

PCA application for the job satisfaction levels of pharmacists in Karachi.

Sidra Ghayas, Sidra Ayub, Najaf Farooq, Suboohi Safdar

Abstract— Job and career satisfaction depends on employee's personal experiences. Job satisfaction is achieving positive outcome from the estimation of one's job experience. It is basically the extent to which individuals like their jobs. The qualities that provoke satisfaction in employees comprises of appreciation of their merits, freedom, facilities, job security and other employee's benefits To evaluate the contribution of major factors contributing to the job satisfaction of pharmacists in fields industrial pharmacy and hospital pharmacy in Karachi, a cross sectional survey was conducted comprising of 200 individuals from different areas of Karachi. To determine factors contributing job satisfaction levels factor analysis has been applied. According to our results factor analysis reduce the thirty attributes describing the job satisfaction levels into 8 major components which can be written as learning, job timings, change of duties, use of skills, employee's benefits and career opportunities are the major factors contributing job satisfaction. Job satisfaction is essential for pharmacist to work sincerely in an organization.

Index Terms—benefits, career opportunities, career satisfaction, components, factor analysis, job satisfaction, pharmacist,

1 INTRODUCTION

Job satisfaction is achieving positive sentimental state outcome from the assessment of one's job or job experience. Job satisfaction is a result of employee's insight of how well their job provides those things that are regarded as significant. Misanera, M. et al. [1].

This definition proposed that employee develop attitudes towards his job by taking into account his feelings, behaviors and beliefs Weiss, H. M., [2]. Job satisfaction needs a person's inner need of fulfillment either the need of money, self-satisfaction, knowledge, career advancement or may be the need of all. There are wide varieties of aspects that comprises of job satisfaction like professional development and career advancement, salary and promotions, regards for personal concerns, work environment etc. Organizations are said to be development oriented when employees has chances to enhance their professional capabilities. Acker [3] established that opportunities towards higher professional growth have immense relationship with job satisfaction . Salary and promotions are taken as key factor while considering criteria for job satisfaction. Salary and employees working progress have positive relationship. Krau, E., [4]. Good salary and pay packages is the biggest reason for employees commitment to organization and most commonly cited reasons for resigning current organization were low salary and pay package Mark H. et al.[5]. It was found that personnel who were highly paid exhibited a greater satisfaction towards their job. Sousa-Poza A [6].

Management and supervisors attitude towards staff is helpful in establishing the positive outcome of employee job satisfaction. It was seen that major cause of job dissatisfaction is disappointment from management or supervision .If supervisor n management are co-operative and compassionate in attaining company's targets ,sub ordinate will feel more joy and satisfaction towards their job Billingsley, B.S., & Cross, L.H., and Ting, Y., [7],[8]. Organizations that provide positive work environment are successful to keep their valued staff satisfied and relaxed. People enjoy working there and struggle hard to pull together to move organization forward. Work environment and positive management behavior are considered to be the great contributor to job satisfaction. It had seen that pharmacists' job satisfaction is compromised by lack of recognition, poor support from management, which may lead to reduction in job satisfaction Malik, M.I et al., Ferguson, J., [9],[10]

The pharmacy profession has significantly expanded in term of professional services delivery and now has been recognized as the important profession in multidisciplinary provision of health care. Earlier pharmacist role in Pakistan and their interest are limited towards the industrial pharmacy i.e. drug manufacturing and distribution. However after implementation of Pham-D program in Pakistan pharmacist role is being enhancing towards patient care Shakeel, S., et al. [11]. It is impossible to provide sufficient Health care without medicines and proficient pharmacy personnel to supply these medicines Perkins K. A et al., Robinson J, Wharrad H, and Anand S, Bärnighausen T, [12], [13], [14]. Hospital pharmacy has been an immense amount of rise in Pakistan during last few years. Strategies and efforts are being exerting all over the world to buildup career opportunities and scope of hospital pharmacist from dispensing to clinical practice inside hospital. Hence in these regards developing countries such as Pakistan, Bangladesh and India towards Doctor of Pharmacy (Pharm.D) level education. According to a survey approximately 2587 pharmacists graduate every year in Pakistan while more than

