

# A Study of Problems of Working Women's in Kolhapur District Using Statistical Methods

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**Abstract-** The role of working women has changed throughout the world due to economic conditions and social demands. These has results in a scenario in which working women have tremendous pressure to develop a carrier as robust as their male counterparts while sustaining active engagement in personal life . the ever increasing work pressure is taking a ring on the working women living them with less time for themselves . the increasing responsibilities on the personal front with technology blessing like advanced mobile phones note pads etc. The work life balance is term used to describe practices in achieving a balance between professional work and family work lives. The demands and pressures of work make difficult to stretch time for balancing work life activities. In this background the present study was undertaken to determine the work life balance of working women. The sample consists of 100 career women working in Kolhapur city the data was collected from respondent through well designed questionnaire. Personal life also create as stress on personal and professional front in this knowledge age this affect the persons physical, emotional and social well –being thus achieving work life balance is a necessity for working women to have good quality of life this paper is an attempt to explore the tough challenges faced by working women in maintaining of balance between their personal and professional life.

**Keywords-** Chi-Square Test, Graphical Representation, Testing of Hypothesis, Level of significance.

## I. INTRODUCTION

A women employee has become an important subject since the time has changed from men earning. The family living in today's world where both men and women equally share the responsibility of earning for the betterment of their family life. Hence it is for the betterment of their family life hence it is a very necessary to know how the women balance professional and domestic life.

As work demands have increased and longer working hours has become the reality work life balance issue has gained increasing attention. In this competitive world the working women have grabbed the attention on them because working women in

number has been increasing towards different category of professional work opportunities. in professional there will be different expectation and they have to manage them without compromising their personal life expectation.

In olden days women had major roll in home as they have to take care of their children and old parents and relatives in case of joint family setup. The male's mindset that time was that the women had to take care of family and all the home needs but nowadays the situation has changed and women came out go for the professional and has created a strong identify for them. The need for women to work has come out due to various reasons like financial support to the family and economical independence to them.

The exposure to women in education and technology, increase of nuclear family setup and joint commitment. Women should be able to have job satisfaction and at the same time the able to grow up in his carrier when a working woman is able to achieve and enjoy her professional and personal life. It means she has positive work in this life.

## II. OBJECTIVES

- To study independent between Area and Marital status.
- To study independent between Age and marital status.
- To check study independence between education and purpose of doing job.
- To find out relation between area and opportunities at your work.
- To study independent between marital status with working sector.
- To study independent between marital status with salary and education.
- To study independent between working year and salary.
- To study earning money enhances working mother's position at home and in society.
- To study independent between working sector and marital status.
- To study independent between achieved your goal in your work.

## III. METHODOLOGY



Fig 1. Data collection.

The main objective of our project is study problem of working women in kolhapur district. For this study both the qualitative and quantitative methods are used for data collection. Primary data was collected with help of survey technique through questionnaire. We collect 150 samples for our project. Then questionnaire were filled out by 150 women's.

Personal observation and questionnaire technique was used Questionnaire was carried out to collect the information about working place. We collect rural urban data from Kolhapur area.

### 1. Statistical Software:

- Ms – Excel
- Ms – Word

### 2. Statistical Tools:

- Graphical tools: Bar diagram , Pie chart .
- Test : Chi square for independent of attributes .
- Non parametric test : kruskal wallis test , mann whitney U-test .

## IV. GRAPHICAL REPRESENTATION

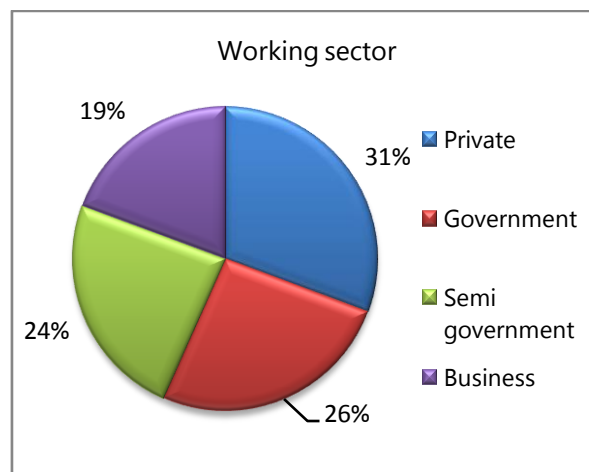


Fig 2. Distribution of working women in several sectors.

