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A STUDY ON EMPLOYEE ABSENTEEISM AND ITS IMPACT ON PRODUCTION SAMBANDAM SPINNING MILLS LTD

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ABSTRACT

Employee absenteeism is a critical issue in labour-intensive industries such as spinning mills, where continuous production depends on a stable and present workforce. This study, conducted at Sambandam Spinning Mills Ltd., examines the causes of absenteeism among employees and analyses its direct impact on production efficiency.

Primary data was collected from 100 employees using a structured questionnaire covering personal details, working conditions, job satisfaction, and absenteeism causes. Secondary data was drawn from company records, journals, and prior research. A descriptive research design was adopted, and statistical tools — percentage analysis, mean, standard deviation, Pearson correlation, and chi-square tests — were used to analyse the data.

Key findings reveal that low salary and family responsibilities are the most critical drivers of absenteeism (100% agreement; r = −0.85 and +0.81 respectively). Absenteeism, in turn, significantly reduces production efficiency: 100% of employees agree it increases workload and affects teamwork, while 90% report direct production loss. The study concludes that strategic HR interventions — fair wages, welfare programmes, and motivation systems — can substantially reduce absenteeism and restore production performance.

1. INTRODUCTION

1.1 Background

Spinning mills form an essential pillar of the textile industry, with operations organised across continuous process stages — blow room, carding, drawing, roving, spinning, and packing. Each stage requires skilled workers operating machines without interruption. Employee absenteeism disrupts this workflow, creating idle machines, increased workloads for present employees, production delays, and elevated labour costs.

Absenteeism may arise from illness, family obligations, transportation difficulties, job dissatisfaction, poor working conditions,

occupational stress, or low motivation. In spinning mills, environmental factors such as cotton dust, machine noise, long shifts, and physically demanding work add further pressure on employee health and well-being.

1.2 Statement of the Problem

Perambalur Sugar Mills Ltd. and Sambandam Spinning Mills operate in labour-intensive environments where any deviation in workforce availability directly affects production targets. Key concerns include:

- Frequent unplanned absenteeism disrupting continuous production processes.
- Increased costs from overtime and temporary worker deployment.
- Reduced machine utilisation, product quality, and team efficiency.
- Management's limited understanding of the root causes of absenteeism.

This study therefore investigates the major causes of absenteeism and quantifies their impact on production performance.

1.3 Objectives of the Study

Primary Objective

To study employee absenteeism and its impact on production in spinning mills.

Secondary Objectives

- To identify the major causes of employee absenteeism.
- To analyse the relationship between absenteeism and production efficiency.
- To examine the effect of working conditions on absenteeism.
- To study the influence of job satisfaction on attendance.
- To analyse whether health problems and occupational stress contribute to absenteeism.

1.4 SCOPE & LIMITATIONS

Scope of the Study

The study is confined to employees across the core spinning mill departments (blow room, carding, drawing, roving, spinning, packing). It examines:

- Factors contributing to absenteeism — working conditions, health, family, job satisfaction, wages, and motivation.
- The relationship between absenteeism and production levels, machine utilisation, and operational efficiency.
- Employee welfare measures and their effect on attendance behaviour.
- Recommendations for management to reduce absenteeism and sustain production targets.
- Limitations of the Study
- The study is limited to one spinning mill and may not represent the entire textile sector.
- Sample size of 100 employees may restrict generalisation.
- Primary data via questionnaire may carry personal response bias.
- Time constraints limited the depth and duration of data collection.
- Organisational policy changes during the study period were not tracked.
- Factors beyond absenteeism (technology, supply chain) affecting productivity were not examined.

2. RESEARCH METHODOLOGY

2.1 Research Design

The study adopts a descriptive research design, which describes absenteeism patterns and analyses their relationship with production. This design is well-suited because it identifies who is absent, how frequently, and why, while providing a clear picture of employee behaviour and its consequences.

2.2 Nature of Research

The study combines three research approaches:

- Applied Research — directed at solving real problems: reducing absenteeism and improving productivity.
- Quantitative Research — uses numerical data (percentages, mean, SD, correlation) for statistical analysis.
- Qualitative Research — captures employee opinions and perceptions on stress, salary, and family issues.

2.3 Sources of Data

Primary Data

Collected directly from 100 employees via structured questionnaire (five sections: personal profile, working conditions, absenteeism causes, production impact, satisfaction level), interviews, and observation of attendance patterns.

Secondary Data

Sourced from company attendance records, production reports, books, academic journals, and prior research on absenteeism in the textile sector.

2.4 Sampling Design

- Population: All employees working in the spinning mill.
- Sample Size: 100 employees — manageable, representative, and cost-effective.
- Technique: Convenience sampling based on employee availability and willingness.

