The Role of Childcare in Shaping Women's Employment: Insights from Formal and Informal Sectors in Mysuru Taluk of Karnataka

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I. INTRODUCTION

The ability of women to participate in the workforce and achieve career advancement is significantly influenced by childcare arrangements and employment sectors. This study investigates the differences in childcare access and employment outcomes for women working in formal and informal sectors across urban and rural areas. By analyzing data from 200 respondents, the study highlights how childcare arrangements, location, and employment sectors impact women's workforce participation. This research focuses on the specific context of Mysore taluk, utilizing primary survey data collected between July and September 2023. The sample included 200 married women aged 18–54 with at least one child under 10 years old. The analysis focuses on the impact of employment sector, location, and demographic factors on childcare decisions and workforce participation. This research aims to understand how these factors influence women's workforce participation and career advancement.

OBJECTIVE

To compare the experience of women working in different sectors (formal, informal, urban, rural) regarding childcare arrangements and employment outcomes.

II. METHODOLOGY

Comparing Childcare Access and Employment Outcomes for Women in Formal and Informal Sectors Across Urban and Rural Area investigates the differences in childcare arrangements and employment outcomes experienced by women working in different sectors (formal vs. informal) and locations (urban vs. rural), highlighting how these factors influence their ability to participate in the workforce and achieve career advancement. The study surveyed 200 women, examining their employment status, childcare arrangements, and location (urban, rural, or "Hobli," a regional term). A significant portion of the respondents (67%) were not employed. Among working mothers, 26 were in the organized sector and 40 in the unorganized sector.

Table(1.1)
Child care arrangements for mothers with children aged 0-10 years By work status

	Formal Child Care	Informal Child care		Parental Care	
		Family Members	Relatives/ Neighbours	Mother	Father
Working mothers (Observations = 66)					
% Using this type of care	42.8	25.6	35.2	100.0	48.5
Mean hours of care per week	48.0	40.2	38.5	27.5	16.5
Nonworking mothers (Observations = 134)					
% Using this type of care	16.5	21.6	20.2	100	44.5
Mean hours of care per week	40.5	42.6	35.5	38.5	15.8

Some mothers use more than one type of care; therefore, the sum of percentages is greater than 100%. The care hours are the average number of hours that a child aged 0 -10 years was taken care of by the respective caregivers.

This study compares categorical variables like childcare arrangement type (formal center, family care, self-care) across different employment sectors (formal, informal) and geographic locations (urban, rural) using a chi-square test.

Table (1.2)
Location of Respondents

Location	No. of Respondents	Percent
Village	48	24.0
City	106	53.0
Hobli	46	23.0
Total	200	100.0

The above table shows the respondents' locations. Out of the 200 respondents, 53% belonged to the city area (under MMC) , 23% were from Hobli (CT) and 24% were from the village area.

Table (1.3): Working Sector of Women

Sector	No. of Respondents	Percent
Not Applicable	134	67.0
Organized	26	13.0
Unorganized	40	20.0
Total	200	100.0

The above table shows that 67% of the women mothers were not employed. Out of the 66 working mothers, 26 worked in the organized sector, and 40 worked in the unorganized sector.

Table (1.4): Child care arrangements

Type of Childcare	No. of Respondents	Percent
Formal Center	39	19.5
Family Care	59	29.5
Self Care	102	51.0
Total	200	100.0

The above table shows that only 19.5% of the women mothers used formal childcare centers for their children. 51% took take of their child by themselves.

HYPOTHESES:
H0: There is no relationship between the employment sector of women mothers and childcare arrangements.

H1: There is a relationship between the employment sector of women mothers and childcare arrangements.

Table (2.1): Employment Sector * Childcare Crosstabulation

Count					
		Child care			Total
		Formal Center	Family Care	Self Care	
Employment sector	Not Applicable	0	36	98	134
	Organized	24	2	0	26
	Unorganized	15	21	4	40
Total		39	59	102	200

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	154.452[a]	4	.000
Likelihood Ratio	163.961	4	.000
Linear-by-Linear Association	79.745	1	.000
N of Valid Cases	200		
a. 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 5.07.			

The results show the Pearson Chi-Squarevalue of the test statistic is 154.452.The corresponding p-value of the test statistic is so small that it is cut off from display. Instead of "p = 0.000", we write the mathematically correct statement $p < 0.001$.

III. RESULTS

Since the p-value is less than the chosen significance level $\alpha = 0.05$, we reject the null hypothesis and conclude that there is an association between the employment sector of women mothers and childcare arrangements. Based on the results, we can state the following:
There was a significant association between the employment sector of women mothers and childcare arrangements ($X^2(1) = 154.452$, p < .001).
H0: There is no relationship between the Location of women mothers and childcare arrangements.