Table 1. Distribution of working women in several sectors.

Working sector	No of women
Private	46
Government	39
Semi government	36
Business	29
Total	150

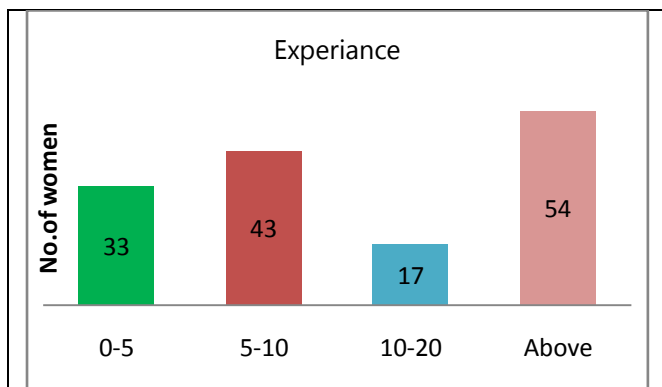


Fig 3. Working experiance.

Table 2. Distribution of working women’s experiance

working year	No of women
0-5	33
5-10	43
10-20	17
Above	54
Total	150

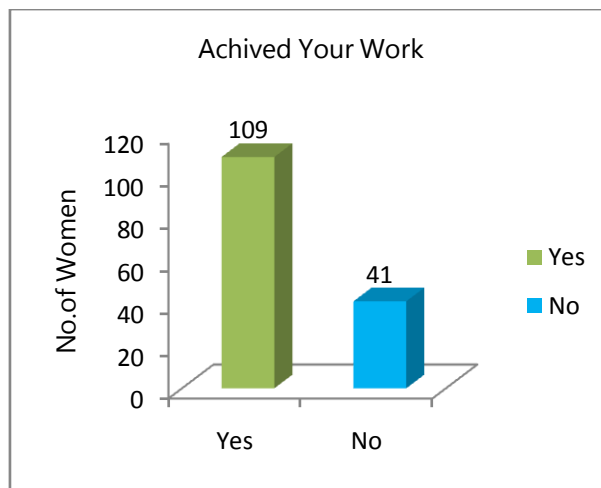


Fig 5. Responses about achived goal

Table 4. Distribution of Responses about achieving goal

Achived your goal	No of women
Yes	109
No	41
Total	150

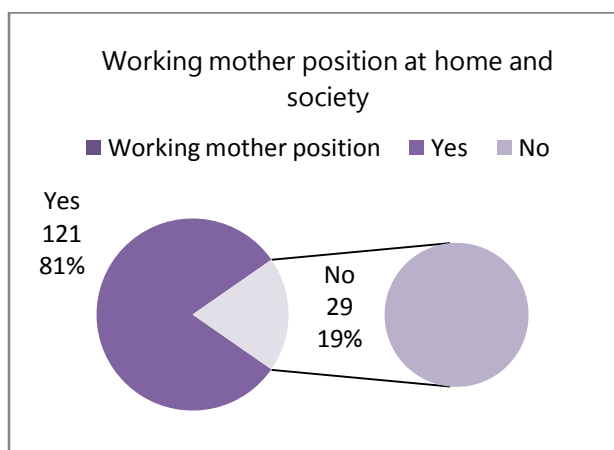


Fig 4. Working mother position in home and Society.

Table 3. Working mother position.

