The International Journal of Indian Psychology
ISSN 2348-5396 (Online) | ISSN: 2349-3429 (Print)
Volume 13, Issue 4, October- December, 2025
DIP: 18.01.152.20251304, DOI: 10.25215/1304.152
https://www.ijip.in

Research Paper

Differential Mental Health Outcomes Among Employed and Unemployed Women: A Comparative Study in Urban Ahmedabad

Babita Dwivedi[1]*, Dr. Samir J. Patel[2]

ABSTRACT

The present study examined the differences in mental health between employed and unemployed women and explored the influence of socio-demographic and socioeconomic variables on their well-being. A random sample of 150 adult women (75 employed and 75 unemployed), aged 20–50 years, was selected from urban regions of Ahmedabad, Gujarat. The Mental Health Inventory (Jagdish & Srivastava, 1983) and the Socioeconomic Status Scale (Aggarwal, Bansal, & Kumar, 2005) were used to measure mental health and socioeconomic background, respectively. Results indicated that employed women reported significantly higher overall mental health, life satisfaction, and emotional stability compared to unemployed women. Socioeconomic status and education were positively correlated with mental health, while family size and number of children were negatively correlated. Employment status and SES emerged as the strongest predictors of mental health outcomes. The findings underscore the significance of economic and social empowerment in enhancing women's psychological well-being.

Keywords: *Employed women, Unemployed women, Socioeconomic status, Mental health, Comparative study, Urban Ahmedabad*

In recent decades, women in India have increasingly moved beyond traditional homemaking roles and entered a diverse range of educational and professional fields. This transformation has been accompanied by significant social, economic, and cultural shifts that have reshaped gender expectations and women's sense of identity. The expansion of women's participation in education and the workforce has led to enhanced financial independence, social mobility, and self-expression. However, this progress has also introduced complex challenges related to balancing occupational, familial, and domestic responsibilities, often resulting in increased stress and emotional strain.

Working women frequently face the dual demands of professional commitments and household duties, leading to role conflict and mental fatigue. The constant negotiation between these roles can create contradictory expectations that elevate anxiety and undermine psychological well-being. Despite their growing participation in higher education and

[1]Research Scholar, P.G. Department of Psychology, S.P. University, V.V. Nagar, Gujarat
[2]Professor, P.G. Department of Psychology, S.P. University, V.V. Nagar, Gujarat
*Corresponding Author

Received: November 05, 2025; Revision Received: November 27, 2025; Accepted: December 01, 2025

employment, many women continue to operate within the constraints of traditional cultural norms that emphasize domestic caregiving and family cohesion. Consequently, women are often required to make continual adjustments in their personal and professional lives, which can adversely affect their mental health.

According to the World Health Organization (1948), health is not merely the absence of disease or infirmity but a state of complete physical, mental, and social well-being. Mental health, therefore, forms a crucial component of overall well-being and directly influences an individual's behavior, productivity, and capacity to cope with life's challenges. In this context, Bhatia (1982) defined mental health as the ability to make appropriate social and emotional adaptations to one's environment in a realistic manner—essentially, the ability to face and accept life's realities with resilience. For women, maintaining good mental health means effectively managing multiple roles, adapting to social expectations, and sustaining personal fulfillment amid competing demands.

Previous studies have highlighted that the intersection of professional and familial responsibilities often poses significant challenges for women. Rastogi and Kashyap (2001) found that occupational stress had a strong negative relationship with the mental health of married working women, especially those employed as teachers, nurses, and clerical staff. Similarly, Ojha and Rani (2004) reported that life stress was closely linked to poor self-evaluation and reduced personality integration among both working and non-working women. Their findings suggest that excessive workload, strained interpersonal relationships, and negative societal attitudes contribute substantially to women's psychological distress, regardless of employment status.

While these studies have contributed valuable insights into women's occupational stress, relatively few have directly compared the overall mental health outcomes of employed and unemployed women within the evolving urban context of modern India. Rapid urbanization, changing family structures, and shifting gender norms in cities such as Ahmedabad provide a unique environment in which the mental health implications of employment can be meaningfully examined.