H1: There is a relationship between the location of women mothers and childcare arrangements.

Table (2.2):Location of Women Mothers * Child care Cross tabulation

Count					
		Child care			Total
		Formal Center	Family Care	Self Care	
Location	Village	2	14	32	48
	City	35	27	44	106
	Hobli	2	18	26	46
Total		39	59	102	200

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.626ª	4	.000
Likelihood Ratio	30.984	4	.000
Linear-by-Linear Association	.504	1	.478
N of Valid Cases	200		
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.97.			

The results show the Pearson Chi-Square value of the test statistic is 27.626.The corresponding p-value of the test statistic is so small that it is cut off from display. Instead of "p = 0.000", we write the mathematically correct statement p < 0.001.

RESULTS

Since the p-value is less than the chosen significance level α = 0.05, we reject the null hypothesis and conclude that there is an association between the location of women mothers and childcare arrangements.
Based on the results, we can state the following:
There was a significant association between the location of women mothers and child care arrangements ($X2(1) = 27.626$, p < .001).
H0: No association exists between the number of hours worked and the employment sector.
H1: There is an association between the number of hours worked and the employment sector.

ANOVA compares mean differences in employment outcomes (e.g., hours worked per week, employment rate) between groups categorized by employment sector and location.

Table (3.1): Number of hours worked and sector employed.

ANOVA					
Working hours per day					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	159.335	2	79.668	564.864	.000
Within Groups	27.785	197	.141		
Total	187.120	199			

The results of the ANOVA show an association between the number of hours worked and the sector employed. The F value obtained is 564.864, and the p-value is <0.001. Thus, the null hypothesis is rejected, and the alternate hypothesis is accepted.

Regression is used to examine the impact of the employment sector and location on the likelihood of being employed while controlling for factors like education level and number of children.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.389[a]	.151	.143	.436
a. Predictors: (Constant), No. of children, Education				

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.698	2	3.349	17.583	.000[b]
	Residual	37.522	197	.190		
	Total	44.220	199			
a. Dependent Variable: Working						
b. Predictors: (Constant), No. of children, Education						

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.011	.154		-.069	.945
	Education	.096	.020	.338	4.852	.000
	No. of children	-.080	.051	-.109	-1.562	.120
a. Dependent Variable: Working						

The employment sector significantly impacts the education and no. of children of women mothers. Hence, the null hypothesis is rejected, and the alternate hypothesis is accepted

IV.   KEY FINDINGS:

The study surveyed 200 women, examining their employment status, childcare arrangements, and location (urban, rural, or "Hobli," a regional term). A significant portion of the respondents (67%) were not employed. Among working mothers, 26 were in the organized sector and 40 in the unorganized sector.

• **Childcare Arrangements:** A majority of women (51%) relied on self-care for their children. Formal childcare centers were used by only 19.5% of respondents, while 29.5% used family care. Working mothers used more formal childcare, while non-working mothers relied more on parental care.

• **Employment Sector and Childcare:** Statistical analysis (Chi-square test) revealed a strong association between a mother's employment sector (formal/informal/unemployed) and her childcare arrangements. Women in the organized sector were more likely to use formal childcare, while those in the unorganized sector often relied on family care or self-care.

• **Location and Childcare:** A significant link was also found between the location of residence (village, city, Hobli) and childcare choices. Urban women were more likely to utilize formal childcare centers compared to women in rural areas.

• **Hours Worked and Employment Sector:** An ANOVA test demonstrated a significant association between the number of hours worked and the employment sector. This suggests that the sector in which a woman works influences her working hours.

• **Impact of Education and Number of Children on Employment:** Regression analysis explored the impact of education level and the number of children on the likelihood of being employed. Education level showed a positive correlation with employment, while the number of children had a negative, though not statistically significant, impact.

STATISTICAL SIGNIFICANCE

The Chi-square tests for the relationship between employment sector/location and childcare arrangements yielded p-values less than 0.001, indicating a highly statistically significant association. The ANOVA test for

hours worked and employment sector also showed a statistically significant result (p<0.001). The regression analysis showed a statistically significant relationship between education and employment (p<0.001).

V. CONCLUSION

The study provides compelling evidence of the interconnectedness of childcare arrangements, employment sector, and location for women. The findings highlight the challenges women face in balancing work and family responsibilities, particularly in the unorganized sector and rural areas. The lack of access to formal childcare options may limit women's ability to participate in the workforce or advance their careers. Further research could explore the specific barriers women face in accessing quality childcare and the potential impact of policy interventions aimed at improving childcare access and supporting working mothers.

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