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Job Dissatisfaction in Lecturers in School of Medical Sciences Universiti Sains Malaysia and Faculty of Medicine Universiti Kebangsaan Malaysia

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Summary

Job dissatisfaction in doctors and teachers is known to have direct consequences on the quality of service and teaching for patients and students respectively. A cross-sectional study to assess dissatisfaction in lecturers of School of Medical Sciences, Universiti Sains Malaysia (USM) and Faculty of Medicine, Universiti Kebangsaan Malaysia (UKM) was undertaken between August 2001 and May 2002. The original English version of the Job Content Questionnaire (JCQ) version 1.7 (revised 1997) by Robert Karasek was self-administered to 73 (response rate 58.4%) and 80 (response rate 41.7%) lecturers in the medical faculties of USM and UKM, respectively. The prevalence of job dissatisfaction in USM and UKM lecturers were 42.6% and 42.9%, respectively; the difference was not significant ($p>0.05$). Risk factors of job dissatisfaction in USM lecturers were decision authority ($p<0.001$) and psychological job demand ($p<0.001$). Significant risk factors of job dissatisfaction in UKM lecturers were skill discretion ($p<0.01$) and psychological job demand ($p<0.001$). We conclude that psychological job demand was a risk factor of job dissatisfaction in both USM and UKM lecturers; in USM, decision authority was protective, while in UKM, skill discretion was protective against job dissatisfaction.

Key Words: Job Dissatisfaction, JCQ, Lecturers, USM, UKM

Introduction

It is known that the medical profession is a challenging but stressful profession. There is a growing amount of published work on sources of stress and strain in medical practice. Numerous studies have shown high level of psychological stress in doctors, nurses and other healthcare professionals working in various situations[1]. Several recent developments may have a negative impact on physicians' health and well-being. These include the rapid pace of change in the health care system; an unprecedented growth in medical knowledge and technology and the accompanying ethical dilemmas; the political and economic uncertainty affecting practice location, remuneration, hospital closures and mergers; and the needs and expectations of an increasingly informed public.

Among cancer care workers in Ontario, it was found that the prevalence of emotional exhaustion was significantly higher among physicians than among allied health professionals[2]. In a paper review on occupational stressors and strains among academics working in UK universities, it was found that in

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comparison to other professionals and community samples, academic staff experience less job satisfaction and extremely low levels of psychological health[3]. Studies that have investigated job stress and job satisfaction have generally found inverse relationship between several job stressors and job satisfaction. In a study of general practitioners in England, Cooper et al. found that four job stressors (demands of the job and patient's expectations, interference with family life, constant interruptions at work and home and practice administration) were predictive of high levels of job dissatisfaction and lack of mental well-being[4]. Both stressful work circumstances and dissatisfying job conditions have been found to motivate employees to seek change, to join unions, and to engage in behaviors aimed at reducing frustration and anxiety and improve working conditions, standard of living and equality. A study of Canadian physicians concluded that individual demographic variables, practice characteristics, work stressors and physician satisfaction with work and professional practice were significant and independent predictors of physician militancy[4]. A Lancet editorial argued that reforms to the health service in the UK threaten to increase the stress and decrease satisfaction that doctors derive from their work[5]. There is ongoing concern about the mental health of medical practitioners. Caplan, Sutherland and Cooper investigated the severity of the problem and uncovered alarmingly high level of stress, mental ill-health (depression) and job dissatisfaction among doctors[6,7]. Job dissatisfaction has been found to have direct consequences on the quality of service for patients[8].

The aim of this study is to determine job dissatisfaction among lecturers in medical schools and examine the risk factors of job dissatisfaction among them.

Materials and Methods

Study Design

A comparative cross-sectional study of all lecturers working in the School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan (USM) and Faculty of Medicine, Universiti Kebangsaan Malaysia, Kuala Lumpur (UKM) was conducted in August 2001 to May 2002.

