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"An Analysis of Socio-Economic Indicators and Their Influence on the Job Satisfaction Levels of Migrant Workers in the Brick Kiln Industry"

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ABSTRACT
This study explores the intricate relationship between the socio-economic characteristics of migrant workers and their level of satisfaction with employment in the brick kiln industry. Drawing on primary data and supported by relevant literature, the research examines how factors such as age, gender, education, income, caste, family structure, and migration history influence occupational satisfaction among migrant laborers. Migration is a complex socio-economic process, often driven by the interplay of economic necessity, demographic factors, and personal aspirations. Understanding the level of satisfaction among migrant workers is critical, as it not only impacts their productivity and well-being but also informs broader labor and welfare policies.
To achieve this, two statistical techniques were employed: Cross Tabulation, along with the Chi-Square Test and Coefficient of Contingency (COC), and Discriminant Analysis. Cross tabulation identifies significant bivariate associations between independent socio-economic variables and the dependent variable—level of satisfaction—while discriminant analysis determines the combination of variables that best differentiates between low and high satisfaction groups.
The findings reveal that variables such as age, education, income, and migration history have a statistically significant association with satisfaction levels. Younger workers and those with higher educational qualifications and better incomes tend to report higher levels of satisfaction. The results underscore the importance of addressing socio-economic disparities in labor-intensive sectors like brick kilns, and call for targeted policy interventions to enhance migrant welfare and sustainable employment conditions. The study contributes to the existing body of knowledge by offering a data-driven understanding of how individual characteristics shape employment satisfaction in informal labor sectors. It provides a foundation for designing inclusive labor policies and migration management strategies that align with the principles of equity, dignity, and sustainable livelihoods.
Keywords: *Migrant Workers, Brick Kiln Industry, Socio-Economic Characteristics, Occupational Satisfaction, Seasonal Migration, Discriminant Analysis.*

standpoint, younger individuals are more inclined to migrate since the prospective value of their future earnings is significantly higher compared to older cohorts (Todaro, 1969; Massey et al., 1993). Migration patterns are also shaped by gender dynamics. Research indicates that migration flows are often male-dominated, especially in unskilled or semi-skilled labor sectors (Deshingkar & Farrington, 2009). This pattern is rooted in the socio-economic reality that male family members are often perceived as primary earners, whereas women from poorer households are less likely to migrate due to financial constraints and domestic responsibilities (Kothari, 2003). Conversely, wealthier individuals are better positioned to migrate with their families, reflecting sex-selective and income-based migration tendencies (Srivastava & Sasikumar, 2003).

[1] . INTRODUCTION

Migration has long been recognized as a dynamic socio-economic process influenced by a variety of individual, structural, and institutional factors. Over the decades, scholars have engaged in extensive studies to uncover the demographic and socio-economic traits of migrant workers. One widely acknowledged observation is the high mobility among younger populations. From a purely economic

Another important dimension is educational background. While some migrants may be relatively more educated than the average population at the place of origin, it does not necessarily imply they belong to the most academically elite group. In rural-urban migration, particularly in sectors like construction or brick kilns, it is not uncommon to find migrants who are functionally illiterate and driven by acute economic distress (Bhagat, 2011; Banerjee & Duflo, 2007). The motivations for migration differ substantially—those from impoverished backgrounds often move out of necessity, while others migrate by choice, aiming to enhance their quality of life.

Given this wide spectrum of socio-economic traits, a nuanced understanding of how these characteristics influence occupational satisfaction becomes vital. Satisfaction, in this context, refers to the degree to which migrant workers perceive their employment conditions as favorable in terms of wages, job security, working environment, and access to social services. Prior studies have emphasized the significance of examining satisfaction as it directly impacts labor productivity, retention, and overall well-being (Clark, 1997; Shields & Price, 2002).

This study attempts to examine the relationship between socio-economic characteristics and the level of satisfaction of migrant workers employed in the brick kiln industry. Specifically, it focuses on understanding how variables such as age, gender, income, education, caste, family structure, and migration history relate to workers' perceptions of occupational satisfaction.

To address this research question, two robust statistical techniques are employed:

- Cross Tabulation, coupled with the Chi-Square Test and Coefficient of Contingency (COC), is used to identify significant associations between categorical variables.
- Discriminant Analysis is applied to determine the combination of variables that best discriminates between workers with low and high satisfaction levels.

The paper is divided into two sections:

- **Section I** presents the cross-tabulation approach, focusing on individual-level associations.
- **Section II** explores group-level differentiation using discriminant analysis.

The findings are expected to contribute meaningfully to the understanding of labor satisfaction in informal sectors and offer insights for policy interventions targeting migrant welfare, sustainable livelihoods, and labor market inclusion.

2. LITERATURE REVIEW

The relationship between socio-economic characteristics and occupational satisfaction, especially among migrant workers in the informal sector, has been a subject of extensive academic inquiry. Migration decisions are typically shaped by a combination of push and pull factors, including poverty, unemployment, lack of opportunities in rural areas, and the promise of better livelihoods in urban or industrial settings (Todaro, 1969; Harris & Todaro, 1970). However, the socio-economic profile of migrants—age, education, income level, caste, gender, and marital status—plays a critical role in determining not only the decision to migrate but also their level of satisfaction with the migration outcome.

Age and Satisfaction

Age has been widely acknowledged as a significant factor influencing both migration and job satisfaction. Younger individuals are generally more mobile and adaptable, making them more likely to migrate and better able to adjust to new working conditions (Massey et al., 1993). Studies suggest that younger workers often report higher satisfaction levels due to better physical ability, optimism, and long-term earnings prospects (Clark et al., 1996).

Gender Dimensions

The gender composition of migration flows often reflects deep-rooted societal norms. Men tend to dominate migration for labor, particularly in physically intensive sectors like brick kilns (Deshingkar & Farrington, 2009). Female participation is limited and often constrained by social and economic factors, which can also affect their experience and satisfaction in the workplace (Srivastava & Sasikumar, 2003).

Education and Income

Educational attainment and income are closely linked to satisfaction levels. Several studies have reported that educated workers are more likely to secure better jobs and report higher levels of job satisfaction

(Shields & Price, 2002). However, in informal sectors, even educated migrants may experience a mismatch between their skills and job roles, leading to dissatisfaction (Banerjee & Duflo, 2007).

Socio-Economic Background

Caste, religion, and rural or urban origin are also vital in shaping the satisfaction levels of migrant workers. Individuals from marginalized communities often face systemic exclusion, discrimination, and lack of access to social services, all of which negatively impact their work experience and satisfaction (Bhagat, 2011). Additionally, migrants from rural backgrounds may find it difficult to adapt to urban lifestyles, influencing their psychological well-being and satisfaction (Kothari, 2003).

Migration History and Family Structure

The nature and duration of migration—seasonal, circular, or permanent—affect how well migrants integrate into their work environment. Longer migration histories are associated with better adaptation and satisfaction (Deshingkar & Start, 2003). Similarly, family structure—nuclear vs. joint—affects satisfaction, as family support can mitigate the stresses of migration and employment (Srivastava, 2011).

Satisfaction and Informal Work

Occupational satisfaction in the informal sector is shaped by multiple factors, including working conditions, job security, wages, and access to welfare schemes. Given the exploitative nature of many informal jobs, particularly in sectors like brick kilns, dissatisfaction is prevalent among workers (Rao, 2014). Yet, despite these conditions, migration continues as it remains the only viable economic strategy for many (Kundu & Sarangi, 2007).