Working mother position	No of women
Yes	121
No	29
Total	150

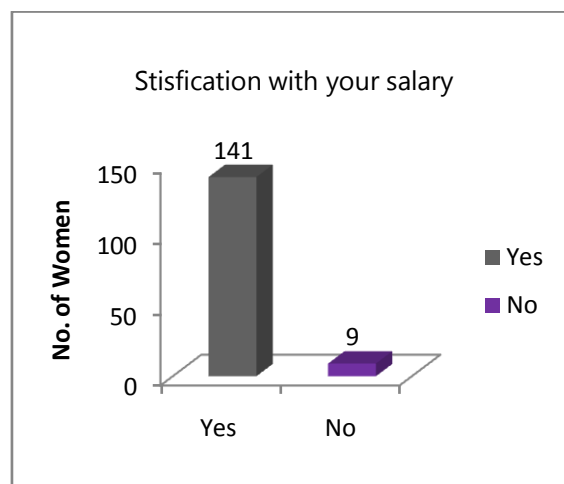


Fig 6. Responses about satification with salary.

Table 5. Distribution of Responses about satification with salary.

Satisfy with your salary	No. of women
Yes	141
No	9
Total	150

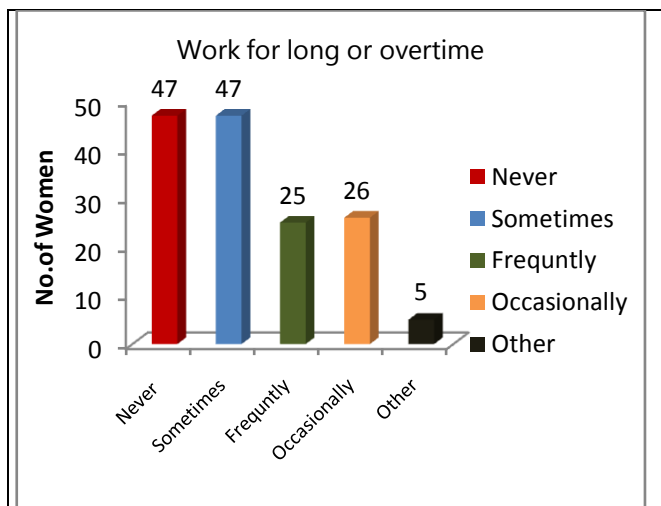


Fig 7. Distribution of women's Overtime.

Table 6. Distribution of women's according to their overtime.

Work for long hours or overtime	No. of women
Never	47
Sometimes	47
Frequently	25
Occasionally	26
Other	5
Total	150

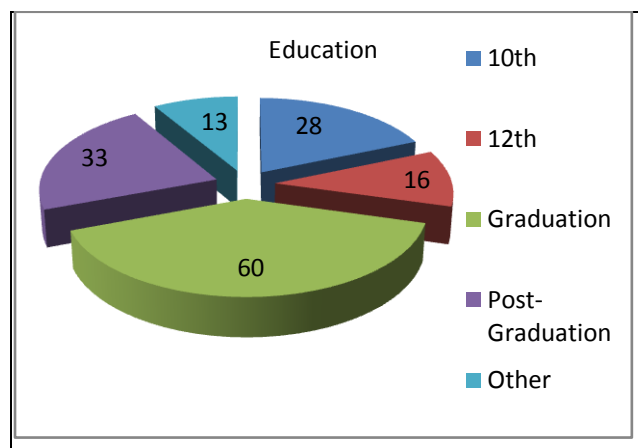


Fig 8. Education of working women.