2.5 Period of Study

The study was conducted over three months — sufficient to observe absenteeism patterns and collect adequate primary data.

2.6 Hypotheses

Hypothesis	H_0 (Null)	H_1 (Alternative)
Primary	Absenteeism has no impact on production	Absenteeism has a significant impact on production
Secondary	Low salary does NOT affect absenteeism	Low salary significantly affects absenteeism

2.7 STATISTICAL TOOLS FOR DATA ANALYSIS

a) Percentage Analysis

Expresses the distribution of respondents in each category as a proportion of the total (Formula: No. of Respondents ÷ Total Respondents × 100). Example: Female = 77%, Male = 23% — confirming a predominantly female workforce.

b) Mean (Average)

Calculates the average Likert-scale response for each variable. A mean near 5 indicates strong agreement; near 1 indicates strong disagreement. Mean values in this study range from 1.2 (salary satisfaction — very low) to 4.8 (working conditions — excellent).

c) Standard Deviation (SD)

Measures the spread of responses around the mean. Low SD (< 1.0) indicates uniform opinion; high SD (> 1.5)

indicates diversity of views. For example, salary satisfaction SD = 0.32 (very consistent — employees uniformly dissatisfied), while motivation SD = 1.11 (mixed opinions).

d) Pearson Correlation (r)

Measures the strength and direction of the linear relationship between two variables. Values near +1 indicate strong positive correlation; near −1 indicate strong negative correlation.

e) Chi-Square Test (χ^2)

Tests the association between categorical demographic variables and absenteeism levels. Decision rule: if p-value < 0.05, reject H_0 (significant relationship exists)

3. DATA ANALYSIS

Table 3.1 — Mean Analysis of Key Variables

Variable	Mean Value	Interpretation
Job Satisfaction	4.5	Very High
Motivation Level	2.8	Moderate
Salary Satisfaction	1.2	Very Low
Working Conditions	4.8	Excellent
Health Impact (Dust)	3.8	Significant
Absenteeism Impact	3.5	Moderate

Interpretation: Employees are highly satisfied with job and working conditions but show very low satisfaction with salary — a key driver of absenteeism.

Table 3.1 — Standard Deviation Analysis

Variable	Mean	SD	Consistency
Job Satisfaction	4.5	0.45	Very Consistent
Salary Satisfaction	1.2	0.32	Very Consistent
Motivation	2.8	1.11	Mixed Opinions
Working Conditions	4.8	0.28	Very Consistent
Cotton Dust Health	3.5	1.22	Varied Opinions
Absenteeism Impact	3.0	1.08	Mixed Opinions
Low I Caus Abse		(	Highly Consistent

Observation: Low SD values for salary and working conditions confirm near-universal agreement; higher SD for motivation and health dust reflect diverse employee experiences.

Table 3.2 — Correlation Interpretation Scale

r Value Range	Strength	Meaning
+0.7 to +1.0	Strong Positive	Variables move together strongly
+0.3 to +0.7	Moderate Positive	Variables move together moderately
0.0 to ±0.3	Weak	Little or no relationship
-0.3 to -0.7	Moderate Negative	One increases, other decreases
-0.7 to -1.0	Strong Negative	Inverse strong relationship

Table 3.3 — Correlation Findings

Variables	r Value	p-value	Relationship
Low Salary ↔ Absenteeism	-0.85	0.000	Strong Negative *
Job Satisfaction ↔ Attendance	+0.78	0.000	Strong Positive*
Motivation ↔ Absenteeism	-0.72	0.001	Strong Negative *
Family Responsibilities ↔ Absence	+0.81	0.000	Strong Positive*
Working Conditions ↔ Attendance	+0.65	0.005	Moderate Positive*
Cotton Dust ↔ Health Issues	+0.48	0.021	Moderate Positive*

** Statistically significant at $p < 0.05$ level*

Key Insights: Low salary shows the strongest negative correlation (−0.85), confirming it is the primary driver of absenteeism. Family responsibilities (r = +0.81) and high job satisfaction (r = +0.78 with attendance) are also critical factors.

Table 3.4 — Chi-Square Test Results

Test	χ^2 Value	df	p-value	Decision
Gender vs Absenteeism	8.42	1	0.004	Significant
Age Group vs Absence	12.65	4	0.013	Significant
Marital Status vs Absence	6.78	1	0.009	Significant
Salary Level vs Absence	28.94	2	0.000	Highly Significant
Department vs Absence	5.32	1	0.021	Significant
Employment Type vs Absence	9.87	1	0.002	Significant

Conclusion: All chi-square tests yield p-values < 0.05, confirming statistically significant associations between demographic factors and absenteeism. Salary level records the highest χ^2 value (28.94), reaffirming salary as the dominant factor.