Therefore, the present study aims to address this gap by comparing the mental health of employed and unemployed women in urban Ahmedabad and examining how socio-demographic and socio-economic factors influence their psychological well-being. This investigation contributes to understanding how economic participation, educational attainment, and family responsibilities collectively shape women's mental health in the context of contemporary Indian society.

Objectives of the Study

The present study was undertaken with the following specific objectives:

1. To compare the mental health status of employed and unemployed women.
2. To examine the relationship between selected socio-demographic variables (age, education, number of children, family size) and women's mental health.
3. To assess the impact of socio-economic status (SES) on the mental health of employed and unemployed women.
4. To determine the combined predictive effect of socio-demographic and socio-economic factors on women's overall mental health outcomes.

Hypotheses of the Study

Based on the objectives and review of literature, the following hypotheses were formulated:

- H_1: There will be a significant difference in the overall mental health status between employed and unemployed women.
- H_2: Socio-demographic variables such as age, education, number of children, and family size will be significantly correlated with women's mental health.
- H_3: Socio-economic status (SES) will have a significant positive relationship with women's mental health.
- H_4: Employment status, socio-economic status, and socio-demographic variables will jointly predict women's mental health outcomes.

METHODOLOGY

The present research adopted a comparative descriptive design to examine differences in the mental health of employed and unemployed women. This design was chosen because the study aimed to explore existing variations and associations among variables rather than manipulate them experimentally. The comparative framework allowed for systematic evaluation of how employment status, socio-demographic factors, and socio-economic conditions influence mental health outcomes in adult women. Descriptive and inferential statistical techniques were employed to identify group differences and relationships among variables.

Sample

The target population comprised adult women residing in the urban regions of Ahmedabad city, Gujarat, aged between 20 and 50 years. A total of 150 participants were selected using a simple random sampling method to ensure representation across different socio-economic strata. The sample included 75 employed (working) and 75 unemployed (non-working) women.

Participants were drawn from diverse vocational, educational, and residential backgrounds, such as teaching, clerical, service, and self-employed professions, as well as homemakers from various income and family structures. This heterogeneity was intended to provide a balanced comparison between the two groups and enhance the generalizability of findings within similar urban contexts.

Instruments

The current research used two devices for data collection:

- Mental Health Inventory (MHI) created by Jagdish and Srivastava in 1983 The MHI was used to find out how mentally healthy the people who answered were. The inventory assesses six essential elements of mental health: positive self-assessment, perception of reality, personality integration, autonomy, group-oriented disposition, and environmental mastery. There are 56 objects, and each one is scored on a scale of one to three. A higher score means greater mental wellness. The inventory has been extensively used in Indian settings and has proven reliability and validity. The stated split-half reliability coefficient is 0.73, and the test–retest reliability is 0.82, which shows that it is a good psychometric test.
- Aggarwal, Bansal, and Kumar (2005) created the Socio-Economic Status Scale (Urban). The Socio-Economic Status (SES) Scale was used to find out about the respondents' socio-economic backgrounds. The measure looks at a number of

factors, such as education, job, family income, living circumstances, and assets. The tool gives a combined SES score that puts people into distinct socio-economic groups. The scale has shown to be quite reliable and is thought to be appropriate.

Procedure

Prior to data collection, formal permission was obtained from relevant institutional and organizational authorities to contact potential participants. The purpose of the study was explained clearly to each participant, and informed consent was obtained before administering the instruments. Participants were assured of complete confidentiality, anonymity, and voluntary participation.

The data were collected individually in a quiet and comfortable environment, such as workplace offices or participants' residences, to ensure adequate concentration. Each participant received a standardized set of questionnaires—the *Mental Health Inventory (MHI)*, the *Socio-Economic Status Scale*, and the *Personal Data Sheet*. Clear instructions were provided before administration, and additional clarification was offered when necessary. On average, each session lasted 25–30 minutes.