- Author name is Sidrah Ghayas, currently pursuing PhD degree in university of Karachi. Sidrahghayas@gmail.com
- Co-Author name is Sidra Ayub, is mphil in pharmacy.
- Co-Author name is Najaf Farooq, currently pursuing masters degree program in Pharmaceutics in University of Karachi, Working as a Lecturer in Faculty of Pharmacy, Jinnah University For Women, Pakistan, E-mail: najafusman@hotmail.com
- Co-Author name is Suboohi Safdar, Assistant Professor in department of Statistics, University of Karachi, Pakistan. suboohi@uok.edu.pk

50% work in the pharmaceutical industry and less than 25% actually work in a hospital or community pharmacy Zurn P et.al, Anderson C, Futter B, Saira A et al., WHO report. [15], [16], [17], [18].

Multivariate methodology Factor analysis is famous for the job satisfaction assessment levels, these studies determine the basic attributes which compositely described well about the job contentment levels in field of medicine, nursing and others. Sidra Ghayas and Ayeshah., Sheldon et.al, Alberto, W. D et al. , Li, Y., et al., Finkler et al., Nasir, et al., Mahmud, R., et al. [19],[20],[21],[22],[23],[24],[25].Factor analysis is dimension reduction methodology uses to assemble all prime factors which are contributing towards the variance expatiation of the given problem. Data analysis is done by using principal component analysis in factor analysis methods, it suggests the linear combinations of generated uncorrelated factors contributing towards the determination of problem by reducing them in a sequence of principal components which are in descending pattern in magnitude of explanation of the problem, as Principal component 1(PC1) describes the variations most , then principal component number 2 (PC2), then principal component number 3 (PC3) and so on. Oketola et al., Alberto, W D., et al., [26],[27] The potential attributes are chosen by assessing the Eigen values which are greater than 1.Wang, X et al. [28]. For the applicability of principal component analysis, it is essential to achieve the Kaiser Mayer criterion satisfaction and also significant Bartlett's test results. KMO test is found to be adequate if the datasets KMO test is resulted into a quantity greater than 0.5. Platis, C et al. [29]. Significance of Bartlett's test of sphericity is the rejection of null hypothesis that is correlation matrix is an identity matrix. Guppy, A., & Gutteridge, T. [30] confirmatory analysis is evaluated by using Varimax rotation. Vandenberghe, C., & Tremblay, M. and Carraher, S. M., & Buckley, M. R. [31],[32] Here the purpose of study is to assess the job satisfaction level of pharmacist in two fields of pharmacy(industrial pharmacy and hospital pharmacy).

2 METHODOLOGY

This was the survey based study; survey was done under the inspection of trained surveyors. A total of 200 peoples were selected for the study from local and multinational pharmaceutical industries, government and private hospitals situated in Karachi. The questionnaire was designed to evaluate criteria for job satisfaction in hospital pharmacy and industrial pharmacy. To analyze inner satisfaction towards job thirty items are recorded for the current job of the surveyed employee in order to know about the employee perceptions about 1. job timings,2. leaves, 3.medical facilities, 4.transport facility, 5.lunch facility,6. current job is one's passion, 7.accidental joining of this field of pharmacy,8. thinking of switching another field of pharmacy,9.respectable field for females,10. fair appraisals,11. reward for the quality of work,12. secure job, 13.timely promotions,14. yearly profit