Method

Permission to carry out the study was obtained from the Campus Director, Health Campus, USM and the Dean, Faculty of Medicine, UKM. Job Content Questionnaires (JCQ) were sent to 137 USM lecturers and 192 UKM lecturers[9]. Consent form was included in the questionnaire booklet. For UKM, the confidential questionnaire was sent out by post together with a copy of permission letter from the Dean and a letter of explanation about the questionnaire. Also enclosed in the postage was a self-addressed, stamped envelope, which was to be posted back within two weeks after receipt of the questionnaire. To maximize the response rate, a reminder notice was sent to non-respondents 3 weeks after the initial mailing. Written reminder with another copy of the questionnaire was sent after a further interval of three weeks and a month followed by verbal reminder by phone to the remaining non-responders. For USM lecturers, the questionnaires were sent out to the various departments with a brief explanation about the questionnaire and a copy of the permission letter from the Campus Director. Reminder letters followed this at the same intervals, then, verbal reminders by phone and also direct personal contact were made.

Subjects

Subjects were identified from the lecturer registry obtained from the Administration Department, Dean's office of School of Medical Sciences, USM and Faculty of Medicine, UKM. From the USM registry, 137 out of 162 names were selected after excluding contract and trainee lecturers. Out of this, only 125 questionnaires were sent out successfully as the remaining lecturers were not available due to attendance at courses or on sabbatical leave. UKM lecturers' list contained 321 names; however, only 247 were eligible after excluding tutors, trainee and contract lecturers. One hundred and ninety-two lecturers were available for the study as the remaining were either on study leave, sabbatical leave, no pay leave or have transferred during the study period.

Research Instrument

This study used Karasek's Job Content Questionnaire (JCQ) version 1.7 (revised 1997), which is a self-administered instrument, designed to measure social and psychological characteristics of jobs i.e. as a tool for psychosocial job assessment. The JCQ was used with permission from the author. Cross-national validity and reliability studies have been done on this questionnaire. Most questions were scored on a Likert scale of 1 to 4 (strongly disagree, disagree, agree and strongly agree; or often, sometimes, rarely and never). All variable measure and outcome measures were calculated using the formulae for Job Content

instrument scale construction provided in the Job Content Questionnaire and User Guide (Appendix).

Statistical Analysis

Data entry and analysis was done using the Statistical Program for Social Sciences (SPSS) Version 10.05 for Windows[10]. Responses were entered according to codes. Independent t-test was used to compare the mean difference for age, income per month, duration of job title and duration of work between USM and UKM lecturers. To compare the difference between two groups in terms of categorical socio-demographic variables (gender, race, marital status, educational level, job title and previous job title), the chi-square test was used. The level of statistical significance was set at 0.05. Median cut-off point for job dissatisfaction (0.2667) was used to categorize the respondents into high and low job dissatisfaction in order to determine the prevalence. For this outcome variable, there were missing data, thus, we analyzed only 68 and 77 USM and UKM lecturers, respectively.

To assess the risk factors of job dissatisfaction, stepwise multiple linear regression analysis was performed. Data exploration and simple linear regression analysis were done on all variables. Backward elimination selection procedure was then used. All variables that are potentially and biologically plausible were entered into the model in a block and then sequentially removed one at a time. Forward selection was then used and the bigger models were used for further confirmatory analyses. Biologically plausible excluded variables were rechecked individually by using t-test. The explanatory variables in the preliminary models were then tested for 2-way interaction term. Multi-collinearity problem was checked by variance inflation factor (VIF). The goodness of fit of the final models was tested by Hosmer-Lemeshow test. Model assessment was done by checking assumptions, overall model fitness, functional forms of variables and outliers by using standardized residual plots. The outlier cases were listed and check for any possible errors, and any biological implausibility was considered before obtaining the final models.

Results

Seventy-three (58.4%) USM lecturers and 80 (41.7%) UKM lecturers responded to the questionnaire, making a total of 153 lecturers, and an overall response rate of 48.3%. USM lecturers have significantly shorter duration of work compared with UKM with mean duration of 13.84 and 15.99 years, respectively. Significantly higher proportion of USM lecturers was males (68.5%) compared to those in UKM (48.8%). A higher proportion of UKM lecturers have PhDs compared to USM lecturers (30% and 9.6%, respectively); and were professors (15.0% and 4.1%, respectively) (Table I). Analysis showed that there was a significant gender difference between the non-respondents and respondents in USM ($p<0.05$); however, in UKM lecturers, there was no significant difference between the respondents and non-respondents ($p>0.05$). There was no significant difference of department-base between the respondents and non-respondents for both USM and UKM ($p>0.05$).