All completed questionnaires were scored according to the respective manuals. Raw scores were tabulated, and the data were verified for accuracy prior to statistical analysis. Ethical considerations regarding privacy, informed consent, and responsible data handling were strictly followed throughout the research process.

Many pediatricians and pediatric surgeons of the city were contacted and subjects were selected from their outpatient clinics so as to collect data on chronically ill children and their mothers. These children and their mothers were interrogated individually and relevant information was obtained using different instruments. Healthy children and their mothers were contacted at their homes.

Data Analysis

The collected data were subjected to both descriptive and inferential statistical analyses using SPSS software.

The collected data were analyzed using SPSS through both descriptive and inferential statistics. Descriptive statistics, including mean, standard deviation, and frequency distribution, were used to summarize demographic details and mental health scores. Inferential analyses involved independent-samples t-tests to compare mental health between employed and unemployed women, Pearson's correlation coefficients to explore relationships among socio-demographic, socio-economic, and mental health variables, and multiple regression analysis to determine the combined predictive influence of employment status, socioeconomic status, and demographic factors on mental health outcomes. All analyses were performed at a 0.05 significance level, and the results were interpreted in line with the study's hypotheses.

RESULTS

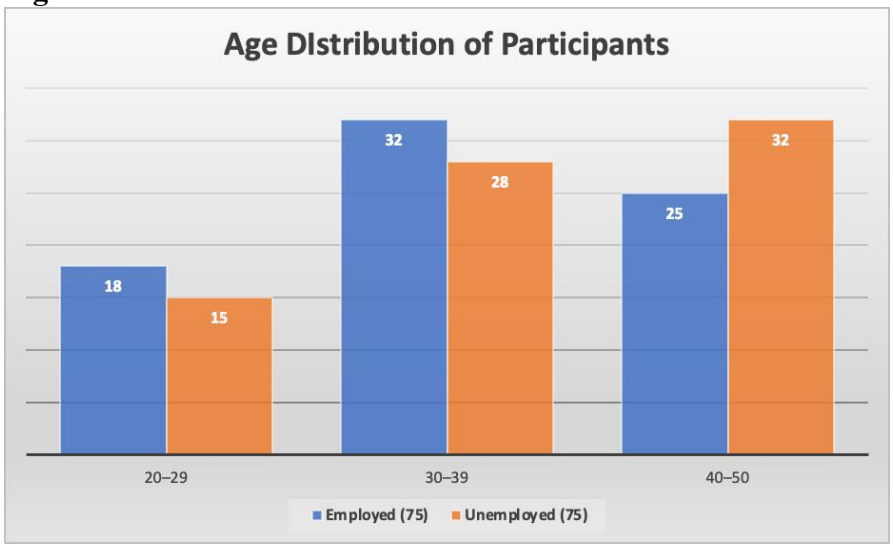
The present section reports the descriptive statistics, inferential analyses, and regression results addressing the hypotheses of the study. Statistical analyses were performed to examine differences in mental health outcomes between employed and unemployed women and to explore associations with socioeconomic and demographic factors.

Participant Demographics and Characteristics:

1. Age Distribution

Figure 1 presents the age distribution of employed and unemployed women participants. Among employed women, the majority (32) were in the 30–39 age group, followed by 25 participants aged 40–50 years and 18 participants aged 20–29 years. Similarly, in the unemployed group, 28 participants belonged to the 30–39 age range, 32 were aged 40–50 years, and 15 were between 20–29 years. These data indicate that most participants in both groups were middle-aged women.

