecting the overall working environment and productivity of the hospitals. Postgraduate trainees require maximum supervision, guidance and training to deal effectively with the ongoing hassles in surgery. When the postgraduate trainees are satisfied with their job they can perform optimally at their work and at their homes too.

AUTHORS' CONTRIBUTION

TH: Planning and designing the study, literature review, writing the article. NZ: Supervisory input, feedback and suggestions. HSK: Data analysis and interpretation. AZ: Data Collection. RA: Data Collection. AH: Data Collection. MA: Data collection, data entry and proof reading. AQK: Data collection, data entry and proof reading

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Address for Correspondence:
Tahira Hameed, Malik House, 3 Defense Road, New Lalazar, Near Khawaja Corporation, Rawalpindi-Pakistan
Email: chand_malik3210@hotmail.com