Table 7. Distribution of working womens according to their education

Education	No. of women
10th	28
12th	16
Graduation	60
Post-Graduation	33
Other	13
Total	150

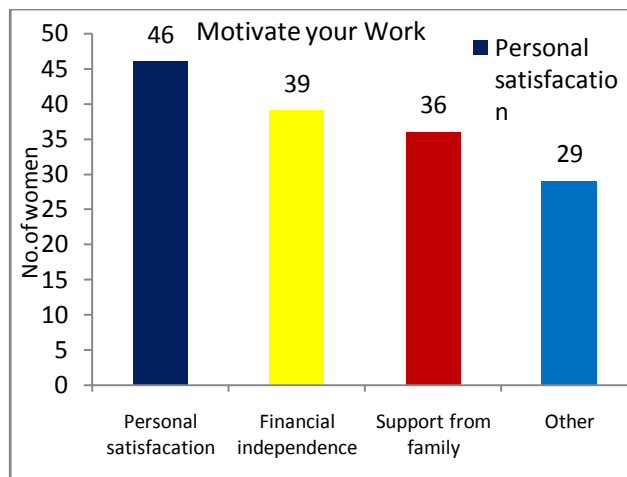


Fig 9. Distribution of motivation of work

Table 8. Distribution of motivation of work

Motivate Your work	No. of women
Personal satisfaction	46
Financial independence	39
Support from family	36
Other	29
Total	150

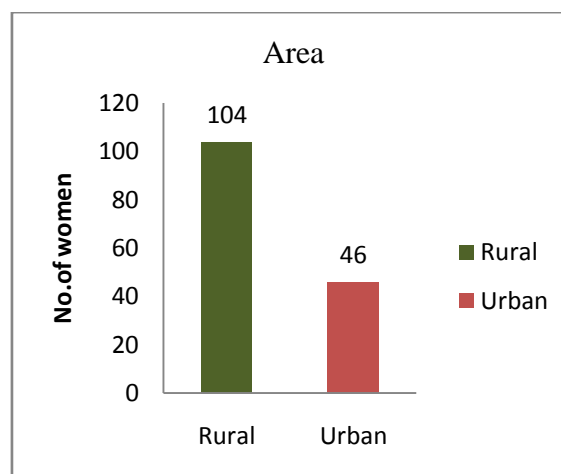


Fig 10. Area wise distribution of working women's.

Tab1e 9. Area wise distribution of working women's.

Area	No. of women
Rural	104
Urban	46
Total	150

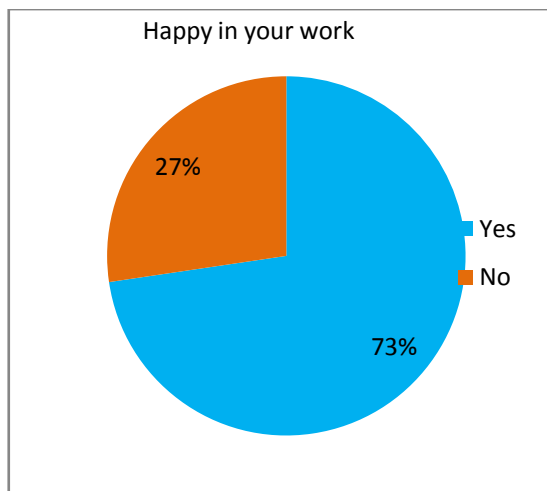


Fig 11. Responses of Happiness in work .

Table 10. distribution of Responses of Happiness in work.

Happy in your work	No.of women
Yes	109
No	41
Tota	150

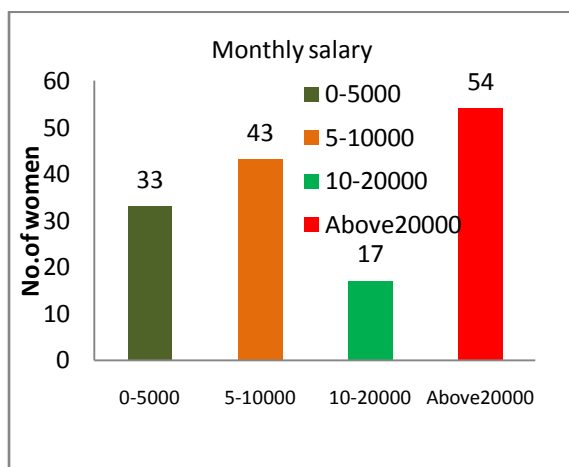


Fig 12. Distribution of salaries.