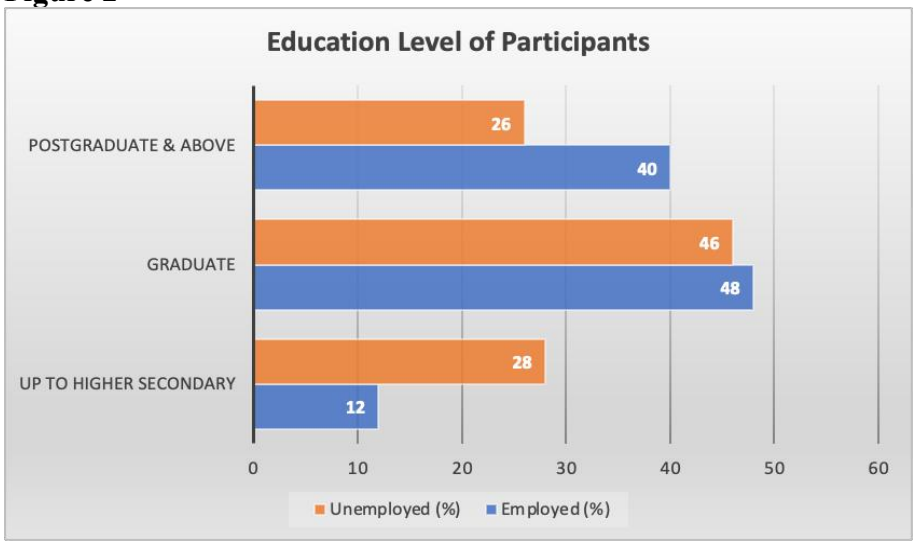
Figure 1



2. Education level of Participants

Figure 2 displays the educational levels of the participants. A higher proportion of employed women were graduates (48%) and postgraduates or above (40%) compared to unemployed women (46% and 26%, respectively). Conversely, a larger percentage of unemployed women (28%) had education only up to higher secondary, compared to 12% of employed women. This pattern suggests that higher educational attainment was more common among the employed group.

Figure 2



3. Socioeconomic status distribution

Figure 3 illustrates the socioeconomic status (SES) distribution. The majority of both employed and unemployed participants belonged to the middle SES category (employed = 42%; unemployed = 40%). A smaller proportion of participants were in the low SES group (employed = 18%; unemployed = 25%), while high SES representation was comparatively lower (employed = 15%; unemployed = 10%). Overall, the sample reflected predominantly middle socioeconomic status across both the groups.

Figure 3

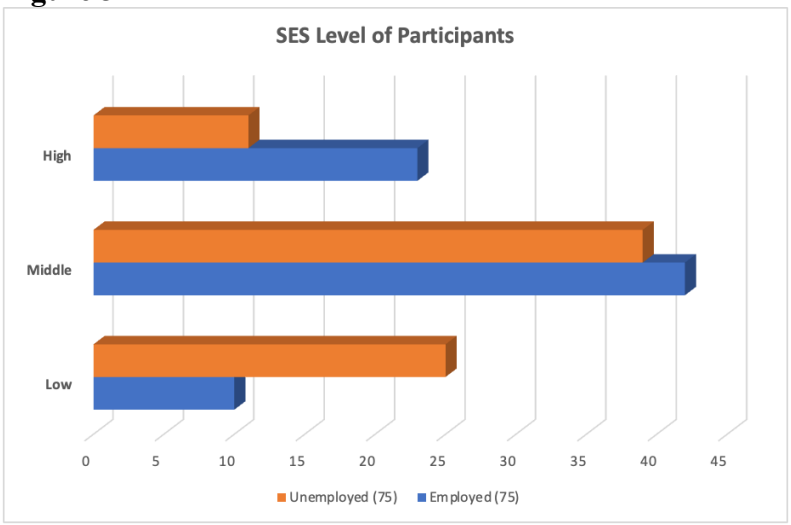


Table no.1 Descriptive Statistics of Employed and Unemployed Women (N = 150)

Variable	**Employed (n = 75)**	**Unemployed (n = 75)**	**Total (N = 150)**
Continuous Variables (M ± SD)			
Age (years)	34.2 ± 7.1	35.6 ± 8.2	34.9 ± 7.7
Family size	4.3 ± 1.2	4.8 ± 1.3	4.6 ± 1.3
No. of children	1.8 ± 0.9	2.2 ± 1.0	2.0 ± 1.0
Monthly income (₹)	55,200 ± 18,400	18,600 ± 7,800	—
SES score	54.3 ± 7.5	46.8 ± 8.1	50.6 ± 8.9
Categorical Variables (% within group)			
Graduate and above	64.0	42.6	53.3
Married	72.0	84.0	78.0

Note. SES = socioeconomic status. M = mean; SD = standard deviation.