percents or insurance or bonuses,15.adequate interaction with other colleagues,16. discriminatory behavior or any other type of job harassment ,17. encouragement from upper level management to be the best employee in one's self,18. friendly and cooperative and friendly colleagues, advice others to apply for the same workplace as I am much satisfied ,19. clear path for career advancement,20. adequate use of one's skills and abilities ,21. learning of new skills, support from the managerial level for the additional training and education,22.seminars and field visits are arranged ,23.not much work load and variety of responsibilities,24. interference in performing duties, adequate opportunity to change the duty periodically,25.job schedule is flexible for the family responsibilities,26. organization mission is clear to the employee.27. motivation 28. Recommendation 29. Vacation 30. scope The answers were recorded by using the 5 point likert scale. The variables generated from the questionnaire were coded suitably for statistical analysis and data analysis is done by using IBM SPSS STATISTICS 22. Factor analysis by following principal component analysis is carried out for highlighting the major factors of the level of job satisfaction.rotated components area also evaluated by using varimax rotation.

3 RESULT

Kaiser-Meyer-Olkin measure of sampling adequacy (table: 1) shows 0.732 which is an adequate value for the application of factor analysis and bartlett's test of sphericity also shows a significant value 0.000.

TABLE 1
(KMO TEST AND BARTLLETS' TEST)

Kaiser Mayer measure of adequacy	0.732 > 0.5
Bartllets'test	0.000(significant)

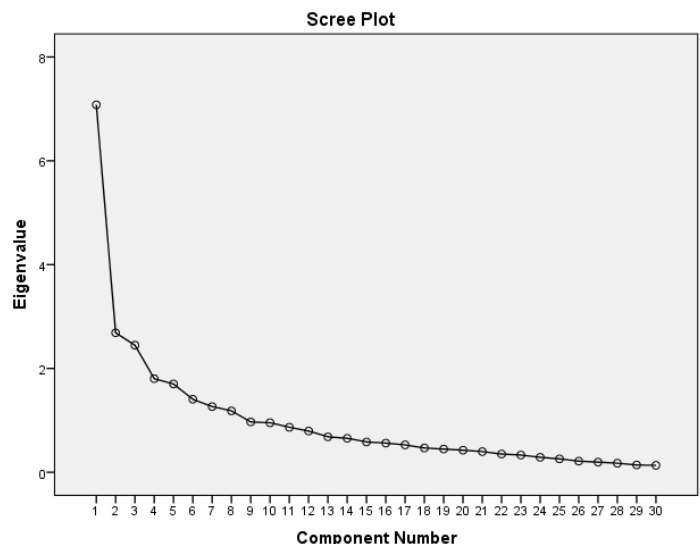


Fig. 1 Scree Plot

Scree plot also shows that the numbers of significant factors are eight. Similarly, the Eigen values are greater than one are considered as significant factors which are also resulted into eight numbers of components.

The result of the factor analysis technique by using principal component analysis (Table: 2) reveals that the out of thirty variables eight major components composite of potential variables for the job satisfaction levels in two fields of pharmacy hospital and industry.

Component 1 comprises of use of skills, career, motivation, promotion, appraisal, learning, recommendation, job reward, training, scope, job security, cooperation, interference, vacation, mission, interaction, profits and passion. It can be named as “employee’s benefits”, and describes the level of satisfaction 23.597 %.

Component2 includes change of duty and transport; it can be named as “facilities” and describes the level of satisfaction 8.957 %, including changing of duties as a key parameter.

Component 3 consists of respect of female, workload, scheduling and medicinal facilities, it can collectively called as “ low stress level and medical facilities” and describes the level of satisfaction 8.159 %, in which respecting the female is a leading factor for job satisfaction.

Component 4 includes harassment and lunch and describes the level of satisfaction 6.010%, having harassment as a major parameter. However lunch is a facility but it covers mainly harassment.

Component5 is switching of job, describes the level of satisfaction 5.671%

Component 6 describes the level of satisfaction 4.688% shows the key factors appraisal, switch job, interaction, job reward, interference. These attributes are already included in other components with high factor loadings but their contribution to the job satisfaction level is in ignorable.