Table 11. Distribution of salaries.

Monthly salary	No. of women
0-5000	33
5-10000	43
10-20000	17
Above20000	54
Total	150

## V. TESTING OF HYPOTHESIS

### Chi-square Test:

#### 1. Test for independence of marital status and Area

H0: The attributes marital status and Area are independent v/s

H1: The attributes marital status and Area are not independent

$\alpha$ =Level of significance = 5%

The test statistic:  $\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$

Table 12. Observation Table.

Marital status	Area			Total
	unmarried	married	Total	
rural	87	34	121	
urban	17	12	29	
Total	104	46	150	

$\chi^2$  calculated= 1.94038788

As 5% level of significance with 1 degrees of freedom, chi-square tabulated is,

$\chi^2$  tabulated= 3.841459 and  $\chi^2$  calculated <  $\chi^2$  tabulated

#### 2. Test for independent of age and marital status:

H0: The attributes Age and Marital Status are independent v/s

H1: The attributes Domestic activity and age are not independent

$\alpha$ = Level of significance = 5%

Table 13. Observation Table.

Age	Domestic Activity				Total
	Less than two hours	Two four hours	Four six hours	More than six hours	
20-30	7	12	11	6	36
30-40	9	9	12	14	44
40-50	4	16	16	14	50
above50	4	6	5	5	20
Total	24	43	54	39	150

$\chi^2$  calculated = 8.44 and at 5% level of significance and with 9 degrees of freedom, chi-square tabulated value is,

$\chi^2$  tabulated = 15.03423 and  $\chi^2$  calculated <  $\chi^2$  tabulated

**3. Testing of independence of purpose of doing the job and education**

H0: The attributes Education and purpose of doing job are independent v/s

H1: The attributes Education and purpose of doing job are not independent

$\alpha$  = Level of significance = 5%

Table 14. Observation Table.

Education	Purpose of doing the job				Total
	For earning money	For Passion	there is no other	other	
10th	15	5	2	6	28
12th	9	5	0	2	16
Graduation	27	28	5	0	60
Post graduation	14	19	0	0	33
Other	11	1	1	0	13
total	76	58	8	8	150

$\chi^2_{\text{calculated}} = 27.63$

At 5% level of significance and with 12 degrees of freedom, chi-square tabulated value is,

$\chi^2_{\text{tabulated}} = 21.02607$

$\chi^2_{\text{calculated}} > \chi^2_{\text{tabulated}}$

**4. Testing of independence Monthly salary and Age:**

H0: The attributes age and monthly salary are independent v/s

H1: The attributes age and monthly salary are not independent

$\alpha$  = Level of significance = 5%

Table 15. Observation table.

Age	Monthly Salary				Total
	0-5000	5000-10000	10000-20000	Above 20000	
20-30	3	18	5	4	30
30-40	7	11	7	19	44
40-50	1	16	2	21	40
above 50	9	18	5	4	36
Total	20	63	19	48	150

$\chi^2_{\text{calculated}} = \sum(O_i - E_i)^2 / E_i = 24.2439$  and at 5% level of significance with 9 degrees of freedom, chi-square is,

$\chi^2_{\text{tabulated}} = 23.58935$

$\chi^2_{\text{calculated}} > \chi^2_{\text{tabulated}}$

**5. Testing of independence marital status and family type:**

H0: The attributes are marital status and family type is independent v/s

H1: The attributes are marital status and family type is not independent

$\alpha$  = level of significance = 5%

Table 16. Observation table.