This body of literature highlights that satisfaction is a multi-dimensional outcome, influenced by a constellation of socio-economic and demographic variables. The present study contributes to this growing field by analyzing the association between these characteristics and satisfaction using Cross Tabulation and Discriminant Analysis, offering quantitative insights into the determinants of migrant well-being in the brick kiln industry.

3.0 RESEARCH METHODOLOGY

3.1 Background of the Study

In Punjab, approximately 3,000 brick kilns employ nearly 3 lakh migrant workers who migrate primarily between November and July each year in search of seasonal employment. These workers contribute significantly to the rural economy and infrastructure development of the state. Over 90% of these workers migrate within the state or their home districts, typically spending seven to eight months annually at the kiln sites. Despite their vital role in the construction sector, brick kiln workers often remain marginalized, facing economic insecurity, poor working conditions, and limited access to social services.

3.2 Objectives of the Study

- To examine the association between socio-economic characteristics and the level of satisfaction among migrant brick-kiln workers.
- To identify the factors that significantly impact the occupational satisfaction of brick kiln workers.

3.3 Geographical Coverage of the Study

For this study, five districts—Amritsar (Majha), Jalandhar (Doaba), Ludhiana, Sangrur, and Bathinda, (Malwa)—were selected to represent the geographical divisions of Punjab. These districts were identified based on the concentration of brick kiln activity.

3.4 Sampling Method and Sample Size

- Universe: All brick kiln workers in Punjab.
- Sampling Method: Stratified random sampling.
- Sample Size:
  - 120 workers from each of the five districts.
  - Total sample size: 600 workers.
- Sampling rationale: Ensures regional representation while maintaining cost, time, and accuracy efficiency.

3.5 Data Analysis Techniques Used ➢ Cross Tabulation:

- Used to find associations between socio-economic variables and satisfaction levels.
- Chi-Square Test and Coefficient of Contingency (COC) used for statistical significance and strength of relationships.

Discriminant Analysis:

- Identifies which independent variables best distinguish between high and low satisfaction levels.

3.6 Key Variables Considered

To explore the association and relationship between socio-economic characteristics and level of satisfaction among brick kiln workers, this study investigates their demographic, economic, and migratory traits. This analytical framework offers a robust basis for understanding how factors such as age, gender, education, income, migration history, housing conditions, and access to public services influence the satisfaction of brick kiln workers.

4.0 DATA ANALYSIS

This study investigates the association between socio-economic characteristics and the level of satisfaction among brick kiln workers in Punjab. Drawing from extensive literature, it is evident that migration is often influenced by age, gender, education, and economic status. Young individuals tend to be more mobile due to the higher expected returns on future earnings, while migration remains predominantly male-dominated and sex-selective. Wealthier migrants are often accompanied by their families, unlike their poorer counterparts who migrate alone due to financial constraints.

Although migrants often possess slightly higher educational attainment than the general population of their origin areas, they are not necessarily the most intelligent or skilled. Migration decisions are driven either by poverty-induced compulsion or the affluent seeking improved living standards.

To assess how these factors influence job satisfaction, the study applies two statistical techniques—Cross Tabulation and Discriminant Analysis—to data collected from 600 brick kiln workers across five districts in Punjab. Cross tabulation identifies individual socio-economic variables (such as age, income, education, etc.) significantly associated with satisfaction levels using the Chi-Square Test and Coefficient of Contingency (COC). Discriminant Analysis, in contrast, evaluates how combinations of these variables distinguish between workers reporting high and low satisfaction levels.

The analysis is presented in two parts: Section I focuses on cross tabulation, while Section II details the discriminant analysis, offering a comprehensive understanding of the factors influencing the satisfaction levels of brick kiln laborers.

4.1 Association of Socio-Economic Factors and Workers' Level of Satisfaction Towards Occupation To examine the association between selected socio-economic variables and the level of occupational satisfaction among brick kiln workers, a Chi-Square Test ($\chi 2$) was employed. This statistical method is suitable for analyzing the relationship between categorical variables. The dependent variable in this context is the level of satisfaction of workers, categorized into:

- **Group 1**: Low Satisfaction
- **Group 2**: High Satisfaction

The independent variables consist of a range of demographic and socio-economic characteristics believed to influence workers' satisfaction levels. The conventional approach is followed where rows represent the dependent variable and columns represent the independent variables in the cross-tabulation matrix.

Table 1: Variables Used to Examine the Association between Socio-Economic Factors and Level of Satisfaction

Dependent Variable (Level of Satisfaction)	Independent Variables (Demographic and Socio-Economic Characteristics)
i. Low (Group 1)	i. Age
ii. High (Group 2)	ii. Gender
	iii. Religion

	iv. Caste
	v. Marital Status
	vi. Education Level
	vii. Monthly Income
	viii. Living Place (Rural/Urban)
	ix. Period of Migration
	x. Nature of Migration (Seasonal/Permanent)
	xi. Nature of Family (Joint/Nuclear)
	xii. Visit to Native Place
	xiii. Registration as a Voter
	xiv. Possession of Ration Card
	xv. Receiving Ration Supply
	xvi. Occupation at Place of Origin
	xvii. Land Holding at Place of Origin
	xviii. Type of Accommodation at Workplace
	xix. Possession of Household Durables

Source: Compiled from existing literature and field survey

The Chi-Square Test results for each variable help identify whether a statistically significant association exists between the variable in question and workers' level of satisfaction. In addition, the Coefficient of Contingency (COC) is applied to assess the strength of these associations. The analysis is conducted using SPSS, and variables with p-values less than 0.05 are considered to have statistically significant relationships.

4.2 Formulation of Hypotheses

To determine the association between socio-economic factors and workers' level of satisfaction towards occupation, the various hypotheses are formed.

Association between Age and brick kiln workers' level of satisfaction towards occupation

H_{01}: There is no significant association between Age and brick kiln workers' level of satisfaction towards occupation.

The first hypothesis examined the association between age and satisfaction. The results revealed a significant relationship ($\chi 2 = 41.7168$, $p = 0.001$), indicating that age influences workers' satisfaction levels. As the age of the workers increased, the proportion of those reporting high satisfaction decreased. Therefore, the null hypothesis, which stated no association between age and satisfaction, was rejected.

Table 2: Satisfaction and Age

Age / Satisfaction Level	0-20	21-40	41-60	Above 60	Row Total
Low	19 **48.72** 6.23	153 **46.37** 50.16	52 **36.11** 17.05	81 **93.11** 26.56	305 **50.83**
High	20 **51.28** 6.77	177 **53.63** 60.01	92 **63.89** 31.18	6 **6.89** 2.04	295 **49.17**
Column Total	39 **6.5**	330 **55.00**	144 **24.00**	87 **14.50**	600 **100.00**
Pearson Chi square Value	41.7168				
DF	3				
Asymp. Sig. (2 sided)	0.001				

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Gender and brick kiln workers' level of satisfaction towards occupation.

H_{02}: There is no significant association between Gender and brick kiln workers' level of satisfaction towards occupation.