Component 7 is knowledge, describes the level of satisfaction 4.218%, working environments which improves and give a space to prove previous knowledge enhances the satisfaction level.

Component 8 encompasses job timing and accidentally joining, it can be named as “field of the pharmacy selected and job timings”, describes the level of satisfaction 3.945 %, having satisfaction with job timing is a major parameter.

The confirmatory analysis is conducted by using the Varimax rotation and is demonstrated in table:4, the technique again divides the data sets into 8 components such that the component1 shows the 12.553%, Component2 shows the 12.44%, component 3 shows the 8.426%, Component 4 shows the 7.27 %, component6 shows the 6.855%, Component7 shows the 5.394% and component 8 shows the 4.802% of the job satisfaction levels. Again describing the same number of factors which are considered by PCA analysis. Principal component analysis shows the most of the items in componnet1 with 23% of variation described, however these

items are spitted in to different components by the rotated Varimax rotation and the results are as follows:

Component 1 describes learning, respect female, career, cooperation, use of skill, training, which can be collectively named as “career opportunities” with the level of satisfaction 12.553%, in which learning is the major criteria for job satisfaction.

TABLE: 2
PCA TECHNIQUE

Items	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8
USE OF SKILLS	0.689							
CAREER	0.685							
MOTIVATION	0.642							
PROMOTION	0.641							
APPRAISAL	0.639					-0.306		
LEARNING	0.625		-0.0369					
RECOMMENDATION	0.613							
JOB REWARD	0.606		0.439			-3.77		
TRAINING	0.595				0.377			
SCOPE	0.550							
JOB SECURITY	0.544	-0.433		0.361				
COOPERATION	0.540	-0.321	-0.403					
INTERFERENCE	0.533	-0.438				0.314		
VACATIONS	0.460	0.409					0.309	
MISSION	0.451							
INTERACTION	0.450	-0.404		0.320	-0.425	-0.420		
PROFITS	0.443	0.385	0.337					
PASSION	0.418	0.345			-0.372			0.382
CHANGE DUTY	0.490	-0.513						
TRANSPORT		0.512						-0.353
RESPECT FEMALE	0.326		-0.625	0.436				
WORKLOAD			0.611					
SCHEDULING	0.361		0.500		-0.366			
MEDICANAL FACILITIES	0.356	0.398	-0.436					
HARRASMENT	0.409			0.527				
LUNCH		0.456		0.468	0.516			
SWITCH JOB		-0.331			0.320	-0.342		
KNOWLEDGE	0.422				-0.355		-0.465	
JOB TIMINGS	0.346	0.349			0.339			0.504
JOIN ACCIDENTLY				0.408	2			0.461
PERCENT OF VARIANCE EXPLAINED	23.597%	8.957%	8.159%	6.010%	5.671%	4.688%	4.218%	3.945%

Component 2 includes profits, job reward, recommendation, motivation, promotion and appraisal; it can be named as “employee’s benefits” and describes the level of satisfaction 12.4 % having profits and job rewards as a leading factor.

Component 3 comprises of scheduling, interference, workload, change of duty and medicine, it can be named as “working facilities and medicinal benefits”, describes the level of satisfaction 8.426 %, having job scheduling as a chief parameter.

Component 4 includes interaction and job security; it can be named as “job safety” and describes the level of satisfaction 7.544 %, having interaction with colleagues as a key factor.

Component5 consists of transport, lunch, vacations and harassment, it can be named as “other facilities and pleasant environment” and describes the level of satisfaction 7.270%, in which transport and lunch facilities are most satisfying factors. Component 6 describes flexible job timing and passion, with the contribution in level of satisfaction 6.855%, having satisfaction with job timing is a major parameter.

Component 7 encompasses accidentally joining, switch job and scope, which can be named as “scope of the field” and

describes the level of satisfaction 5.394%, and includes accidentally joining of job as a key factor.