Marital Status	Family Type			Total
	Married	Join	Nuclear	
Married	55	66	66	121
Unmarried	9	20	20	29
Total	64	88	88	150

$\chi^2_{\text{calculated}} = \sum(O_i - E_i)^2 / E_i = 2.014694357$  And at 5% level of significance with 1 degrees of freedom, chi-square is,

$\chi^2_{\text{tabulated}} = 7.879438691$  and  $\chi^2_{\text{calculated}} < \chi^2_{\text{tabulated}}$

**6. Testing of independence of working year and sector:**

H0: The attributes working year and sectors are independent v/s

H1: The attributes working year and sectors are not independent

$\alpha$  = level of significance = 5%

Table 17. Observation table.

Years	Sector				Total
	Private	Government	Semi government	Business	
0-5 years	25	18	7	5	55
5-10 years	6	8	23	22	59
10-20 years	3	0	1	2	6
above	12	13	5	0	30
Total	46	39	36	29	150

Domestic Activity					
Overtime And Holidays	less than two hours	two - four hours	four- six hours	more than six hours	Total
Never	6	7	15	19	47
Sometime	10	17	11	9	47
Frequently	3	9	5	8	25
Occasionally	4	8	13	1	26
Other	1	2	0	2	5
Total	24	43	44	39	150

$\chi^2_{calculated} = \sum(O_i - E_i)^2 / E_i = 47.59$  and at 5% level of significance with 9 degrees of freedom, chi-square is,  $\chi^2_{tabulated} = 23.58935078$  and  $\chi^2_{calculated} < \chi^2_{tabulated}$

factor that motivate your work					
Working year	Personal satisfaction	financial independence	support from family	other	Total
0-5 years	11	8	10	9	38
5-10 years	18	14	17	12	61
10-20 years	12	14	9	5	40
above	5	3	0	3	11
Total	46	39	36	29	150

**7. Testing of independence of working year and motivate your work:**

H0: The attributes are working year and factor that motivate your work are independent v/s  
 H1: The attributes are working year and factor that motivate your work are not independent  
 $\alpha = \text{level of significance} = 5\%$

Table 18. Observation Table.

$\chi^2_{calculated} = \sum(O_i - E_i)^2 / E_i = 3.377863$   
 At 5% level of significance with 9 degrees of freedom, chi-square is,  
 $\chi^2_{tabulated} = 23.58935078$  and  $\chi^2_{calculated} < \chi^2_{tabulated}$

**8. Testing of independent of over time, holidays and domestic activity:**

H0: The attributes over time and holidays and domestic activity are independent v/s

H1: The attributes over time and holidays and domestic activity are not independent  
 $\alpha = \text{level of significance} = 5\%$

Table 19. Observation table.

$\chi^2_{calculated} = \sum(O_i - E_i)^2 / E_i = 20.36432$   
 At 5% level of significance with 12 degrees of freedom, chi-square is,  
 $\chi^2_{tabulated} = 28.29952$  and  $\chi^2_{calculated} < \chi^2_{tabulated}$

**9. Test of independence of monthly salary and satisfy salary:**

Hypothesis:  
 H0: The attributes satisfy salary and monthly salary is independent v/s  
 H1: The attributes satisfy salary and monthly salary is not independent  
 $\alpha = \text{level of significance} = 5\%$

Table 20. Observation table.

		Monthly salary				Total
		0-5000	5000-10000	10000-20000	Above 20000	
Satisfy salary	Yes	29	42	16	54	141
	No	4	4	1	0	9
Total		33	44	17	54	150

$\chi^2_{calculated} = \sum(O_i - E_i)^2 / E_i = 0.34989939$   
 at 5% level of significance with 3 degrees of freedom, chi-square is,  
 $\chi^2_{tabulated} = 12.83815644$  and  $\chi^2_{calculated} < \chi^2_{tabulated}$

**VI. CONCLUSION**

Most of the women working in private sector as compare to Business. Most of working women are in the nuclear family. Area and the working women health are independent. In Kolhapur area more women from urban areas do business. In our 150 data there are 33 women have worked for 0-5 year. Out of our 150 women 109 women have achieved their goals through their work. Women in rural area are more than urban area. 73% of women are happy with their work.



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