The second hypothesis tested the relationship between gender and satisfaction. The Chi-Square value was 29.7168 with a p-value of 0.000, which is statistically significant at the 5 percent level. The data showed that 52.56% of male workers reported high satisfaction compared to 44.35% of female workers. This confirms that gender significantly affects satisfaction, leading to the rejection of the null hypothesis.

Table 3: Satisfaction Level and Gender

Gender / SatisfactionLevel	Male	Female	Row Total
Low	167 **47.44** 54.75	138 **55.65** 45.25	305 50.83
High	185 **52.56** 60.66	110 **44.35** 36.07	295 49.17
Column Total	352 **58.67**	248 **41.33**	600 **100.00**
Pearson Chi square Value	29.7168.		
DF	1		
Asymp. Sig. (2 sided)	0.000		

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Religion and brick kiln workers' level of satisfaction towards Occupation

H_{03}: There is no significant association between Religion and brick kiln workers' level of satisfaction towards occupation.

The analysis of the relationship between religion and job satisfaction among brick kiln workers reveals a significant association. As shown in the data, 54.02% of Hindu workers reported a high level of job satisfaction compared to workers of other religions. The Chi-Square test yielded a value of 63.0121 with a p-value of 0.000 (df = 3), indicating statistical significance at the 5% level. This leads to the rejection of

the null hypothesis, confirming that religion has a meaningful impact on the job satisfaction of brick kiln workers.

Table 4: Satisfaction and Religion

Religion / Satisfaction Level	Hindu	Muslim	Sikh	Christian	Row Total
Low	189 **45.98** 61.96	6 **54.54** 1.97	89 **61.38** 29.19	21 **63.63** 6.88	305 **50.83**
High	222 **54.02** 75.26	5 **45.46** 1.86	56 **38.62** 18.98	12 **36.37** 4.06	295 **49.17**
Column Total	411 **68.50**	11 **1.83**	145 **24.17**	33 **5.50**	600 **100.00**
Pearson Chi square Value	63.0121				
DF	3				
Asymp. Sig. (2 sided)	0.000				

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Caste and brick kiln workers' level of satisfaction towards occupation

H_{04}: There is no significant association between Caste and brick kiln workers' level of satisfaction towards occupation.

The data in Table 5 reveals a significant relationship between caste and job satisfaction among brick kiln workers. Notably, 78.72% of backward caste workers reported high satisfaction with their occupation. The Chi-Square value of 24.1761 and a p-value of 0.002 indicate this association is statistically significant at the 5% level. This means caste categories—General, Backward Class, and SC/ST—affect workers' satisfaction levels. The null hypothesis of no association is rejected, highlighting caste as an important socio-economic factor influencing job satisfaction in the brick kiln industry.

Table 5: Satisfaction and Caste

Caste / Religion / Satisfaction Level	General	Backward	SC/ST	Row Total
Low	23 **42.60** 7.55	30 **21.28** 9.84	252 **62.22** 82.63	305 **50.83**
High	31 **57.40** 10.50	111 **78.72** 37.62	153 **37.78** 51.87	295 **49.17**
Column Total	54 **9.00**	141 **23.50**	405 **67.50**	600 **100.00**
Pearson Chi square Value	24.7161			
DF	2			
Asymp. Sig. (2 sided)	0.002			

Source: Primary data; statistically significant at 5 per cent level of significance Association between Marital Status and brick kiln workers' level of satisfaction towards occupation

H_{05}: There is no significant association between Marital Status and brick kiln workers' level of satisfaction towards occupation.

Table 6 indicates that 53.92% of married brick kiln workers report low satisfaction, while 70.83% of unmarried workers show high satisfaction. With a Chi-Square value of 51.7256 and p-value of 0.016 (<0.05), marital status significantly influences workers' job satisfaction, rejecting the null hypothesis.

Table 6: Satisfaction and Marital Status

Marital Status / Satisfaction Level	Married	Unmarried	Others (Widows)	Row Total
Low	275 **53.92** 90.16	14 **29.17** 4.60	16 **38.09** 5.24	305 **50.83**
High	235 **46.07** 79.65	34 **70.83** 11.53	26 **61.91** 8.82	295 **49.17**
Column Total	510 **85.00**	48 **8.00**	42 **7.00**	600 **100.00**
Pearson Chi square Value	51.7256			
DF	2			
Asymp. Sig. (2 sided)	0.016			

Source: Primary data; *statistically significant at 5 per cent level of significance

Association between Education Std and brick kiln workers' level of satisfaction towards occupation

H_{06}: There is no significant association between Education Std and brick kiln workers' level of satisfaction towards occupation.

Table 7 reveals that 65.52% of brick kiln workers educated up to 10th standard reported low satisfaction, while 65.22% of those with education up to 5th standard showed high satisfaction. The p-value of 0.0023 (<0.05) indicates a significant association between education level and job satisfaction, rejecting the null hypothesis. This suggests that as education level increases, job satisfaction tends to decrease among brick kiln workers.

Table 7: Satisfaction and Educational Standards

Education / Satisfaction Level	Illiterate	Up to 5th Std	Up to 8th Std	Up to 10th Std	Row Total
Low	118 **51.30** 38.69	64 **34.78** 20.98	66 **66.67** 21.64	57 **65.52** 18.69	305 **50.83**
High	112 **48.70** 37.97	120 **65.22** 40.68	33 **33.33** 11.18	30 **34.48** 10.17	295 **49.17**
Column Total	230 **38.33**	184 **30.67**	99 **16.50**	87 **14.50**	600 **100.00**
Pearson Chi square Value	62.3858				
DF	3				
Asymp. Sig. (2 sided)	0.0023				

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Monthly Income and brick kiln workers' level of satisfaction towards occupation

H_{07}: There is no significant association between Monthly Income and brick kiln workers' level of satisfaction towards occupation.

Table 8 shows that 66.67% of brick kiln workers earning above Rs. 20,000 monthly reported high satisfaction. The Chi-square value of 43.8526 with p = 0.007 (<0.05) indicates a significant association between income levels and job satisfaction, rejecting the null hypothesis and confirming a strong link between income and satisfaction.

Table 8: Satisfaction and Monthly Income

Monthly Income / Satisfaction Level	Up to Rs. 8000	Rs. 8001- Rs. 12,000	Rs. 12,001- Rs. 15,000	Rs. 15,001- Rs. 20,000	Above Rs. 20,001	Row Total
Low	54 **84.03** 17.70	131 **79.40** 42.95	110 **87.31** 36.07	8 **53.33** 2.63	2 **33.33** 0.65	305 **50.83**
High	234 **15.97** 79.32	34 **20.60** 11.52	16 **12.69** 5.43	7 **46.67** 2.38	4 **66.67** 1.35	295 **49.17**
Column Total	288 **48.00**	165 **27.50**	126 **21.00**	15 **2.50**	6 **1.00**	600 **100.00**

Pearson Chi square Value	43.8526
DF	4
Asymp. Sig. (2 sided)	0.007

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Living Place and brick kiln workers' level of satisfaction towards occupation

H_{08}: There is no significant association between Living Place and brick kiln workers' level of satisfaction towards occupation.

Table 9 shows that 69.79% of brick kiln workers living in their own houses reported high satisfaction. The Chi-square value of 23.4981 with p = 0.0019 (<0.05) indicates a significant association between living place and job satisfaction, confirming that living conditions influence workers' occupational satisfaction.