Component 8 describes knowledge and mission; it can be named as “application and compatibility of knowledge of employee”, with the level of satisfaction 4.802%, having knowledge as a principle factor for job satisfaction.

TABLE: 3
VARIMAX FACTOR

	VF1	VF2	VF3	VF4	VF5	VF6	VF7	VF8
LEARNING	0.805							
RESPECT FEMALE	0.683							
CAREER	0.671	0.308						
COOPERATION	0.669			0.370				
USE OF SKILL	0.666	0.472						
TRAINING	0.547	0.385						0.404
PROFITS		0.775						
JOB REWARD		0.761		0.345				
RECOMMENDATION		0.690						
MOTIVATION		0.635						
PROMOTION		0.544		0.450				
APPRAISAL		0.510		0.428			0.361	
SCHEDULING			0.777					
INTERFERENCE	0.382		0.718					
WORKLOAD			0.636					0.308
CHANGE DUTY	0.457		0.530					
MEDICINE			-0.420		0.322	0.322		
INTERACTION				0.785				
JOB SECURITY	0.420		0.313	0.623				
TRANSPORT					0.822			
LUNCH					0.647			0.316
HARRASMENT					0.580			
VACATIONS					0.491	0.376		
JOB TIMMINGS						0.832		
PASSION						0.763		
ACCIDENTAL JOBS								-0.776
SWITCH JOB				0.368				-0.571
SCOPE		0.346				0.310	0.560	
KNOWLEDGE								0.718
MISSION			0.331	0.408				-0.439
PERCENT OF VARIANCE EXPLAINED	12.553 %	12.40 0%	8.426 %	7.544 %	7.270 %	6.855 %	5.394 %	4.802 %

4 DISCUSSION

Job and career satisfaction are dormant ideas that cannot be measured straightforwardly. Employees’ perception of their work decides their level of job satisfaction. In 1976, Locke outlined job satisfaction as, “a pleasurable or positive emotional state coming from the assessment of one’s job or job experiences.” Li Li et al. [33] Whereas, job satisfaction provides a measure of particular affect, career satisfaction represents people’s thoughts toward their chosen professions, or the collected work-related experiences and activities over a complete career. Mott DA et al., Mott DA. [34],[35] Job satisfaction is conceptualized normally as one’s perspective toward his or her job. Considering over all definitions of job

satisfaction, the concept has been characterized simply as the extent to which individuals like their jobs. Linn L et al. [36]. With reference to work motivation, study demonstrated the career advancement and financial subscales of work inspiration positioned first and second, respectively. DiMatteo M et al. [37]As defined under the both of the principal component as well as varifactors about the career opportunities, mission and pleasant environment.

Job and career satisfaction are eminent to recognize to happiness with a pharmacist's work life. Nalin Payakachat et al. [38]. Alternately, high switching of jobs contrarily affects managers by producing additional enlisting and preparing costs for substitution. On average, pharmacists occupy their jobs for less than 3 years. Lawson K. Savery [39] Enhancing pharmacist job satisfaction could cause higher level of pharmacist retention and considerably cut back the burden of retraining cost. Stringer C et.al, Becchetti L et al. [40],[41] Thus, increasing pharmacist job satisfaction could end in bigger efficiency, improved quality healthcare services, and more satisfied patients. Frey BS. [42]. switching of jobs and jobs positions contentment are well defined by principal components and variafactors.

A study finds that intrinsic motivator is the foremost essential factor influencing a person’s job satisfaction and dissatisfaction. Lawson K. Savery, [39], In another study, career development and financial motivation were measured as extrinsic motivation and acknowledgment and obligation motivation as intrinsic motivation Stringer C et.al, Becchetti L et al. [40], [41]. Another study recommends that the acknowledgment and obligation subscales of work motivation were positive markers of job satisfaction, and financial motivation was a negative marker. They conclude that self motivation with in a person’s will increase job satisfaction, whereas extrinsic motivation will not contribute as much to the job satisfaction as the intrinsic and self motivation contributes. Frey BS. [42] Another study showed that the extent of extrinsic motivation was high than that of intrinsic motivation. Li Li et al. [33]. Motivational and inspirational higher authorities are enquired as the key satisfaction levels both principal components and also by confirmatory analysis varifactors.