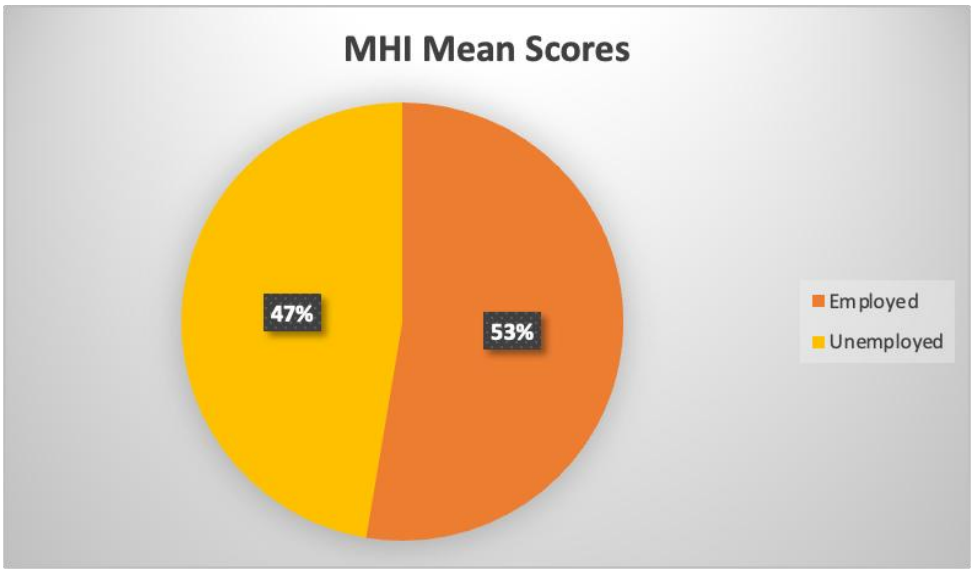
1. Group Comparison: Mental Health Differences

- H_1: An independent-samples *t* test was conducted to compare the mean mental health scores of employed and unemployed women. The results indicated significant differences across the total MHI score and most sub scales.

Table no. 2 Comparison of Mental Health Scores Between Employed and Unemployed Women

Measure	Employed M ± SD	Unemployed M ± SD	t(148)	p	Cohen's d
MHI Total	158.4 ± 18.2	142.6 ± 21.4	4.91	< .001	0.80
Anxiety	24.6 ± 5.4	28.2 ± 6.1	–3.69	< .001	0.60
Depression	26.1 ± 4.9	29.5 ± 6.0	–3.52	< .001	0.57
Emotional control	22.8 ± 4.5	20.1 ± 4.8	3.36	.001	0.55
Positive affect	25.7 ± 5.3	22.9 ± 6.0	2.93	.004	0.48
Life satisfaction	27.4 ± 4.9	23.8 ± 5.1	4.33	< .001	0.70

Note: MHI = Mental Health Inventory. p values < .05 are considered statistically significant.



There was a significant difference in the overall mental health between employed and unemployed women, supporting H_1. Employed women (M = 158.4, SD = 18.2) reported significantly higher mental health compared to unemployed women (M = 142.6, SD = 21.4), $t(148) = 4.91$, $p < .001$, $d = 0.80$. Similarly, employed participants exhibited significantly lower anxiety and depression and higher emotional control, positive affect, and life satisfaction. These results indicate that employment contributes positively to mental well-being among women in urban Ahmedabad.

Table no. 3 Correlations Between MHI Total Score and Socio-Demographic Variables (N = 150)

Variable	r	p	Direction
Age	–.08	.32	ns
Education level	.24	.004	Positive
Family size	–.18	.02	Negative
Number of children	–.16	.04	Negative

Note : r = Pearson's correlation coefficient, ns = not significant.