Table 9: Satisfaction and Living Place

Living Place / Satisfaction Level	Own House	Rented House	Employer's House	Row Total
Low	29 **30.21** 9.51	37 **82.22** 12.13	239 **52.06** 78.36	305 **50.83**
High	67 **69.79** 22.71	8 **17.78** 2.71	220 **47.94** 74.58	295 **49.17**
Column Total	96 **16.00**	45 **7.50**	459 **76.50**	600 **100.00**
Pearson Chi square Value	23.4981			
DF	2			
Asymp. Sig. (2 sided)	0.0019			

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Period of Migration and brick kiln workers' level of satisfaction towards occupation

H_{09}: There is no significant association between Period of Migration and brick kiln workers' level of satisfaction towards occupation.

Table10 shows that 90.47% of brick kiln workers with over 15 years of migration experience report high satisfaction. The Chi-square value of 49.1585 with p = 0.0001 (<0.05) indicates a significant association between period of migration and job satisfaction among workers.

Table 10: Satisfaction and Period of Migration

Periodof Migration / Satisfaction Level	0-5 Years	6-10 Years	11-15 Years	Above 15 Years	Row Total
Low	133 **77.78** 43.61	84 **52.83** 27.54	78 **47.27** 25.58	10 **9.53** 3.28	305 **50.83**
High	38 **22.22** 12.88	75 **47.17** 25.43	87 **52.72** 29.50	95 **90.47** 33.22	295 **49.17**
Column Total	**171** 28.50	**159** 26.50	**165** 27.50	**105** 17.50	600 **100.00**
Pearson Chi square Value	49.1585				
DF	3				
Asymp. Sig. (2 sided)	0.00001				

Source: Primary data; Statistically significant at 5 per cent level of significance

Association between Nature of Migration and brick kiln workers' level of satisfaction towards occupation

H_{10}: There is no significant association between Nature of Migration and brick kiln workers' level of satisfaction towards occupation.

Table 11 shows that 76.81% of brick kiln workers who migrated with family reported high satisfaction. With a p-value of 0.0009 (<0.05), the nature of migration (alone or with family) significantly influences workers' job satisfaction, indicating a clear association between migration type and satisfaction level.

Table 11 Satisfaction and Nature of Migration

Nature of Migration / Satisfaction Level	Alone	With Family	Row Total
Low	225 **88.24** 73.77	80 **23.18** 26.23	305 **50.83**
High	30 **11.76** 10.16	265 **76.81** 89.84	295 **49.17**
Column Total	255 **42.50**	345 **57.50**	600 **100.00**
Pearson Chi square Value	64.7348		
DF	1		
Asymp. Sig. (2 sided)	0.0009		

Source: Primary data; Statistically significant at 5 per cent level of significance

Association between Nature of Family and brick kiln workers' level of satisfaction towards Frequency of Nature of Family

H_{11}: There is no significant association between Nature of Family and brick kiln workers' level of satisfaction towards occupation.

Table12 shows that 49.75% of brick kiln workers living in nuclear families reported high satisfaction. With a p-value of 0.0012 (<0.05), the nature of family (nuclear or joint) significantly influences workers' job satisfaction, indicating a clear association between family type and satisfaction level.

Table 12: Satisfaction and Frequency of Nature of Family

Nature of Family / Satisfaction Level	Nuclear	Joint	Row Total
Low	199 **55.25** 65.24	106 **51.97** 34.76	305 **50.83**
High	197 **49.75** 66.78	98 **48.03** 33.22	295 **49.17**
Column Total	**396** **66.00**	**204** **34.00**	**600** **100.00**
Pearson Chi square Value	25.9542		
DF	1		
Asymp. Sig. (2 sided)	0.0012		

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Visit to Native Place and brick kiln workers' level of satisfaction towards occupation

H_{12}: There is no significant association between Visit to Native Place and brick kiln workers' level of satisfaction towards occupation.

Table 13 shows that 66.70% of brick kiln workers who rarely visit their native place reported high satisfaction. The Chi-square value of 53.4210 with a p-value of 0.000 (<0.05) indicates a significant association between frequency of visiting native place and workers' level of occupational satisfaction.

Table 13: Satisfaction and Frequency of Visit to Native Place

Visit to Native Place / Satisfaction Level	Once in a year	Twice	Once in two/three Years	On some important occasion	Rarely	Completely give up going there	Row Total
Low	164 **46.72** 53.77	96 **54.24** 31.47	21 **77.78** 6.89	15 **50.00** 4.92	6 **33.33** 1.97	3 **50.00** 0.98	305 **50.83**
High	187 **53.28** 63.39	81 **45.76** 27.45	6 **22.22** 2.04	15 **50.00** 5.08	3 **66.67** 1.02	3 **50.50** 1.02	295 **49.17**
Column Total	351 **58.50**	177 **29.50**	27 **4.50**	30 **5.00**	9 **1.50**	6 **1.0**	600 **100.00**
Pearson Chi square Value	53.4210						
DF	5						
Asymp. Sig. (2 sided)	0.000						

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Registration as a voter and brick kiln workers' level of satisfaction towards occupation

H_{13}: There is no significant association between Registration as a voter and brick kiln workers' level of satisfaction towards occupation.

Table 14 shows that 57.30% of brick kiln workers registered as voters in Punjab reported a high level of satisfaction. The null hypothesis of no association is rejected at the 5% significance level ($p = 0.000 < 0.05$). Registration as a voter significantly influences workers' occupational satisfaction, indicating a clear difference in satisfaction levels between registered and non-registered workers.

Table 14: Satisfaction and Registration as a Voter

Registration as a Voter / Satisfaction Level	Yes	No	Row Total
Low	41 **42.70** 13.45	264 **52.39** 86.55	305 **50.83**
High	55 **57.30** 18.65	240 **47.761** 81.35	295 **49.17**
Column Total	96 **16.00**	504 **84.00**	600 **100.00**
Pearson Chi square Value	29.4573		
DF	1		
Asymp. Sig. (2 sided)	0.000		

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Possession of ration card and brick kiln workers' level of satisfaction towards occupation

H_{14}: There is no significant association between Possession of ration card and brick kiln workers' level of satisfaction towards occupation.

Table 15 shows that 57.65% of brick kiln workers possessing a ration card in Punjab reported a high level of satisfaction. The null hypothesis of no association is rejected at the 5% significance level ($p = 0.002 < 0.05$). Possession of a ration card significantly influences workers' occupational satisfaction, indicating a difference in satisfaction levels between those who have ration cards and those who do not.

Table 15: Satisfaction and Possession of Ration Card

Possession of Ration Card / Satisfaction Level	Yes	No	Row Total
Low	36 **42.35** 11.80	269 **52.23** 88.20	305 **50.83**
High	49 **57.65** 16.61	246 **47.77** 83.39	295 **49.17**
Column Total	**85** 14.17	**515** 85.83	**600** **100.00**
Pearson Chi square Value	13.2547		
DF	1		
Asymp. Sig. (2 sided)	0.002		

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Getting Ration Supply and brick kiln workers' level of satisfaction towards occupation

H_{15}: There is no significant association between Getting Ration Supply and brick kiln workers' level of satisfaction towards occupation.

