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A Study on Employee Perception of Health and Safety Practices in Knitting Industries

Dr. M. P. Kumaran[1], Ms. Yalini M[2]
[1]*Assistant Professor Department of Commerce, Dr. N. G. P. Arts and Science College, Coimbatore*
[2]*III B.Com – A, Department of Commerce, Dr. N.G.P Arts and science college, Coimbatore*

Abstract: ***Occupational health and safety are critical components in ensuring employee well-being, operational efficiency, and overall productivity, particularly in labor-intensive sectors such as the knitting industry. This study evaluates employee awareness, perception, and satisfaction regarding workplace safety measures in the knitting industry. By utilizing structured questionnaires and statistical tools like ANOVA, chi-square tests, regression, and correlation analysis, the study investigates the effectiveness of current safety practices, the prevalence of workplace hazards, and the relationship between safety training and health outcomes. The findings indicate that while basic safety protocols exist, their effectiveness varies across demographic factors such as income, designation, and educational background. Notably, the frequency of safety training does not significantly reduce health issues, suggesting the need for a more integrated and proactive safety culture. The study concludes with targeted recommendations to enhance safety practices through tailored training, technological interventions, and employee-centric policy enhancements.***

Index Terms: ***Knitting Industry, Workplace Safety, Employee Feedback, Occupational Health, Safety Training, Health Hazards, Ergonomics, Employee Awareness, Statistical Analysis, ANOVA, Correlation, Regression, Chi-square Test.***

I. INTRODUCTION

Occupational health and safety are paramount in guaranteeing workers' well-being, productivity, and over all organizational success. In sectors where machinery and physical labor are used, upholding rigorous health and safety standards is even more vital. The knitting sector, a major component of the textile industry, has a vast number of workers involved in several processes including knitting, dyeing, and finishing. Workers in this industry are often exposed to occupational risks, such as dust, chemicals, long working hours, ergonomic problems, noise pollution, and hazards associated with operating machinery. Unless properly controlled, these factors can cause serious illnesses, work accidents, and low job satisfaction. To prevent risks, industries establish health and safety policies such as personal protective equipment (PPE), machine guarding facilities, ventilation systems, fire safety procedures, and training programs for employees. Nevertheless, the effectiveness of these interventions lies not just in their adoption but also in employee awareness, compliance, and perception of safety measures.

Workers who lack knowledge of safety laws or feel that they are not effective might be more susceptible to on-the-job injuries. A failure to effectively enforce safety procedures can also contribute to absenteeism, low employee morale, and decreased productivity. Measuring the perception of workers toward health and safety procedures is vital in determining whether existing policies are effective or should be revised. Employees' first-hand experience presents useful information about possible loopholes in safety protocols and areas that need enhanced enforce mentor amendment. The identification and assessment of common work place hazards and employee satisfaction with safety measures will assist in enhancing work place policies to ensure a safer and more productive work environment.

The purpose of this study is to assess employee awareness, examine the effectiveness of safety practices, determine common workplace hazards, and measure overall employee satisfaction with current safety measures in the knitting industry. The study will particularly target a knitting firms, to obtain experiential knowledge regarding the execution and interpretation of health and safety policy by employees. The outcomes will support suggestions on how workplace safety in the knitting sector can be enhanced.

A. Statement Of The Problem

Health and safety are crucial in the knitting industry, where employees face risks like dust, chemicals, ergonomic issues, and machine-related hazards. While safety measures exist, their effectiveness depends on employee awareness and proper implementation. Lack of awareness or weak enforcement can lead to injuries and dissatisfaction. This study examines employee awareness, the effectiveness of current safety practices, common workplace hazards, and overall satisfaction with safety measures.

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This study seeks to address the following key questions:

1) To what extent are employees aware of workplace health and safety measures in the knitting industry?
2) How effective are the current health and safety practices in ensuring employee well- being?

B. *Need For The Study*

Workplace health and safety are crucial for employee well-being, accident prevention, and productivity. In the knitting industry, workers face risks like dust, chemicals, ergonomic strain, and machine hazards. Despite safety policies and protective gear, effectiveness depends on employee awareness and adherence. Poor perception of safety measures can lead to accidents, absenteeism, and reduced morale. This study evaluates employee awareness, safety effectiveness, common hazards, and satisfaction with existing policies. It also examines the impact of safety on productivity, aiming to enhance workplace standards for a healthier, more efficient environment.