Pearson's correlation coefficients were computed to test H_2 and H_3, which proposed that socio-demographic variables (age, education, family structure, income) and socioeconomic status (SES) would be significantly related to mental health outcomes. Results revealed that

SES, education level, and income were positively correlated with mental health, while family size and number of children were negatively associated. These findings provide support for H_2 (significant relationships between socio-demographic factors and mental health) and H_3 (higher SES is associated with better mental health). Age showed no significant relationship with mental health.

Table 4 Multiple Regression Predicting Mental Health (MHI Total)

Predictor	β	t	p	Interpretation
Employment status (0 = unemployed, 1 = employed)	.38	5.01	< .001	Significant positive predictor
SES score	.33	4.23	< .001	Higher SES → better mental health
Age	–.07	–0.94	.35	Not significant
Education level	.16	2.11	.036	Positive predictor
Family size	–.12	–1.83	.069	Marginally negative
Monthly income	.09	1.26	.21	Not significant

Note. β = standardized regression coefficient; SES = socioeconomic status.
R^2 = .37, Adjusted R^2 = .35, $F(5,144) = 16.90$, $p < .001$.

To examine H_4, which proposed that employment status, SES, and demographic factors collectively predict women's mental health, a multiple linear regression analysis was performed with MHI total score as the dependent variable.

The overall model was significant, explaining 37% of the variance in mental health scores ($F(5,144) = 16.90$, $p < .001$). Employment status (β = .38, $p < .001$) and SES (β = .33, $p < .001$) emerged as the strongest predictors, confirming H_4that employment and socioeconomic conditions jointly predict women's mental health. Education also had a small but significant positive effect, while age, family size, and income were not significant predictors in the model.

DISCUSSION

The present study aimed to compare the mental health of employed and unemployed women residing in urban Ahmedabad and to examine the influence of socio-demographic and socioeconomic variables on their psychological well-being. The findings revealed clear differences between the two groups, with employed women exhibiting higher overall mental health and greater emotional stability than their unemployed counterparts. These findings provide empirical support for the hypotheses proposed in the study and align with existing psychological and sociological literature on women's mental health and role functioning in contemporary Indian society.

The results confirmed Hypothesis 1, indicating a significant disparity in mental health between employed and unemployed women. Employed participants scored higher on the Mental Health Inventory, particularly in domains of emotional control, positive affect, and life satisfaction. These results suggest that occupational engagement contributes to psychological resilience, likely by offering women a structured routine, financial independence, and opportunities for self-realization. Unemployed women, on the other hand, reported higher anxiety and depression levels, reflecting psychological strain possibly arising from economic dependence and limited social interaction.

These findings are consistent with Bhatia's (1982) conceptualization of mental health as the ability to make realistic social and emotional adjustments. Employment seems to strengthen this adaptive capacity by expanding women's social networks and enhancing their sense of competence. Similarly, the World Health Organization (WHO, 1948) defined mental health as a state of complete physical, mental, and social well-being, not merely the absence of illness. In this context, employment operates as a social determinant of well-being, improving women's ability to meet family and societal expectations with confidence.

The positive association found between employment and mental health echoes earlier empirical evidence. Rastogi and Kashyap (2001) reported that occupational stress inversely affects the mental health of married working women, yet those with fulfilling employment roles demonstrated better psychological adjustment. Likewise, Ojha and Rani (2004) found that life stress was strongly linked to poor self-evaluation and personality integration in both working and non-working women, emphasizing that employment quality and social perceptions of women's roles critically shape psychological outcomes. The present findings thus reinforce prior evidence that gainful employment, despite associated stress, generally enhances mental well-being when coupled with adequate role balance and family support.
The results partially supported Hypotheses 2 and 3, revealing that education, income, and socioeconomic status (SES) were positively correlated with mental health, whereas family size and number of children were negatively correlated. Age showed no significant relationship. These patterns are theoretically meaningful within the Indian social context. Women with higher SES and education often enjoy better access to healthcare, social support, and self-development opportunities, which foster mental well-being. Conversely, larger family size and childcare responsibilities increase emotional strain and role overload, as suggested by Role Strain Theory.