Table 3.5 — Hypothesis Test Results

Hypothesis	Metric	Value	Decision
Primary: Absenteeism	r / t-stat / p	−0.87 / −12.45 /	REJECT H_0

→ Production		0.000	
Secondary: Low Salary → Absenteeism	r / χ^2 / p	−0.85 / 28.94 / 0.000	REJECT H_0

Both null hypotheses are rejected. Absenteeism has a statistically significant negative impact on production (r = −0.87), and low salary is the most significant single cause of absenteeism (100% respondent agreement).

Table 3.6 — Causes of Absenteeism

Cause	Agreement %	Correlation (r)	Significance Level
Low Salary	100%	-0.85	CRITICAL
Family Responsibilities	100%	+0.81	CRITICAL
Lack of Motivation	70%	+0.72	HIGH
Unauthorised Absence	30%	+0.65	Moderate
Health Problems	30%	-0.42	Moderate
Job Stress	0%	-0.15	Low
Transportation Issues	0%	-0.08	Very Low
Working Hours / Noise	0%	-0.05 to -0.12	Negligible

Table 3.7 — Absenteeism Effects on Production

Production Impact	Agree %	Mean Score	SD
Increases Workload on Others	100%	4.9	0.10
Affects Teamwork & Coordination	100%	4.95	0.15
Reduces Overall Efficiency	85%	4.2	0.85
Causes Total Production Loss	90%	4.5	0.65
Delays Production Targets	30%	3.0	1.08

Critical Finding: 100% of employees confirm that absenteeism increases workload and disrupts teamwork. 90% report total production loss, indicating severe organisational impact.

4. FINDINGS

4.1 Findings on Causes of Absenteeism

1. Salary is the Primary Driver

100% of employees agreed that low salary leads to absenteeism. The Pearson correlation (r = −0.85) is the strongest in the study, and the chi-square value (χ^2 = 28.94, p = 0.000) is highly significant. Low salary is the single most critical and consistent factor influencing absenteeism across all departments.

2. Family Responsibilities Strongly Affect Attendance

100% of employees agreed, supported by a strong positive correlation (r = +0.81, p = 0.000). Employees — the majority of whom are female and married — frequently absent themselves due to domestic obligations, childcare, and social responsibilities. Marital status is significantly associated with absenteeism (χ^2 = 6.78, p = 0.009).

3. Lack of Motivation

70% of employees agreed, and a strong negative correlation ($r = -0.72$, $p = 0.001$) confirms that demotivated employees are more likely to be absent. Low motivation is the third most critical cause after salary and family responsibilities.

4. Job Satisfaction Reduces Absenteeism

A strong positive correlation ($r = +0.78$, $p = 0.000$) between job satisfaction and attendance confirms that higher job satisfaction leads to better attendance. Mean score of job satisfaction is high (4.5), suggesting that the mill's work culture is broadly positive.

5. Health and Environmental Factors — Moderate Impact

Only 30% of employees attributed absenteeism to health problems ($r = -0.42$), and cotton dust exposure showed a moderate positive correlation with health issues ($r = +0.48$). These are secondary, not primary, drivers of absenteeism.

6. Working Conditions are Not a Major Cause

100% of employees are satisfied with working hours, safety measures, and rest breaks. Working conditions show a moderate positive correlation with attendance ($r = +0.65$), indicating that good conditions encourage presence — but the current conditions are already satisfactory and do not explain current absenteeism levels.

4.2 Findings on Production Impact

7. Absenteeism Significantly Increases Workload

100% of employees strongly agree that absenteeism creates extra workload for present workers (Mean = 4.9, SD = 0.10). This uniformity of opinion (very low SD) confirms a near-universal experience across all departments.

8. Teamwork and Coordination are Seriously Affected

100% agreement (Mean = 4.95, SD = 0.15). Absent workers disrupt inter-departmental coordination across the production chain — from blow room through packing — leaving teams incomplete and coordination strained.

9. Production Efficiency is Reduced

85% of employees agree that absenteeism reduces efficiency (Mean = 4.2, SD = 0.85). Machines may be left under-operated or idle, and replacement workers lack the skill level of regular employees.

10. Overall Production Loss is High

90% of employees confirm total production loss due to absenteeism (Mean = 4.5, SD = 0.65). The primary hypothesis ($r = -0.87$, $t = -12.45$, $p = 0.000$) statistically confirms that increased absenteeism leads to decreased production. H_0 is rejected.

11. Production Target Delays

While 30% strongly agree on production delays and 70% are neutral, the pattern indicates that delays are situational — occurring when multiple workers absent themselves simultaneously, especially during peak crushing seasons.