A case study identified the most critical resources devices to supervise job satisfaction; these include materials, salary, guidance, the working environment, supportive supervision and gratitude. Mathauer I, Imhoff I. and Rifayat Islam et al. [43],[44]. A study consequences indicated that the wages and remuneration subscale of stress ranked highest, followed by the work task and role subscale. Another study related to work stress found that low salary, heavy workload and few promotion opportunities were the most repeatedly referred workplace stressors. Ding H, et al., Han JF, Li XH. [45], [46]. Whereas another study found that career development, and salary and benefits subscales of work stress were contrarily connected with job satisfaction. These findings were constant with previous studies in which workers were likely to report low job satisfaction if they did not receive promotion

and advancement opportunities or enough salaries. Voltmer E et al., Wilbroad M et al. and Lephala RP [47],[48],[49]. Another study classified factors affecting job satisfaction into the subsequent categories: work security, relations, managerial and social conditions. Shokoufe Bagheri et al. [50], these all opportunities and facilities of satisfactory jobs are described clearly by principal components and varifactors.

A study reported that any attempt to improve organizational commitment will be important in bringing down stress levels in the job relating zones such as staffing, and the apparent pressure of the job. Lawson K. Savery, Paul D. Syme, [51] The analytical result of the study showed that higher education employees concentrate on high salaries and fair promotion systems Shun-Hsing Chen et al. [52]. Concerning welfare and environmental components, insufficient income and other benefits were mentioned as influential factors. Low income encompasses a negative consequence which affects individuals' demeanors towards the association and their job satisfaction El-Salam GA et al. [53] A study demonstrated that discrimination was one of the major issues. Bester CL et al. [54] Justice for the recognition of the more hardworking and dutiful workers plays a critical role in the organization and job satisfaction and the way individuals are dealt directly affects their maxims, feelings, attitudes and their behavior and accordingly, their satisfaction Asl ME et al. [55]. Another study indicates that supernatural qualities that provoke satisfaction in employees consist of recognition of their merits, respect for them, and freedom in their performance and work security. Additionally, as regards factors referring to the individual, findings of a study indicate that personal characteristics and chance for individual development of the employee have an effect on job satisfaction. Abedi L, Mazruee H. [56]. Employee recognition, Satisfactory levels of income, adequate compatibility of knowledge and indiscrimination, respect consequences very high sincerity to the organization as well as to the job satisfaction levels described well by the principal components and varifactors.

Besides that, good relations with colleagues are significant in feeling respected and supported and increases the degree of motivation in employees. A first-rate support of colleagues and a good association with them has multidimensional possessions on the work place, motivation of employees and makes an elevated state of mind in employees Shokoufe Bagheri et al. [50]. Structural, managerial, individual, social, job in-itself, environmental and welfare components were demonstrated as influencing job satisfaction. calm and professional interaction between the colleagues and managerial motivation shows high factor loadings in PCs and varifactors.

5 CONCLUSION

Job satisfaction is primarily the extent to that individuals like and are satisfied with their jobs. The qualities that enhance satisfaction in employees comprises of appreciation of their merits, freedom, facilities, respect, learning, career development opportunities, job stability and other employee's

benefits. Job satisfaction is necessary for pharmacist to work sincerely in an organization. Having satisfaction with job; pharmacist can work efficiently for the betterment of health care. Furthermore, highly satisfied employee has a minimum number of job switching is observed due to the level of satisfaction which will not only benefit the organization for the high turnovers but also helps in the improvement of health sector.

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