C. *Objectives Of The Study*

1) To evaluate employee awareness of workplace health and safety measures.
2) To identify common workplace hazards faced by employees.
3) To assess employee satisfaction with the existing safety measures.

D. *Scope Of The Study*

This research explores employee perceptions of health and safety in the knitting industry, assessing their knowledge of safety procedures, policy effectiveness, common hazards, and satisfaction with existing measures. It examines the impact of workplace safety on productivity and organizational performance. Key areas include employee awareness of safety policies, protective gear, and emergency protocols, as well as the effectiveness of safety measures in reducing hazards. The study identifies common risks like ergonomic strain, dust exposure, and machine-related accidents while gathering employee feedback for improvements. It also analyzes how workplace safety influences performance, absenteeism, and overall efficiency.

II. RESEARCH METHODOLOGY

Research methodology is a systematic approach used to collect, analyze, and interpret data for a study. It ensures that the research follows a structured and organized process to achieve its objectives.

1) *Research Design:* A descriptive research design is used in this study, as it helps in understanding the perceptions, opinions, and experiences of employees regarding workplace health and safety measures. The study involves gathering responses through a structured questionnaire to evaluate employee awareness and satisfaction with existing safety policies.
2) *Sampling Method:* A sampling method is used to select a subset of individuals from a larger population for research purposes. There are two main types of sampling:
3) *Probability Sampling:* Every individual has an equal chance of selection, *Non-Probability Sampling:* Selection is based on specific criteria. For this study, simple random sampling was used to collect data from employees, ensuring an accurate and representative sample.
4) *Sample Size:* The sample size refers to the total number of respondents included in the study. A total of 120 employees from various knitting industries in Tirupur, were selected through random sampling technique to ensure reliable and unbiased results.
5) *Data Collection:* The study collects data from both primary and secondary sources to ensure a comprehensive analysis of workplace health and safety in the knitting industry
6) *Primary Data:* Primary data is gathered directly from employees through structured questionnaires, interviews, and workplace observations. Surveys conducted via Google Forms help assess employee awareness, satisfaction, and perception of safety measures. Additionally, direct interviews with employees and supervisors provide deeper insights into workplace hazards, while on-site observations help analyze the implementation of safety protocols.
7) *Secondary Data:* Secondary data is obtained from existing sources such as company reports, government and industry regulations, research papers, and published literature. These sources offer valuable information on safety standards, labour laws, and occupational health practices relevant to the textile and knitting industries.
8) *Data Analysis:* Once the data is collected, it is analysed using appropriate methods. Descriptive analysis helps summarize survey responses through percentages, charts, and tables, while statistical tools like SPSS and Excel are used to identify trends and patterns. Comparative analysis is conducted to evaluate employee perceptions across different safety measures, highlighting

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strengths and areas for improvement. Finally, the findings are interpreted to provide recommendations for enhancing workplace safety in the knitting industry.

A. *Limitations Of The Study*

1) The study is limited to knitting industries, and the findings may not be applicable to the entire textile sector.
2) Employees may hesitate to provide honest feedback due to fear of consequences from management, leading to response bias.
3) The research is conducted within a limited time frame, restricting the ability to analyse long-term impacts of safety measures.
4) Different knitting industries may follow varying safety protocols, making it difficult to generalize the results.
5) The study relies on self-reported data from employees, which may include subjective opinions rather than objective assessments.

III. REVIEW OF LITERATURE

Godakanda, Gamage, and Amarasinghe (2023) conducted a comprehensive study on occupational health and safety (OHS) issues within the textile industry. Their research identifies key hazards faced by workers, including exposure to excessive noise, dust particles, hazardous chemicals, poor ergonomic conditions, and psychosocial stressors. The authors emphasize the urgent need for proactive safety measures such as regular risk assessments, employee health monitoring, and the implementation of personal protective equipment (PPE). Furthermore, the study explores existing legal frameworks governing workplace safety in the textile sector and stresses the importance of regulatory compliance to safeguard workers' well-being. This work provides critical insights into improving occupational safety standards in textile manufacturing environments. Shaikh, Weiguo, Shahid, Ayaz, and Ali (2018) conducted a case study assessing occupational hazards and safety practices within a textile factory located in Kotri, Sindh, Pakistan. The study revealed the presence of multiple workplace hazards, including chemical exposure, dust, machinery-related injuries, and inadequate ventilation. Importantly, it highlighted the insufficient implementation of occupational health and safety (OHS) protocols, limited awareness among workers, and the absence of proper safety training and protective equipment. The findings point to a significant gap between safety policies and actual practices on the ground, underlining the urgent need for improved regulatory enforcement and employee education to ensure a safer working environment in the textile sector.