There was no significant difference in the prevalence of high job dissatisfaction in USM lecturers compared to UKM lecturers (42.6% and 42.9%, respectively) (Table II). Simple linear regression analysis of 6 demographic, 11 job factors and 2 non-job factors on job dissatisfaction in 68 USM lecturers showed that significant predictors of job dissatisfaction were decision authority ($p<0.01$), decision latitude ($p<0.01$), psychological stressors ($p<0.01$), job strain ($p<0.05$), psychological job demand ($p<0.05$) and depression/life dissatisfaction ($p<0.01$) (Table III). Multivariate analysis revealed that significant predictors of job dissatisfaction in 68 USM lecturers were decision authority ($p<0.001$) and psychological job demand ($p<0.001$). This model explained 23% of variance for job dissatisfaction in 68 USM lecturers (Table IV).

Simple linear regression analysis of 6 demographic, 11 job factors and 2 non-job factors on job dissatisfaction in 77 UKM lecturers showed significant predictors were decision authority ($p<0.05$), decision latitude ($p<0.05$), coworker support ($p<0.01$), psychological stressors ($p<0.01$) and job strain ($p<0.001$), psychological job demand ($p<0.05$) and depression/life dissatisfaction ($p<0.001$) (Table V). Multivariate analysis revealed that significant predictors of job dissatisfaction were skill discretion ($p<0.01$) and psychological job demand ($p<0.001$). Although the p-value for supervisor support was not statistically significant, it was not excluded in the final model because it contributed significantly to the model. This model explained 23.6% of the variance of job dissatisfaction in 77 UKM lecturers (Table VI).

Table I: Socio-demographic Characteristics of 73 USM and 80 UKM Lecturers

Variables	USM				UKM				Difference
	Mean	(SD)	No.	(%)	Mean	(SD)	No.	(%)	(P- value)[a]
Age (years)	39.7	(5.7)			41.6	(7.1)			NS
Income per month (RM)	5755.5	(2566.5)			6710.0	(3469.9)			NS
Duration of job title (months)	47.9	(48.8)			62.6	(6.6)			NS
Duration of work (years)	13.8	(5.3)			16.0	(6.6)			< 0.05
Gender									
Male			50	(68.5)			39	(48.8)	
Female			23	(31.5)			41	(51.3)	< 0.05
Race									
Malay			65	(89.0)			62	(77.5)	
Chinese			3	(4.1)			10	(12.5)	
Indian			1	(1.4)			6	(7.5)	
Other			4	(5.5)			2	(2.5)	NS
Marital status									
Single			8	(11.0)			9	(11.3)	
Married			63	(86.3)			71	(88.8)	
Divorced			2	(2.7)			0	(0)	NS
Educational level									
Graduate			3	(4.1)			2	(2.5)	
Master			63	(86.3)			54	(67.5)	
PhD			7	(9.6)			24	(30.0)	< 0.01
Job title									
Professor			3	(4.1)			12	(15)	
A/Prof			13	(17.8)			22	(27.5)	
Lecturer			57	(78.1)			46	(57.5)	< 0.05
Previous job title									
Medical Officer			51	(69.4)			34	(43.0)	
Specialist /Lecturer			19	(26.4)			33	(41.8)	
A/Prof.			3	(4.2)			13	(15.2)	< 0.01

[a] Group differences (t-test for age, income per month, duration of job title and duration of work; chi-squared test for all others)

NS: Not Significant, P ≥ 0.05

Table II: Job Dissatisfaction in 68 USM and 77 UKM Lecturers

Job Dissatisfaction	USM			UKM			p-value[a]
	No	%	(95% CI) [b]	No	%	(95% CI) [b]	
High	29	42.6	(30.7, 55.2)	33	42.9	(31.6, 54.6)	
Low	39	57.4	(44.8, 69.3)	44	57.1	(45.4, 68.4)	NS[c]
Total	68	100.0		77	100.0		

[a]Binomial confidence interval
[b]Pearson's χ^2 : Level of significance $p < 0.05$
[c]NS: Not Significant; $p \geq 0.05$

Table III: Simple Linear Regression Analysis of 6 Demographic, 11 Job and 2 Non-Job Factors of Job Dissatisfaction in 68 USM Lecturers