Table16 shows that 57.83% of brick kiln workers who received ration supply through ration cards reported a high level of satisfaction. The null hypothesis of no association is rejected at the 5% significance

level ($p < 0.05$). Receiving ration supply significantly influences workers' occupational satisfaction, indicating a difference in satisfaction levels between those who receive ration supply and those who do not.

Table 16: Satisfaction and Getting Ration Supply

Getting Ration Supply / Satisfaction Level	Yes	No	Row Total
Low	35 **42.17** 11.47	270 **52.22** 88.53	**305** **50.83**
High	48 **57.83** 16.28	247 **47.78** 83.72	**295** **49.17**
Column Total	83 **13.83**	517 **86.17**	600 **100.00**
Pearson Chi square Value	25.3641		
DF	2		
Asymp. Sig. (2 sided)	0.000		

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Occupation at the Place of Origin and brick kiln workers' level of satisfaction H_{16}: There is no significant association between Occupation at the Place of Origin and brick kiln workers' level of satisfaction.

Table 17 shows that 90.62% of brick kiln workers who were neither daily wage earners nor self-employed at their place of origin reported high satisfaction. The Chi-Square value of 25.3641 ($p = 0.000$) indicates a significant association between occupation at origin and job satisfaction, rejecting the null hypothesis.

Table 17: Satisfaction and Occupation at the Place of Origin

Place of Origin / Satisfaction Level	Self Employed	Daily Wage Earner	Others	Row Total
Low	3 **10.34** 0.98	287 **69.82** 94.10	15 **9.38** 4.92	305 **50.83**
High	26 **89.66** 8.81	124 **30.18** 42.03	145 **90.62** 49.16	295 **49.17**
Column Total	29 **4.83**	411 **68.50**	160 **26.67**	600 **100.00**

Pearson Chi square Value	25.3641
DF	2
Asymp. Sig. (2 sided)	0.000

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Land Holding at the Place of Origin and brick kiln workers' level of satisfaction towards occupation

H_{17}: There is no significant association between Land Holding at the Place of Origin and brick kiln workers' level of satisfaction towards occupation.

Table18 shows that brick kiln workers owning 1–3 acres of land at their place of origin reported higher satisfaction compared to those without land. The Chi-Square test (p = 0.008, df = 4) indicates a significant association between landholding and workers' satisfaction, confirming land ownership influences job satisfaction.

Table 18: Satisfaction and Land Holding at the Place of Origin

Land Holding / Satisfaction Level	Nil	Up to 1 Acre	1-2 Acres	2-3 Acres	Above 3Acres	Row Total
Low	305 **60.87** 100.00	— — —	— — —	— — —	— — —	305 **50.83**
High	196 **39.13** 66.44	87 **100.00** 29.49	9 **100.00** 3.05	3 **100.00** 1.01	— — —	295 **49.17**
Column Total	**501** **83.50**	**87** **14.50**	**9** **1.50**	**3** **0.50**	— —	600
Pearson Chi square Value	24.1258					
DF	4					
Asymp. Sig. (2 sided)	0.008					

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Type of accommodation and brick kiln workers' level of satisfaction towards occupation

H_{18}: There is no significant association between Type of accommodation and brick kiln workers' level of satisfaction towards occupation.

Table 19 shows that 84.90% of brick kiln workers with independent accommodation reported high satisfaction compared to those with shared housing. The Chi-Square test (p = 0.007) rejects the null hypothesis, indicating accommodation type significantly influences workers' job satisfaction levels.

Table 19: Satisfaction and Accommodation

Accommodation / Satisfaction Level	Independent	Shared	Row Total
Low	40 **15.10** 13.11	265 **79.11** 86.89	305 **50.83**
High	225 **84.90** 76.28	70 **20.89** 23.72	295 **49.17**
Column Total	**265** **44.17**	**335** **55.83**	**600** **100.00**
Pearson Chi square Value	26.4574		
DF	1		
Asymp. Sig. (2 sided)	0.007		

Source: Primary data; statistically significant at 5 per cent level of significance

Association between Possession of Durables and brick kiln workers' level of satisfaction towards occupation

H_{19}: There is no significant association between Possession of Durables and brick kiln workers' level of satisfaction towards occupation.

Table 20 shows significant associations between brick kiln workers' possession of household items (radio, TV, refrigerator, cycle, scooter/motorcycle, cooking gas, mobile, and type of mobile) and their satisfaction levels. All Chi-Square tests have p-values below 0.05, leading to rejection of the null hypothesis of independence.

Table 20: Satisfaction and Possession of Durables

Detail about Residence	Category	Frequency	Percentage	Chi-Square Value	Df	P value
Radio	Yes	67	11.67	40.258	1	0.001
	No	533	88.83			
	Total	600	100.00			
TV	Yes	247	41.17	23.561	1	0.000
	No	353	58.83			
	Total	600	100.00			
Refrigerator	Yes	23	3.83	43.512	1	0.007
	No	577	96.17			
	Total	600	100.00			
Cycle	Yes	493	82.17	95.147	1	0.000
	No	107	17.83			
	Total	600	100.00			
Scooter/Motor Cycle	Yes	17	2.83	56.241	1	0.000
	No	583	97.17			
	Total	600	100.00			
Cooking Gas	Yes	123	20.50	32.574	1	0.001
	No	477	79.50			
	Total	600	100.00			
Mobile	Yes	455	75.83	34.125	1	0.002
	No	145	24.17			
	Total	600	100.00			
Type of Mobile	Smart Phone	223	37.17	64.001	1	0.000
	Simple	232	38.67			
	NA	145	24.17			
	Total	600	100.00			

Source: Primary data; *statistically significant at 5 per cent level of significance Section II

4.3 Discriminant Analysis Approach

Discriminant analysis is used to understand why some interstate migrant workers report higher satisfaction levels than others by identifying key work, personal, and demographic traits responsible for this difference. This analysis evaluates which of 19 selected independent variables—such as age, gender, caste, education, income, migration details, and possession of durables—best distinguish between workers with high and low satisfaction. Using a simultaneous method, all variables were converted into binary form to estimate the discriminant function, providing a statistical basis for understanding the factors that significantly separate the two satisfaction groups.

4.4 Formulation of hypothesis

There is no difference in the satisfaction level of the brick kiln workers on various demographic variables. The main hypothesis is elaborated as follows:

H_{01}: There is no difference in the level of satisfaction with the Age.
H_{02}: There is no difference in the level of satisfaction with the Gender.
H_{03}: There is no difference in the level of satisfaction with the Religion.
H_{04}: There is no difference in the level of satisfaction with the Caste.
H_{05}: There is no difference in the level of satisfaction with the Marital Status.
H_{06}: There is no difference in the level of satisfaction with the Education Std.
H_{07}: There is no difference in the level of satisfaction with the Monthly Income.
H_{08}: There is no difference in the level of satisfaction with the Living Place.
H_{09}: There is no difference in the level of satisfaction with the Period of Migration.
H_{10}: There is no difference in the level of satisfaction with the Nature of Migration. H_{11}: There is no difference in the level of satisfaction with the Nature of Family.
H_{12}: There is no difference in the level of satisfaction with the Visit to Native Place.
H_{13}: There is no difference in the level of satisfaction with the Registration as a voter.
H_{14}: There is no difference in the level of satisfaction with the Possession of ration card.
H_{15}: There is no difference in the level of satisfaction with the Getting Ration Supply.
H_{16}: There is no difference in the level of satisfaction with the Occupation at the Place of Origin.