Verma and Mishra (2024) explored the impact of shift work on sleep quality and overall health among employees in the textile industry. Their study found that irregular and rotating shifts significantly disrupt workers' circadian rhythms, leading to poor sleep quality, chronic fatigue, and increased susceptibility to long-term health issues such as cardiovascular disorders and mental stress. The research emphasizes the critical link between shift patterns and employee well-being, calling for more strategic shift scheduling and the implementation of workplace interventions aimed at mitigating these adverse effects. This study highlights the importance of integrating health-focused shift management into occupational safety practices in the textile sector.

Singh and Kaur (2023) investigated the occupational health risks encountered by workers in textile dyeing units, focusing on exposure to hazardous chemicals and related health outcomes. The study identified a high prevalence of respiratory issues, skin disorders, and other chemical-induced illnesses among workers due to prolonged contact with toxic dyes and inadequate use of protective gear. Poor ventilation, lack of safety training, and insufficient health monitoring were also cited as contributing factors. The authors advocate for the implementation of stricter safety regulations, proper ventilation systems, and the regular use of personal protective equipment (PPE) to reduce health risks in dyeing units of the textile industry.

Singh and Patel (2023) examined the impact of structured safety policies on employee satisfaction in Indian garment factories. Their study found that the provision of personal protective equipment (PPE), comprehensive emergency response training, and clear safety guidelines significantly enhance workers' sense of security and job satisfaction. These improvements in safety management were also linked to higher employee retention rates, underscoring the importance of well-implemented occupational health and safety policies. The findings suggest that investing in effective safety measures not only protects workers but also benefits organizational stability and productivity in the garment sector.

IV. DATA ANALYSIS

A. *Anova Between Frequency Of Supervisor Safety Checks And Age*

H_0 (Null Hypothesis): There is no significant relationship between the frequency of supervisor safety compliance checks and how often the company provides safety training.

H_1 (Alternative Hypothesis): There is a significant relationship between the frequency of supervisor safety compliance checks and how often the company provides safety training

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.097	3	.366	.325	.807
Within Groups	130.370	116	1.124		
Total	131.467	119			

Source: Primary Data

- Interpretation: In the above table, with the degrees of freedom (df) 3 and an F-value of 0.325, the significance value (Sig.) (3,0.325) = 0.807, which is greater than 0.05. This indicates that there is no significant difference between the frequency of supervisor safety compliance checks and how often the company provides safety training. Thus, H_0 is accepted, and H_1 is rejected.

B. CHI-SQUARETEST

Comparison Between Monthly Income And Frequency Of Safety Training Programs

H_0=There is no association between monthly income and frequency of safety training programs.

H_1=There is an association between monthly income and frequency of safety training programs.