This aligns with the social-psychological observation that education not only broadens economic opportunities but also enhances self-efficacy, decision-making power, and emotional regulation. The findings also corroborate prior Indian research (e.g., Rastogi & Kashyap, 2001; Ojha & Rani, 2004) indicating that women's mental health is shaped by an intricate interaction of personal, familial, and socioeconomic factors.

The multiple regression results supported Hypothesis 4, indicating that employment status and SES jointly predicted women's mental health, explaining 37% of the variance in MHI scores. Education contributed modestly but significantly, suggesting that psychological well-being is determined by both structural and individual resources. The nonsignificance of age and income as independent predictors may indicate that their effects are mediated by broader socioeconomic and educational contexts.

These results substantiate Social Determinants of Health Theory (Marmot, 2005), which emphasizes the role of socioeconomic inequalities in mental well-being. Within the Indian framework, where gendered expectations persist, SES acts as both a buffer and an enabler: women from higher socioeconomic backgrounds are more likely to access support networks and employment opportunities that enhance self-worth and psychological security.

The observed employment advantage corresponds with global and Indian trends documented in prior literature. Studies by Sharma and Sharma (2019) and Khanna and Arora (2020) reported that employed women experience greater life satisfaction and reduced depressive symptoms due to increased autonomy and social recognition. Similarly, Thoits (2011) and

Barnett and Hyde (2001) demonstrated that multiple role engagement (e.g., worker, spouse, mother) can enhance psychological resources when role demands are balanced.

However, these findings also highlight the dual nature of employment: while it provides empowerment and self-fulfillment, it may simultaneously expose women to role conflict and stress if societal support structures remain weak. The fact that employed women still reported moderate anxiety and emotional strain suggests that role enhancement benefits coexist with persistent pressures from traditional domestic expectations, a phenomenon well documented in gender studies literature.

CONCLUSION

In conclusion, the present study confirms that employment and socioeconomic empowerment are key determinants of women's mental health in urban India. Employed women exhibited better overall psychological well-being, higher life satisfaction, and lower depression compared to unemployed women. Education and socioeconomic status further enhanced mental health outcomes, while larger family responsibilities exerted mild negative effects. These findings echo classic Indian research (e.g., Bhatia, 1982; Rastogi & Kashyap, 2001; Ojha & Rani, 2004) and contemporary global evidence, emphasizing that women's psychological well-being is intricately linked to their economic independence and social environment.

Promoting employment opportunities, equitable social structures, and mental health resources for women is thus not only a matter of economic progress but a cornerstone of holistic human development.

Implications

1. **Theoretical Implications:** The findings affirm Role Enhancement Theory (Barnett & Hyde, 2001), which posits that multiple social roles can improve mental health by providing diverse sources of identity and satisfaction. Employment, when aligned with supportive social and familial environments, enriches women's psychological functioning. Conversely, Role Strain Theory remains relevant in explaining the emotional costs of juggling occupational and domestic responsibilities, particularly in patriarchal cultural contexts like India. Thus, the study underscores a dual theoretical understanding: while employment can enhance self-esteem and life satisfaction, its mental health benefits are maximized only when role overload and societal gender expectations are mitigated through adequate institutional and familial support.
2. ***Practical and Policy Implications***
   The results hold important implications for both policy and practice. Programs promoting women's economic empowerment should integrate mental health awareness and stress-management interventions. Community organizations and governmental agencies could provide:
   - vocational training to facilitate women's entry into stable employment,
   - flexible work options to accommodate family roles, and
   - community-based counseling and support groups to mitigate stress associated with dual role responsibilities.

Educational initiatives that promote gender equality and psychological well-being can further empower women to pursue fulfilling careers without compromising mental health.

Limitations

While the study contributes valuable insights, it has some limitations. The cross-sectional design precludes causal conclusions regarding the directionality of the observed relationships. The sample was restricted to urban Ahmedabad**,** which may not represent rural or semi-urban populations where social dynamics differ. Data relied on self-reported inventories, which can be affected by social desirability bias. Furthermore, factors such as marital satisfaction, workplace environment, and social support were not directly measured but may significantly influence mental health.