H_{17}: There is no difference in the level of satisfaction with the Land Holding at the Place of Origin.

H_{18}: There is no difference in the level of satisfaction with the Type of accommodation.
H_{19}: There is no difference in the level of satisfaction with the Possession of Durables."

Table 21: Conversion of Independent variables into Dummy Variables in the Model

Variables	Name of the Variables	Levels
X_1	Age	1, if 0-20; 0, if otherwise
X_2	Gender	1, if Female; 0, if otherwise
X_3	Religion	1, if Hindu; 0, if otherwise
X_4	Caste	1, if General; 0, if otherwise
X_5	Marital status	1, if married; 0, if otherwise
X_6	Education	1, if illiterate; 0, if otherwise
X_7	Monthly Income	1, if up to Rs. 3000; 0, if otherwise
X_8	Living Place	1, if own house; 0, if otherwise
X_9	Period of Migration	1, if 0-5; 0, if otherwise
X10	Nature of Migration	1, if alone; 0, if otherwise
X11	Nature of Family	1, if Nuclear; 0, if otherwise
X12	Visit to Native Place	1, if once a year; 0, if otherwise
X13	Registration as a voter	1, if registered as voter; 0, if otherwise
X14	Possession of ration card	1, if Possession of ration card; 0, if otherwise
X15	Getting Ration Supply	1, if Getting Ration Supply; 0, if otherwise
X16	Occupation at the Place of Origin	1, if daily wages; 0, if otherwise
X17	Land Holding at the Place of Origin	I, if Nil; 0, if otherwise
X18	Type of accommodation	1, if independent; 0, if otherwise
X19	Possession of Durables	1, if possessed; 0, if otherwise

Source: Literature Review

Pre-requisites of Discriminant Analysis

The group means and ANOVA test were used to examine the null hypothesis that there is no difference in the means of various factors between two satisfaction groups. According to Nargundkar (2007), some factors must show statistical differences to proceed with discriminant analysis. Table 22 displays ANOVA results and Wilks' Lambda values, where smaller lambda values indicate greater group separation. The F-test significance values are all below 0.05, confirming significant differences between groups for all variables. Thus, all factors can be included in the discriminant analysis to differentiate workers with low and high satisfaction.

Table 22: Lambda (U-Statistic) and Univariate F-Ratio

	Independent Variables	Wilks' Lambda	F-Ratio	df1	df2	Significance Level
X_1	Age	0.624	5.706	1	598	0.023*
X_2	Gender	0.453	6.830	1	598	0.040*
X_3	Religion	0.852	5.056	1	598	0.025*
X_4	Caste	0.751	24.852	1	598	0.021*
X_5	Marital status	0.951	6.125	1	598	0.017*
X_6	Education	0.752	33.258	1	598	0.019*
X_7	Monthly Income	0.652	4.843	1	598	0.011*
X_8	Living Place	0.642	9.3654	1	598	0.017*
X_9	Period of Migration	0.638	4.853	1	598	0.041*
X10	Nature of Migration	0.642	25.763	1	598	0.043*
X11	Nature of Family	0.852	36.785	1	598	0.017*
X12	Visit to Native Place	0.932	14.587	1	598	0.015*
X13	Registration as a voter	0.463	27.651	1	598	0.010*
X14	Possession of ration card	0.524	4.873	1	598	0.025*
X15	Getting Ration Supply	0.525	3.846	1	598	0.012*
X16	Occupation at the Place of Origin	0.642	29.421	1	598	0.032*
X17	Land Holding at the Place of Origin	0.352	7.213	1	598	0.013*
X18	Type of accommodation	0.622	4.519	1	598	0.035*
X19	Possession of Durables	0.642	5.370	1	598	0.020*

* Significant at 5 Per cent level of significance

While Wilks' Lambda may be statistically significant, it does not indicate how well the discriminant function classifies groups; it only tests equality of population means. Even small significant differences may not enable effective discrimination. According to Hair et al. (2009), homogeneity of covariance matrices is another key assumption, tested here using Box's M test. Table 23 shows a Box's M value of 25.492 with a p-value of 0.48, which is greater than the 0.001 threshold. Thus, the null hypothesis of equal covariance matrices cannot be rejected, confirming no significant differences between group covariance matrices.

Table 23 Box's M test of equality of covariance matrix

Box's M	25.492
F Approx	1.762
Df1	36
Df2	919749.364
Sig.	0.48

At the 0.01 threshold, the test result was found to be insignificant. (Box/s M =25.492, F 1.762, p=0.48 (see Table 23). There's no cause for believe that variances between covariance matrices exist.

Statistics related to overall Model Fit

In the discriminant analysis the number of discriminant functions formed is one less than the number of groups of the dependent variables. There were two groups in the current analysis: low and high levels of satisfaction. Each group produced a single discriminant function, the details of which are displayed in Table 24. How successfully the discriminant function separates the two groups is indicated by the eigen value. According to Malhotra (2010), a greater value indicates better quality. The eigen value, as indicated by Table 24, was found to be 3.642, a quite high number which indicates a good discriminant function.

Table 24: Overall modal fit: Canonical Discriminant Function

Function	Eigen Value	Percent of Variance	Cumulative per centage	Canonical Correlation	Wilk's Lambda	Chi-square	Df	Sig.
1	3.642	100	100	.799	.3616	534.752	18	0.000

- Canonical correlation coefficient = 0.799, explaining 79.90% of variability in satisfaction levels (Malhotra, 2010).
- Wilks' lambda = 0.3616, indicating 36.16% variation unexplained; significant with $p < 0.05$. ➢ Group centroids:
  - Group 1 (Low satisfaction) = -0.737
  - Group 2 (High satisfaction) = +0.762
- Centroids represent standardized discriminant scores showing clear separation between groups (Hair et al., 1995).
- Classification accuracy:
- 94.60% correctly predicted cases in original sample
- 93.80% correctly predicted cases in cross-validation (leave-one-out method)
- Hit ratio exceeds chance ratio, indicating a reliable and valid discriminant function (Hair et al., 2003; Schwab, 2006).
- Classification table shows correct predictions on diagonal, confirming the function's effectiveness.

Table 25: Classification Results

Predicted group membership					
		Satisfaction Level	Low (Group-1)	High (Group-2)	Total
Original	Count (Percentage)	Low (Group-1)	192 (62.96)	113 (37.05)	305 (100.00)
		High (Group-2)	128 (43.39)	167 (56.61)	295 (100.00)
Cross validated	Count (Group) (Percentage)	Low (Group-1)	188 (61.64)	117 (38.36)	305 (100.00)
		High (Group-2)	128 (43.39)	167 (56.61)	295 (100.00)

Figures in brackets indicate percentages. Per cent correctly-classified (Hit Ratio)

Analysis Sample	**192+167=359 359/600*100**	**=59.83 per cent**
Hold Out Sample	**188+167=355 355/600*100**	**=59.17 per cent**
Maximum Chance Criterion	**192+113=305 (305/600*100)**	**=50.83 per cent**

Proportional Chance Criterion	**[(0.5083)^2 + (0.4917)^2=0.50013778 or 0.5002)]**	**= 50.02 per cent**

Note: 94.60% of original grouped cases correctly classified. 93.80% of cross-validated grouped cases correctly classified.