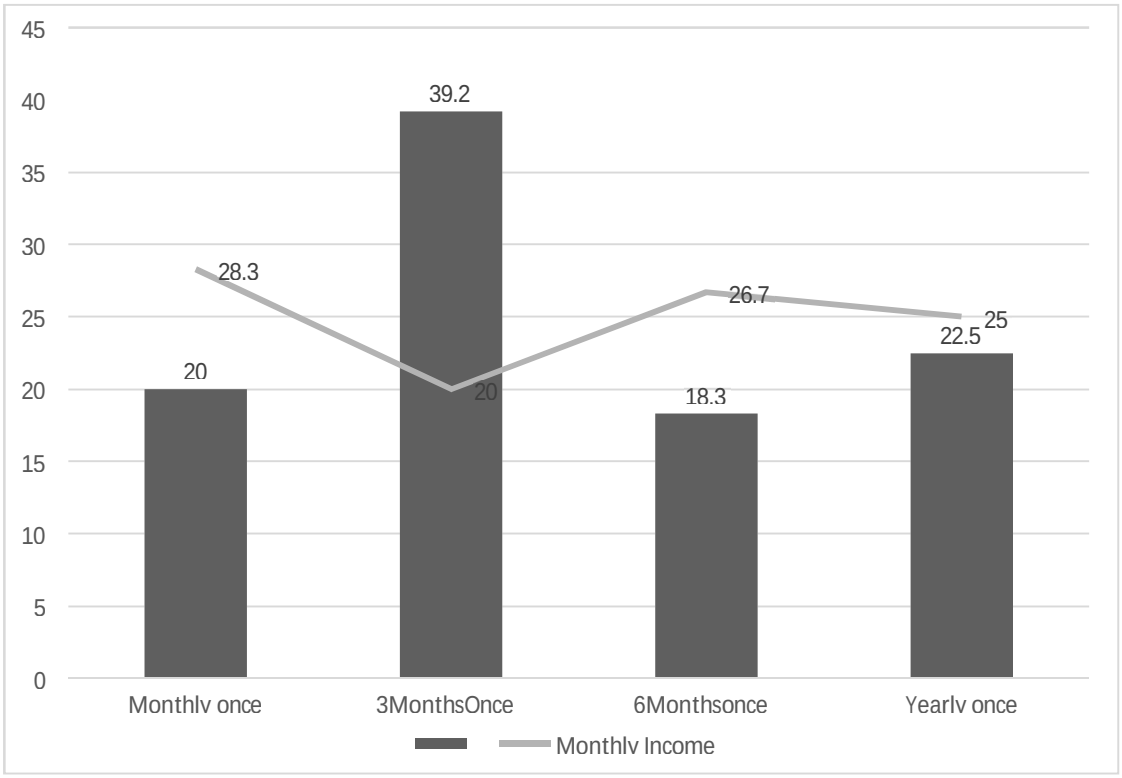
Variables	Value	df	Asymptotic Sig. (2-sided)
Pearson Chi-Square	14.772[a]	9	.047
Likelihood Ratio	16.275	9	.061
Linear-by-Linear Association	.988	1	.320
No of Valid Cases	120		

Source: Primary Data

- Interpretation: In the above table, the Pearson Chi-Square value is 14.772 with 9 degrees of freedom (df), and the significance value(Asymptotic Sig.)is 0.047.Since 0.047 is lesser than 0.05, we conclude that there is a statistically significant association between monthly income and the frequency of safety training programs. Thus, H_0 is rejected, and H_1 is accepted.

Comparison between monthly income and frequency of safety training programs correlation

Correlation between frequency of safety training and common health issues in workplace



H_0=There is no relationship between frequency of safety training and common health issues in workplace.
H_1=There is a relationship between frequency of safety training and common health issues in workplace.

			Frequency of safety training	Common health issue In workplace
Spearman's rho	Frequency of safety training	Correlation Coefficient	1.000	.033
		Sig.(2-tailed)	.	.722
		N	120	120
	Common health issue in workplace	Correlation Coefficient	.033	1.000
		Sig.(2-tailed)	.722	.
		N	120	120

Source: Primary Data

- Interpretation

The Spearman's rank correlation coefficient between the frequency of safety training and common health issues in the workplace is 0.033, which indicates a very weak positive correlation between the two variables. The significance value(Sig.2-tailed)is0.722,whichis greater than 0.05, meaning the correlation is not statistically significant.
Since the p-value (0.722) is greater than 0.05, we conclude that there is no significant relationship between the frequency of safety training and common health issues in the workplace.
Thus, H_0 is accepted, and H_1 is rejected.

V. FINDINGS

A. *Anova*

• There is no significant difference between supervisor safety compliance checks and safety training frequency.
• There is no significant difference between gender and workplace hazards.
• There is a significant difference between the groups being analyzed.

B. *Chi-Squareanalysis*

• Chi square analysis reveals a significant association between monthly income and safety training programs.
• There is no statistically significant association between gender and the reasons employees do not follow safety rules.

C. *Correlation Analysis*

• Correlation analysis finds no strong relationship between safety training frequency and workplace health issues.
• There is statistically significant association between the designation of the respondents and common health issues in the workplace.

D. *Suggestions*

1) Improve Safety Measures Beyond Compliance – Focus on the effectiveness of training rather than just frequency, ensuring employees apply safety practices in real situations.
2) Implement Targeted Safety Awareness – Customize training based on job roles and workplace risks to enhance engagement and knowledge retention.
3) Support Lower-Income and New Employees – Provide specialized onboarding, mentorship, and practical safety drills to help them adapt to workplace safety measures.
4) Identify Additional Workplace Safety Factors – Investigate psychological stress, work conditions, and job satisfaction as potential contributors to workplace health issues.