Variables	β[a]	SE[b]	Overall *F* test		R^2[d]
			F statistics (*df*[c])	p-value	
Demographic Factors					
Age (years)	8.6×10^{-4}	0.0	0.0 (1,65)	NS[e]	0.001
Gender (male/female)	-2.5×10^{-3}	0.0	0.0 (1,66)	NS	0.006
Marital status (married/not married)	-7.3×10^{-2}	0.1	1.5 (1,66)	NS	0.023
No of children	-7.6×10^{-3}	0.0	0.5 (1,66)	NS	0.007
Salary (RM)	-6.3×10^{-6}	0.0	0.5 (1,65)	NS	0.008
Duration of work (years)	1.7×10^{-3}	0.0	0.1 (1,65)	NS	0.002
Job Factors					
Department base	-6.3×10^{-2}	0.0	1.9 (1,66)	NS	0.029
Created skill	-2.8×10^{-2}	0.0	2.7 (1,66)	NS	0.039
Skill discretion	-9.6×10^{-3}	0.0	3.4 (1,65)	NS	0.050
Decision authority	-1.1×10^{-2}	0.0	10.5 (1,66)	< 0.01	0.137
Decision latitude	-6.3×10^{-2}	0.0	7.9 (1,65)	< 0.01	0.109
Supervisor support	2.1×10^{-3}	0.0	0.5 (1,66)	NS	0.008
Coworker support	-2.3×10^{-2}	0.0	1.4 (1,66)	NS	0.021
Social support	1.6×10^{-3}	0.0	0.3 (1,66)	NS	0.004
Psychological stressors	1.2×10^{-2}	0.0	9.8 (1,64)	< 0.01	0.133
Psychological job demand	1.1×10^{-2}	0.0	6.8 (1,65)	< 0.05	0.095
Job strain	4.1×10^{-2}	0.0	4.2 (1,66)	< 0.05	0.060
Non-Job Factors					
Depression/Life dissatisfaction	0.3	0.1	9.4 (1,66)	< 0.01	0.125
Sleeping problem	0.2	0.1	8.2 (1, 66)	< 0.01	0.110

[a]β : Unstandardized Beta coefficients
[b]SE: Standard Error for b coefficient
[c]df : Degree of Freedom
[d]R^2 : Coefficient of Determination
[e]NS: Not Significant ($p \geq 0.05$)

Table IV: Risk Factors of Job Dissatisfaction in 68 USM Lecturers

Variables	β[a]	SE[b]	p-value[c]	R^{2} [d]
Decision Authority	-1.6×10^{-2}	0.0	0.000	
Psychological Job Demand	1.9×10^{-2}	0.0	0.000	
Job Strain	-0.1	0.0	0.073	0.231
Age	3.9×10^{-3}	0.0	0.297	
Gender	-2.0×10^{-4}	0.0	0.996	
Constant	0.1	0.2	0.193	

[a] β Unstandardized Beta coefficients
[b]SE: Standard Error for b coefficient
[c] p-value for Overall F test
[d]Adjusted R Square

Table V: Simple Linear Regression Analysis of 6 Demographic, 11 Job and 2 Non-Job Factors of Job Dissatisfaction in 77 UKM Lecturers