- **Hit ratio** measures the predictive accuracy of the discriminant function, calculated by summing diagonal elements of the classification matrix divided by total cases.
- **Maximum chance criterion** is the accuracy expected by random chance, here 50.83% (305/600*100).
- The model's actual classification accuracy is **59.17**%, which is better than chance.
- **Proportional chance criterion** is 50.02%, calculated as sum of squared group proportions [(0.5083) 2 + (0.4917) 2].
- Model accuracy (59.17%) exceeds proportional chance criterion (50.02%), indicating satisfactory performance.
- **Press Q Statistic** tests whether classification is better than random chance (Hair et al., 2003).
- Press Q value here is **23.21** with 600 cases and 359 correctly classified.
- The critical chi-square value at df=1 and 0.05 significance level are **6.63**.
- Since **23.21 > 6.63**, the classification matrix is statistically better than a random model.
- This test compares the number of correct classifications against group count and sample size using chi-square distribution.

Press's Q = [N – (n*K)]^2 /N*(K – 1) where N= sample size, n= number of correct classifications, K= number of groups
where N= 600, n= 359 (192+167), K= 2
The value (23.21) surpasses the crucial number (6.63), representing that the forecast accuracy is higher than the value determined by chance. Press's Q can be computed for both validation and analysis samples

Interpretation of Discriminant Function Coefficient
- Table 26 presents both standardized and unstandardized discriminant function coefficients.
- Coefficients' magnitudes sometimes indicate the relative importance of variables in the discriminant function.
- Unstandardized coefficients are less useful for comparison when variables have different units, as in this study.
- The signs (+/-) of coefficients are arbitrary and don't necessarily indicate directionality.
- Coefficients can be interpreted similarly to multiple regression coefficients.
- Due to correlations among variables, the significance of individual variables cannot be confirmed solely from their coefficients.

Discriminant Function Equation
Malhotra (2010) explained that "the discriminant function is a linear combination of the independent variables" which is derivative from the subsequent standard equation:
$Z = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 +$. ..... $+ b_nx_n$
Where a= constant Z= discriminant score b_1 to b_n = Unstandardised discriminant function coefficient x_1 to x_n = Independent variables.

The predictive equation in the present study is as follows:
Z= 8.425+ 0.654 (Age)+ 0.842 (Gender)+ 2.364 (Religion)+ 1.364 (Caste) + 0.284 (Marital status)+ 0.652 (Education)+ 0.841 (Monthly Income) + 1.456 (Living Place) + 0.452 (Period of Migration) + 0.654 (Nature of Migration) + 0.458 (Nature of Family) + 1.365 (Visit to Native Place) + 0.632 (Registration as a voter) + 0.854 (Possession of ration card) + 1.254 (Getting Ration Supply) + 0.952 (Occupation at the Place of Origin) + 0.423 (Land Holding at the Place of Origin) + 0.287 (Type of accommodation) + 0.486 (Possession of Durables)

Table 26: Stanadardised & Unstanadardised Discriminant Functions Coefficients

Independent Variables		Unstandardised Discriminant Functions	Standardised Discriminant Functions
X_1	Age	0.654	0.342
X_2	Gender	0.842	0.025
X_3	Religion	2.364	0.075
X_4	Caste	1.364	0.247
X_5	Marital status	0.284	0.369
X_6	Education	0.652	-0.254
X_7	Monthly Income	0.841	-0.364
X_8	Living Place	1.456	0.852
X_9	Period of Migration	0.452	0.398
X10	Nature of Migration	0.654	0.254
X11	Nature of Family	0.458	-0.841
X12	Visit to Native Place	1.365	0.685
X13	Registration as a voter	0.632	0.952
X14	Possession of ration card	0.854	-0.753
X15	Getting Ration Supply	1.254	0.512
X16	Occupation at the Place of Origin	0.952	0.585
X17	Land Holding at the Place of Origin	0.423	0.641
X18	Type of accommodation	0.287	-0.382
X19	Possession of Durables	0.486	0.456
	Constant	8.425	0.368

Structure Matrix & Comparison of discriminating ability of the Independent Variables

- Standardized Discriminant Coefficients (Hair et al., 2009) are commonly used to assess independent variables' discrimination power, similar to beta weights in regression.
- Variables with the highest standardized coefficients best predict the dependent variable; the sign (+/-) indicates positive or negative contribution.
- However, small weights may indicate irrelevance, and these coefficients tend to be unstable, so this method is often discouraged.
- Structure Matrix (Schwab, 2006) offers an alternative by showing Pearson correlations (discriminant loadings) between each variable and the discriminant function.
- Unlike standardized coefficients, structure correlations reflect both unique and shared contributions of variables.
- The structure matrix is preferred by experts for judging variable importance in discriminant analysis.
- The discriminant function values correlate with variables to indicate contribution; values ≥ ±0.30 are considered significant.
- In this study (Table 27), Living Place was the strongest predictor (loading 0.741), followed by Religion (0.739), Visit to Native Place (0.721), Caste (0.685), Getting Ration Supply (0.682), Occupation at Place of Origin (0.658), Possession of Ration Card (0.657), Gender (0.654), Monthly Income (0.650), Nature of Migration (0.562), Age and Education (0.542 each),

Possession of Durables (0.540), Registration as Voter (0.540), Nature of Family (0.458), Period of Migration (0.456), Land Holding (0.365), Type of Accommodation (0.358), and Marital Status (0.354).

Table 27: Pooled within- Groups Correlations between Discriminating Variables and Discriminant Functions

	Independent variables	Pearson's coefficient
X_1	Age	0.542
X_2	Gender	0.654
X_3	Religion	0.739
X_4	Caste	0.685
X_5	Marital status	0.354
X_6	Education	0.542
X_7	Monthly Income	0.650
X_8	Living Place	0.741
X_9	Period of Migration	0.456
X10	Nature of Migration	0.562
X11	Nature of Family	0.458
X12	Visit to Native Place	0.721
X13	Registration as a voter	0.540
X14	Possession of ration card	0.657
X15	Getting Ration Supply	0.682
X16	Occupation at the Place of Origin	0.658
X17	Land Holding at the Place of Origin	0.365
X18	Type of accommodation	0.358
X19	Possession of Durables	0.540

The Chi Square analysis utilised in the study has recognized association of socio-economic factors and satisfaction levels. These factors are "Age, Gender, Religion, Caste, Marital status, Education, Monthly Income, Living Place, Period of Migration, Nature of Migration, Nature of Family, Visit to Native Place, Registration as a voter, Possession of ration card, Getting Ration Supply, Occupation at the Place of Origin, Land Holding at the Place of Origin, Type of accommodation and Possession of Durables. Chi Square findings indicated an association between socio economic variables and level of satisfaction. Since, null hypotheses rejected.