VI. CONCLUSION

The study's findings suggest that traditional safety measures such as training frequency, supervision, and hazard awareness alone do not significantly impact workplace health issues. This indicates that other underlying factors may be influencing employee well-being, requiring a more in-depth analysis. While organizations may already have safety protocols in place, their effectiveness depends on how well employees understand and implement them in real situations.

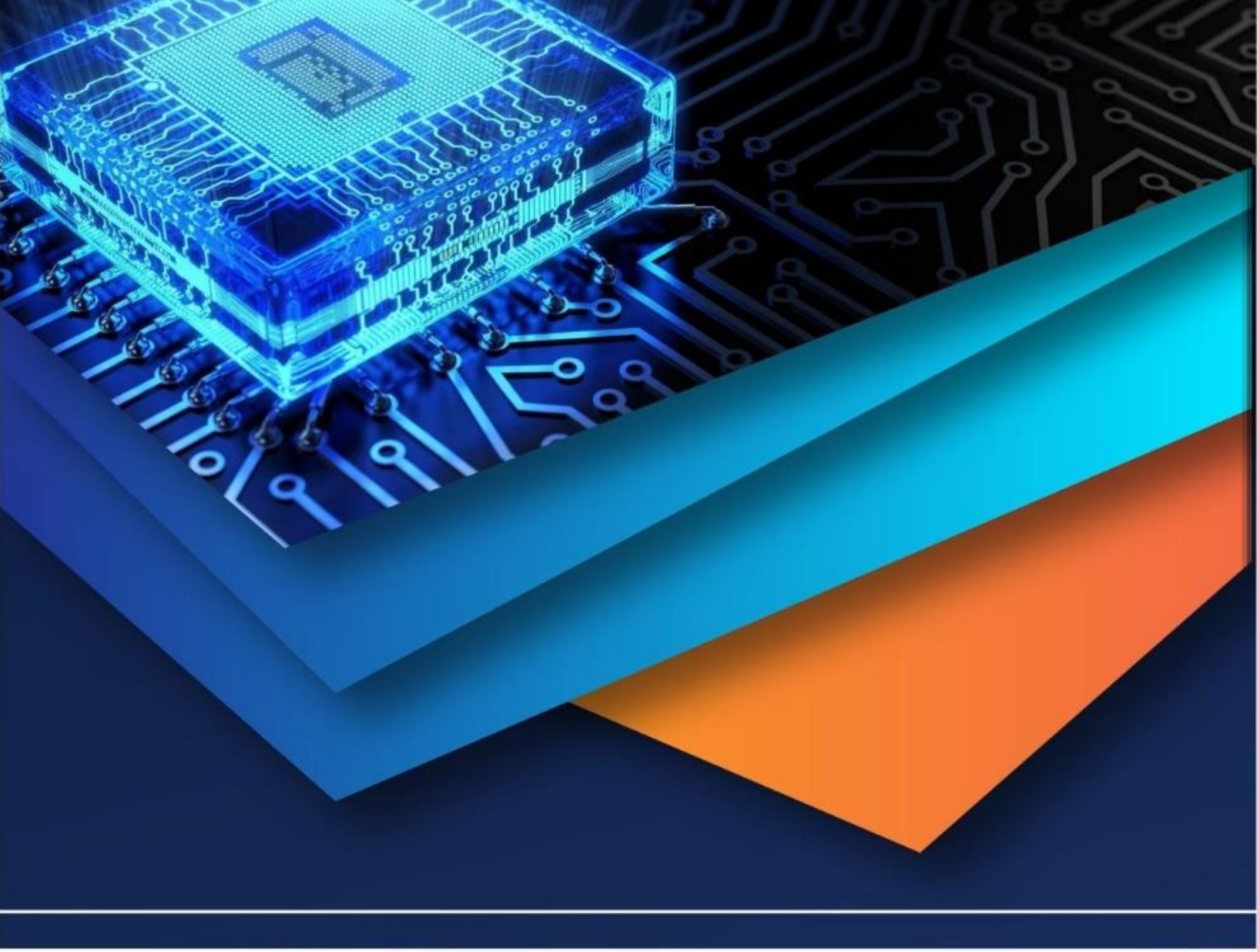
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To improve workplace safety, companies must adopt a comprehensive and employee-centric approach that goes beyond compliance. A combination of personalized training, proactive hazard identification, technological advancements, and employee engagement can create a safer work environment. Investing in advanced safety tools, fostering open communication, and continuously reassessing safety strategies can lead to a sustainable reduction in workplace health issues and enhance overall employee well-being.

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