4.3 Statistical Summary of Findings

Finding	Statistical Evidence	Implication
Low salary → Absenteeism	r = -0.85, p = 0.000	Most critical HR intervention area
Family → Absenteeism	r = +0.81, p = 0.000	Need flexible leave policies
Motivation → Attendance	r = -0.72, p = 0.001	Recognition & rewards needed
Absenteeism →	r = -0.87,	Absenteeism

Production loss	p = 0.000	control = production gain
Working conditions → Retention	r = +0.65, p = 0.005	Maintain current standards

4.4 SUGGESTIONS

A. Salary and Compensation

- Revise the salary structure to align with industry benchmarks in the Tamil Nadu textile sector.
- Introduce performance-linked bonuses, annual increments, and festival allowances to improve salary satisfaction (currently Mean = 1.2 — very low).
- Provide transparent pay-slip communication so employees understand their full compensation package.

B. Motivation and Recognition

- Implement a formal recognition programme — 'Best Attendance Award' monthly, department-level appreciation events.
- Create clear internal career progression paths with promotion criteria linked to performance and attendance.
- Conduct regular one-on-one sessions between supervisors and employees to identify and address motivation gaps.

C. Family and Leave Management

- Introduce flexible shift options (e.g., day/night preference rotation) particularly for married female workers.
- Provide emergency leave provision for genuine family or medical emergencies to prevent unauthorised absences.
- Establish an on-site crèche facility to support working mothers and reduce childcare-related absenteeism.

D. Employee Welfare Measures

- Upgrade canteen facilities with nutritious and affordable meal options to improve worker well-being.
- Introduce company-supported transport routes for workers commuting from remote areas.
- Expand medical benefits — annual health check-ups, free outpatient consultations, and medical reimbursements for occupational illnesses (cotton dust exposure, noise-induced hearing).

E. Attendance Control and Monitoring

- Deploy biometric attendance systems integrated with HR software for real-time tracking of absenteeism patterns.
- Introduce a graduated disciplinary process for unauthorised absences — counselling → warning → escalation — to deter habitual absenteeism.
- Publish departmental attendance dashboards monthly to create healthy competition and accountability.

F. Health and Safety

- Conduct monthly medical camps and distribute certified dust masks, ear plugs, and personal protective equipment (PPE) to all shop-floor employees.
- Introduce weekly safety briefings and near-miss reporting to sustain the high safety satisfaction score (WM = 4.12).
- Implement an Employee Assistance Programme (EAP) for mental health and stress management counselling.

G. Communication and Workload Management

- Maintain open-door communication channels so workers can escalate grievances without fear of reprisal.
- Conduct quarterly employee feedback surveys to track satisfaction trends and identify emerging absenteeism risks.
- Balance work distribution across shifts to prevent overburden on present employees during peak absenteeism periods.

H. Training and Development

- Organise skill-development workshops for workers to improve job competency and build a sense of professional value.

- Provide cross-training across departments (e.g., carding and roving) so that production is less disrupted by individual absences.

5 CONCLUSION

This study examined employee absenteeism and its impact on production at Sambandam Spinning Mills Ltd. through a structured survey of 100 employees, supported by statistical analysis using percentage analysis, mean, standard deviation, Pearson correlation, and chi-square tests.

The findings conclusively establish that employee absenteeism is a serious and multifaceted problem in the spinning mill environment. Low salary dissatisfaction (Mean = 1.2; $r = -0.85$ with absenteeism) and family responsibilities ($r = +0.81$) are the two most critical causes of absenteeism, each supported by 100% respondent agreement. Lack of motivation ($r = -0.72$) is the third significant driver, while health and environmental factors play a secondary role. Notably, working conditions and safety are rated highly by employees (Mean = 4.8 and 4.12 respectively), confirming that these are not drivers of current absenteeism.

The impact of absenteeism on production is severe. The primary hypothesis is conclusively rejected ($r = -0.87$, $p = 0.000$) — absenteeism significantly reduces production output. 100% of employees confirm increased workload and disrupted teamwork, while 90% report direct production loss. The mill's production chain is particularly vulnerable because each stage — blow room through packing — depends on an adequate, skilled workforce for uninterrupted machine operation.

Chi-square analysis confirms that gender, age, marital status, salary level, department, and employment type are all significantly associated with absenteeism (all $p < 0.05$), providing management with clear demographic signals for targeted HR interventions. The highest chi-square value ($\chi^2 = 28.94$ for salary level) reinforces that compensation reform is the single highest-leverage action available to management.

In conclusion, reducing absenteeism at Sambandam Spinning Mills Ltd. requires a multi-pronged HR strategy centred on five pillars: competitive and fair compensation, robust motivation and recognition systems, flexible leave policies responsive to family obligations, proactive health and welfare programmes, and real-time attendance monitoring. These interventions, if implemented together, will improve employee attendance, reduce production disruptions, enhance workforce morale, and ultimately strengthen the mill's competitiveness and long-term organisational performance.