Future Directions

Future research should adopt longitudinal and mixed-method designs to explore the temporal dynamics and lived experiences of women balancing employment and domestic roles. Including variables such as marital relationship quality, workplace stress, and perceived social support would provide a more holistic understanding of women's mental health. Comparative studies across rural–urban divides and diverse cultural regions of India would also enhance the external validity of findings.

REFERENCES

Aggarwal, O. P., Bansal, A. K., & Kumar, R. (2005). *A new instrument (scale) for measuring the socioeconomic status of a family: Preliminary study.* Indian Journal of Community Medicine, 30(4), 111–114.

Bhatia, H. R. (1982). *Elements of social psychology.* Bombay: Somaiya Publications.

Choudhary, S., & Singh, R. (2016). Mental health among working and non-working women: A comparative study. *International Journal of Indian Psychology, 3*(4), 45–53. https://doi.org/10.25215/0304.006

Devi, N. (2017). Relationship between socio-economic status and mental health among working women. *International Journal of Advanced Educational Research, 2*(6), 130–134.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London: Sage Publications.

Jagdish, & Srivastava, A. K. (1983). *Mental Health Inventory.* Varanasi: Manovaigyanik Parikshan Sansthan.

Kaur, G., & Kalaramna, A. (2004). Role of well-being and coping in mental health of women. *Journal of Indian Academy of Applied Psychology, 30*(1–2), 57–60.

Kumar, A., & Thomas, A. (2014). Mental health and job stress among working and non-working women: A comparative study. *Indian Journal of Health and Wellbeing, 5*(4), 450–454.

Mahajan, N., & Rastogi, R. (2011). Work stress and mental health among married working women. *Indian Journal of Psychological Science, 2*(2), 45–51.

Mishra, P., & Sinha, S. (2018). The influence of socio-demographic variables on mental health of working women. *Journal of Research in Humanities and Social Science, 6*(9), 32–37.

Ojha, P., & Rani, S. (2004). Life stress and mental health among working and non-working women. *Journal of Community Guidance and Research, 21*(3), 349–356.

Rastogi, R., & Kashyap, K. (2001). A study of occupational stress and mental health among married working women. *Indian Journal of Clinical Psychology, 28*(1), 67–70.

Reddy, M. T., & Ram, U. (2015). The effect of education and income on mental health of urban women. *International Journal of Social Science Studies, 3*(5), 98–106.

Saraswat, R., & Gaur, A. (2018). A comparative study on mental health among working and non-working women in relation to their family environment. *International Journal of Indian Psychology, 6*(3), 5–12. https://doi.org/10.25215/0603.002

Sharma, R., & Gupta, M. (2019). Relationship between socioeconomic status and mental health of working women. *International Journal of Research in Social Sciences, 9*(6), 102–110.

Singh, K., & Kaur, H. (2017). A comparative study of mental health among working and non-working married women. *The International Journal of Indian Psychology, 4*(3), 88–95. https://doi.org/10.25215/0403.112

Subha, S., & Jayan, C. (2016). Work-life balance and mental health among working women. *Indian Journal of Health and Wellbeing, 7*(3), 333–336.

Tiwari, R., & Kumar, P. (2018). Socio-economic factors influencing mental health among employed women. *Indian Journal of Psychology and Education, 8*(1), 14–22.

Verma, S., & Mahajan, N. (2012). Stress and mental health of working and non-working women: A comparative study. *Indian Journal of Psychological Science, 3*(2), 63–69.

World Health Organization. (1948). *Preamble to the Constitution of the World Health Organization.* Geneva: Author.

Acknowledgment

The authors are thankful to all participants for giving their consent and valuable time to participate in the research.

Conflict of Interest

The author declared no conflict of interest.

How to cite this article: Dwivedi, B. & Patel, S. J. (2025). Differential Mental Health Outcomes Among Employed and Unemployed Women: A Comparative Study in Urban Ahmedabad. *International Journal of Indian Psychology*, *13*(4)*,* 1650-1661. DIP:18.01.152. 20251304, DOI:10.25215/1304.152