Variables	β[a]	SE[b]	Overall *F* test		R^{2} [d]
			F statistics (*df*[c])	*p-value*	
Demographic Factors					
Age (years)	-2.3×10^{-2}	0.0	0.4 (1,75)	NS[e]	0.005
Gender (male/female)	-1.9×10^{-2}	0.0	0.1 (1,75)	NS	0.002
Marital status (married/not married)	4.3×10^{-2}	0.1	0.2 (1,75)	NS	0.003
No of children	6.3×10^{-3}	0.0	0.2 (1,75)	NS	0.002
Salary (RM)	-3.3×10^{-6}	0.0	0.2 (1,75)	NS	0.003
Duration of work (years)	-7.6×10^{-4}	0.0	0.0 (1,75)	NS	0.001
Job Factors					
Department base (clinical/non-clinical)	0.3	0.0	0.0 (1,75)	NS	0.000
Created skill	-1.4×10^{-2}	0.0	0.3 (1,74)	NS	0.004
Skill discretion	-1.4×10^{-2}	0.0	2.6 (1,74)	NS	0.034
Decision authority	-1.1×10^{-2}	0.0	4.3 (1,75)	< 0.050	0.055
Decision latitude	-9.5×10^{-3}	0.0	5.7 (1,74)	< 0.050	0.072
Supervisor support	-5.0×10^{-3}	2.6	2.6 (1,72)	NS	0.035
Coworker support	-5.9×10^{-2}	0.0	10.3 (1,74)	< 0.010	0.122
Social support	-5.5×10^{-3}	0.0	3.2 (1,72)	NS	0.043
Psychological stressors	1.7×10^{-2}	0.0	12.7 (1,73)	< 0.010	0.148
Psychological job demand	1.5×10^{-2}	0.0	11.9 (1,75)	< 0.050	0.137
Job strain	0.1	0.0	20.8 (1,75)	< 0.001	0.217
Non-Job Factors					
Depression/Life dissatisfaction	0.6	0.1	19.2 (1,74)	< 0.001	0.206
Sleeping problem	0.4	0.1	10.9 (1,75)	< 0.010	0.126

[a,b,c,d,e] as per Table III.

Table VI: Risk Factors of Job Dissatisfaction in 77 UKM Lecturers

Variables	β[a]	SE[b]	p-value[c]	R^{2} [d]
Skill discretion	-2.5×10^{-2}	0.0	0.003	
Psychological job demand	1.9×10^{-2}	0.0	0.000	
Supervisor support	-5.3×10^{-3}	0.0	0.063	0.236
Age	-2.7×10^{-3}	0.0	0.419	
Gender	-7.2×10^{-2}	0.0	0.141	
Constant	0.61	0.3	0.017	

[a, b,c,d] as per Table IV.

Discussion

We found no significant difference in the prevalence of job dissatisfaction in USM lecturers compared to UKM lecturers (42.6% and 42.9%, respectively) (Table II). However, Linn et al. noted a lower prevalence of 5% to 20%[11]. This discrepancy could be due to the increasing demands and challenges in the profession.

Table III showed that significant explanatory variables for job dissatisfaction in USM lecturers were decision authority ($p<0.01$), decision latitude ($p<0.01$), psychological stressors ($p<0.01$), job strain ($p<0.05$), psychological job demand (p), and depression/life dissatisfaction ($p<0.01$). However, after controlling for job strain, age and gender, the significant and important risk factors were decision authority ($p<0.001$) and psychological job demand ($p<0.001$). The final model accounted for 27% of the variance of job dissatisfaction in USM lecturers (Table IV). Decision authority was one of the most significant risk factors of job dissatisfaction in USM lecturers and it had a negative effect. This is consistent with findings by Sargent & Terry who noted that there is a significant main effect of task control on job satisfaction[12]. Kreuger et.al. identified decision authority as among the commonest predictors of job dissatisfaction in several health care organizations[13]. Similarly, Van Der Doef et.al., concluded that decision authority is among the most important predictors of job dissatisfaction[14].

For UKM lecturers, significant independent variables obtained on univariate analysis were decision authority ($p<0.05$) decision latitude ($p<0.05$), coworker support ($p<0.01$), psychological stressors ($p<0.01$), job strain ($p<0.001$), psychological job demand ($p<0.05$), and depression/life dissatisfaction ($p<0.001$) (Table V). However, after controlling for significant and biologically plausible variables, the important risk factors were psychological job demand ($p<0.001$) and skill discretion ($p<0.01$). This model predicted 26% of variance of job dissatisfaction in UKM lecturers (Table VI).

Skill discretion had a negative main effect on job dissatisfaction for UKM lecturers. Good skill discretion means that the worker is able to learn new things and exercise high skill level. This indicated that the higher the skill discretion of the lecturers, the lower will be their job dissatisfaction level. This finding is consistent with the findings of Ayres, who reported that low job satisfaction among general practitioners was due to the limited scope to exercise full range of skills they have acquired during training, in addition to limited career progression[15]. However, Ayres' conclusion may not be accurate for UKM lecturers. Similarly, Van Der Doef et al., also found that skill discretion was among the most important predictors of job dissatisfaction [14].