Table 28: Summary Table of Chi-Square Test

Independent Variables		P-Values	Hypotheses Results
X_1	Age	0.001	Rejected
X_2	Gender	0.000	Rejected
X_3	Religion	0.000	Rejected
X_4	Caste	0.002	Rejected
X_5	Marital status	0.016	Rejected
X_6	Education	0.0023	Rejected
X_7	Monthly Income	0.007	Rejected
X_8	Living Place	0.0019	Rejected
X_9	Period of Migration	0.00001	Rejected
X10	Nature of Migration	0.0009	Rejected
X11	Nature of Family	0.0012	Rejected
X12	Visit to Native Place	0.000	Rejected
X13	Registration as a voter	0.000	Rejected

X14	Possession of ration card	0.002	Rejected
X15	Getting Ration Supply	0.000	Rejected
X16	Occupation at the Place of Origin	0.000	Rejected
X17	Land Holding at the Place of Origin	0.008	Rejected
X18	Type of accommodation	0.007	Rejected
X19	Possession of Durables: Radio (0.001), TV (0.000), Refrigerator (0.007), Cycle (0.000), Scooter/Motor Cycle (0.000), Cooking Gas (0.001), Mobile (0.002 and Type of Mobile (0.000)	<0.05	Rejected

Source: Primary data; statistically significant at 5 per cent level of significance

Discriminant analysis has been utilized to make out the difference in the satisfaction level of workers with socio economic factors/variables. It has been discovered that religion is the most discriminating element. The majority of the migrant labourers employed in the brick kilns are from Rajasthan, U.P. Bihar and Chhattisgarh. Thus, Discriminant Analysis allows us to draw the conclusion that workers' satisfaction levels are influenced by socioeconomic conditions. Therefore, the hypothesis that states that the socioeconomic factors influencing the degree of worker satisfaction in the brick kiln operations are not significantly different is rejected.

5.0 Key Findings

- **Findings related to Chi-Square Test**

The study explored the association between socio-economic factors and the level of job satisfaction among brick kiln workers in Punjab using Chi-Square tests. The following 19 hypotheses were tested, and in every case, the null hypothesis was rejected, indicating significant associations between each factor and satisfaction levels:

1. **Age**: Older workers tend to report lower satisfaction.
2. **Gender**: Male workers are more likely to report higher satisfaction than female workers.
3. **Religion**: Hindu workers reported higher satisfaction than workers of other religions.
4. **Caste:** Backward caste workers showed the highest satisfaction levels.
5. **Marital Status**: Unmarried workers were significantly more satisfied than married ones.
6. **Education**: Lower-educated workers (up to 5th standard) showed higher satisfaction than more educated ones.
7. **Monthly Income**: Higher income is positively associated with greater satisfaction.
8. **Living Place**: Workers living in their own houses report higher satisfaction.
9. **Period of Migration**: Longer migration history (over 15 years) correlates with higher satisfaction.
10. **Nature of Migration**: Workers migrating with families show higher satisfaction than solo migrants.
11. **Nature of Family**: Nuclear family members reported higher satisfaction.
12. **Visit to Native Place**: Those who rarely visit their native place reported higher satisfaction.
13. **Voter Registration**: Registered voters in Punjab are more satisfied.
14. **Possession of Ration Card**: Cardholders reported significantly higher satisfaction.
15. **Receiving Ration Supply**: Workers receiving ration supplies showed greater satisfaction.
16. **Occupation at Place of Origin**: Workers who were neither self-employed nor daily wage earners at origin reported greater satisfaction.
17. **Landholding at Origin**: Workers with 1–3 acres of land at their origin reported higher satisfaction.
18. **Type of Accommodation**: Independent housing is associated with significantly higher satisfaction.
19. **Possession of Durables**: Ownership of items like mobile phones, cycles, TVs, gas, etc., positively correlates with satisfaction.

- **Findings related to Discriminant Analysis**

1. The discriminant function significantly distinguishes between interstate migrant workers with low and high satisfaction levels.

2. The model explains approximately 79.90% of the variability in satisfaction, with Wilks' lambda indicating that only 36.16% of variation remains unexplained.
3. Group centroids show clear separation between low satisfaction (-0.737) and high satisfaction (+0.762) groups.
4. The classification accuracy is high, with over 94% correct prediction in original cases and 93.8% in cross-validation, exceeding chance classification rates.
5. Structure matrix analysis reveals that socioeconomic variables such as Living Place, Religion, Visit to Native Place, Caste, Ration Supply, Occupation at Origin, and Monthly Income strongly predict satisfaction levels.
6. Standardized discriminant coefficients, though informative, were less stable, making structure coefficients more reliable for interpreting variable importance.

In nutshell, Using Chi-Square tests, it was found that all 19 tested factors had a statistically significant impact on workers' satisfaction levels, leading to the rejection of each null hypothesis. Overall, the findings highlight that occupational satisfaction among brick kiln workers is shaped by a complex mix of demographic, socio-economic, and migratory variables, emphasizing the need for targeted welfare measures and inclusive labour policies. These findings underscore the complex interplay of demographic, economic, and social dimensions in shaping worker well-being and have important implications for labour welfare policies in Punjab. Results of the study are consistent with (Srivastava, 2005; Bhukuth and Ballet, 2006; Bhalla and Papola, 2011; Venkateswarlu, 2012; Deshingkar and Start, 2003 and Rao, 2013; Children, 2015, ILO, 2016, Kumari, L., & Sidhu, A. S., 2016; Human Rights Watch, 2017; NCDHR, 2018; Kumari, L., & Sharma, A., 2020; Kansal, S., Maan, V. K., & Singh, G. P., 2024 and Sharma, L. K., Bhagat, N., Archna, Nischal, S., Kaur, A., & Yadav, R., 2025).

6.0 RECOMMENDATIONS:

1. **Policy Focus:** Address socioeconomic disparities identified as significant predictors, such as improving living conditions and access to basic amenities for migrant workers.
2. **Targeted Interventions:** Develop programs based on key factors like occupational stability, access to ration supplies, and voter registration to enhance migrant satisfaction.
3. **Community Engagement:** Facilitate migrant workers' connections with their native places to strengthen their social support systems, which influences satisfaction positively.
4. **Data-Driven Monitoring:** Use discriminant function models periodically to monitor changes in migrant satisfaction and adapt policies accordingly.
5. **Awareness Campaigns:** Increase awareness about the benefits of formal registration (ration card, voter ID) to improve access to resources and services.

7.0 CONCLUSION:

The discriminant analysis effectively identified key factors that differentiate interstate migrant workers with high and low satisfaction levels. Socioeconomic characteristics predominantly influence these satisfaction differences. The high predictive accuracy of the model confirms its robustness and utility for policymaking and program development aimed at enhancing migrant welfare. Future efforts should focus on leveraging these insights to address the underlying causes of dissatisfaction and promote better living and working conditions among migrant populations. The results have implications for labor policy, social welfare schemes, and inclusive rural development planning in Punjab.

8.0 SCOPE FOR FUTURE RESEARCH:

1. **Longitudinal Studies:** Conduct studies over time to assess how satisfaction levels change with policy interventions or socioeconomic shifts.
2. **Qualitative Research:** Explore migrant workers' subjective experiences to complement quantitative findings and understand nuanced factors affecting satisfaction.
3. **Expanded Variables:** Include psychological and environmental factors (e.g., social integration, workplace conditions) to develop a more comprehensive model.
4. **Regional Comparisons:** Compare satisfaction determinants across different states or regions to understand geographic variations.
5. **Impact of Migration Type:** Further analyze the influence of migration nature (temporary, seasonal, permanent) on satisfaction.

6. **Technology & Communication:** Investigate the role of mobile technology and social media in shaping migrant satisfaction and social support networks.

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