Although statistically marginally insignificant, supervisor support played an important role in determining job satisfaction in UKM lecturers. The presence of supportive supervisor, the beneficial effects of job control are more prominent. Studies have shown that social support from the supervisor has more influence on employee job satisfaction and mental health than support from coworkers[14]. Many other studies identified supervisor support as among the commonest important predictors of job satisfaction in several health care organizations[13,16]. Weinberg & Creed emphasized that it was important that the management was supportive, especially to those who have conflict between clinical and managerial roles[1].

For both USM and UKM lecturers, psychological job demand was a common significant risk factor and showed positive association with job dissatisfaction. The result showed similarities between the two groups, with the most important sources of job satisfaction being identical for USM and UKM lecturers. Therefore, from the above findings we can conclude that although there appeared to be some common predictors between the organizations studied, some significant risk factors of job satisfaction such as decision authority and skill discretion were organization specific. This is in conformity with findings by Kreuger et al., who stated that job satisfaction is a multidimensional construct and some predictors of job satisfaction were organization and context specific[13].

For both lecturer groups, job factors have significant effects on job dissatisfaction but not demographic and non-job factors. This finding is supported by O'Connor who concluded that the psychosocial work environment plays an important role in the development of high levels of job dissatisfaction in British General Practitioners[8]. This is further strengthened by Cooper et al., who identified the job as a source of considerable job satisfaction in doctors [17]. They were said to have 'intrinsic' job satisfaction as a result of autonomy and freedom of their working methods. Doctors under stress have more problems with patients and obtain less satisfaction [18].

Our finding is also consistent with a study done by Cooper et al., who concluded that the demands of the job was one of the two most significant job stressors[17]. A Lancet editorial stated that the highest levels of satisfaction among General Practitioners were associated with the amount of responsibility given, the freedom to choose working methods and the amount of variety in the job[6]. Our findings were comparable with the above, where, among the risk factors of job dissatisfaction in USM and UKM lecturers was psychological job demand, which indicated the amount of responsibility, and decision authority and created skill, which partly consist of freedom to choose working methods. Theorell & Karasek emphasized that increased control reduces the effects of stressors by allowing individuals to face demands when they are best able to do so in their own most acceptable ways[19]. This clearly meant that decision authority and skill discretion were important for this group of professionals to have perceived job satisfaction. Skill discretion and decision authority are types of control in the Job-Strain Model and that job dissatisfaction is a strong predictor of job strain. Therefore, our findings in this study are in conformity with Karasek's job demand-control theory [20].

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Appendix

Formulae for job content instrument scale construction

Skill Discretion = [Q3 + Q5 + Q7 + Q11 + (5 – Q4)] x 2
Created Skill = [Q3 = Q5 = Q11]
Decision Authority = [Q6 + Q10 + (5 – Q8)] x 4
Decision Latitude = Skill Discretion + Decision Authority
Psychological Job Demands = [(Q19 + Q20) 3 + (15 – (Q22 + Q23 + Q26)) 2]
Job Insecurity = [Q33 + Q36 + (5 – Q34)]
Total Psychological Stressors = z-scored addition of Psychological Job Demand + Job Insecurity
Coworker Support = [Q53 + Q54 + Q56 + Q58]
Supervisor Support = [Q48 + Q49 + Q51 + Q52]
Social Support = Coworker Support + Supervisor Support
Physical Exertion = Q21
Hazardous Conditions = [Q41 + Q42 + Q44 + Q45 + Q47}
Toxic Exposures = [Q39 + Q40 + Q43]
Total Physical Hazards = z-scored addition of Hazardous Condition + Toxic Exposures
Total Physical Stressors = z-score of Physical Exertion + Total Physical Hazards
Job Dissatisfaction = [(V3 + V5 – V2 – V4) 3 – (V1 x 4) + 40] / 60
Depression (Life Dissatisfaction) = [R2 + R3 + R4 + R5 + R6 + R7 + R8 – R1] / 48
Physical/Psychosomatic Strain=[(4 – V6)2 + (4 – V11) 2 +(4 – V12) 2 + (4 – V13) 2]/ 36
Sleeping Problems = [(4 – V14) 2 + (4 – V15) 2] /18
Psychological Job Demand (FR)=[Q19+Q20–Q22–Q23–Q26+ Q27+Q28+Q29+Q32]