IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A STUDY ON EMPLOYEES SAFETY, HEALTH AND ENVIRONMENT

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ABSTRACT:

This study investigates the impact of workplace safety, health conditions, and environmental factors on employee satisfaction, addressing a critical aspect of organizational management and employee well-being. Employing a quantitative research methodology, the study analyzes data from 237 employees across various industries, using correlation and regression analyses to explore the relationships between workplace factors and satisfaction, and U and H tests to examine demographic differences. Findings reveal strong positive correlations between most workplace factors studied and employee satisfaction, with welfare facilities showing the most significant positive impact. However, health, surprisingly, had a minimal direct effect on satisfaction within the regression model. The study also uncovers significant demographic differences in the experience and perception of workplace conditions. The scope of this study encompasses an extensive examination of how workplace safety, health conditions, and environmental factors contribute to employee satisfaction, with attention to demographic nuances. The study's findings underscore the importance of holistic workplace improvement strategies that prioritize safety, stress reduction, and the provision of comprehensive welfare facilities. By offering empirical evidence and actionable insights, this research contributes to the development of healthier, safer, and more satisfying work environments, aligning organizational practices with employee well-being and satisfaction.

INTRODUCTION:

In the modern workplace, safety, health, and environmental (SHE) practices have become fundamental to sustainable business operations. Organizations worldwide acknowledge that ensuring the well-being of their employees and protecting the environment are not just ethical imperatives, but essential for long-term success and stakeholder trust. This comprehensive introduction explores the significance of safety, health, and environmental practices in the workplace, shedding light on key concepts, best practices, regulatory frameworks, and emerging trends. The concept of employee safety, health, and environment has evolved over

time, influenced by historical events, technological advancements, and changing societal expectations. Early industrial revolutions were marked by unsafe working conditions, leading to high injury rates and environmental degradation. The tragic events in coal mines, factories, and construction sites during the 19th and 20th centuries highlighted the need for safer working conditions and environmental protection. Over the decades, legislation and regulations have played a crucial role in advancing SHE standards. In the United States, the Occupational Safety and Health Administration (OSHA), established in 1970, marked a pivotal moment in workplace safety. Similarly, the European Union and other countries have developed rigorous safety and environmental frameworks to protect workers and the environment. Today, SHE is a comprehensive discipline encompassing workplace safety, employee health and wellness, and sustainable environmental practices.Organizations invest in safety, health, and environmental programs for several reasons. First, ensuring employee safety is a moral obligation. Workers have the right to work in an environment free from undue risk and harm. Moreover, a safe workplace fosters employee morale, productivity, and job satisfaction. Second, health initiatives contribute to a healthier workforce, reducing absenteeism and healthcare costs. Environmental considerations have also gained prominence as businesses recognize the impact of their operations on the planet. By adopting eco-friendly practices, companies can reduce their carbon footprint and contribute to global sustainability goals. This not only enhances a company's reputation but also aligns with the expectations of customers and stakeholders who increasingly value environmental responsibility.

REVIEW OF LITERATURE:

Zulkarnen Mora, Agung Suharyanto, M. Yahya examines the impact of work safety and health on employee productivity in the production department at PT. Sisirau Aceh Tamiang. Using quantitative methods, the research analyzed a sample of 45 employees through multiple linear regression. The regression equation, $Y = 2.255 + 0.314X1 + 0.811X2$, indicates that work safety and health have positive effects on productivity. The t-test confirmed that work safety and health significantly impact productivity. The coefficient of determination (R2) revealed that 61.4% of employee productivity is influenced by work safety and health, while 39.6% is due to other factors. This suggests that improving work safety and health can substantially boost employee productivity. [1]

Beini Liu and Qiang Lu, investigates how workplace safety climate (WSC) affects presenteeism using theories of stimulus-organism-response and cognitive-affective personality systems. A study with 396 healthcare employees employs time-lagged research design and multiple regression analysis. Results show WSC significantly reduces presenteeism, mediated by affect-based and cognition-based trust. Organization formalization moderates the relationship between WSC and affect-based trust. This comprehensive approach offers practical insights for creating sustainable organizational environments and managing organizational health effectively. [2]

Mateja Lorber stated that employee well-being in nursing is crucial, as work forms a significant part of their lives. It affects physical health, work efficiency, and career success. The World Health Organization defines health as complete physical, mental, and social well-being, not merely the absence of disease. Similarly, the International Labour Organization describes workplace well-being as encompassing all aspects of work life, from the safety of the physical environment to workers' feelings about their job and the work climate. Well-being has three key dimensions: mental, physical, and social. Research indicates that improved personal well-being correlates with better health, relationships, job success, stress resilience, reduced absenteeism, lower illness-related costs, and even fewer MRSA infections in patients. These benefits underscore the importance of promoting well-being in healthcare organizations. [3]

Maryam Larijani stated lack of employee awareness of safety, health, and environmental guidelines at work often leads to non-standard behaviors, causing harm to themselves, the environment, and employers. Since education can improve awareness and behavior, a study was conducted to measure the impact of training on safety, health, and environmental issues in a zinc manufacturing factory. The study used a quasi-experimental method with a test group of 26 randomly selected employees from the ingot manufacturing unit. After educational intervention, knowledge, behavior, and safety performance were assessed through validated questionnaires and OSHA forms for recordable events. Using SPSS software version 22, analysis with dependent t and Wilcoxon tests showed significant improvements in knowledge scores, behavior, and safety performance following training, demonstrating the training's effectiveness. [4]

Park, Jungsun, Han, Boyoung Kim and Yangho, investigated how workplace exposure to physical, chemical, and ergonomic hazards, along with psychosocial factors, affects the subjective health and well-being of Korean workers. Using data from the 2014 Korean Working Conditions Survey, the study found that exposure to physical factors, especially ergonomic ones, and psychosocial factors were linked to lower subjective health and well-being. However, after adjusting for these confounders, job satisfaction and job security were positively associated with improved health and well-being. The study concludes that Korean workers with high job satisfaction and job security tend to report better health and well-being, but job satisfaction alone cannot be assumed to indicate favorable working conditions. [5]

NEED FOR THE STUDY:

The need for this study stems from the growing recognition of the importance of workplace safety, health, and environmental conditions in influencing employee satisfaction and overall organizational performance. As businesses strive to enhance productivity and retain talent, understanding the multifaceted impact of these factors becomes crucial. The study addresses a critical gap in knowledge by systematically examining how different dimensions of the work environment contribute to employee well-being and satisfaction. It aims to provide empirical evidence that can inform strategies to create healthier, safer, and more engaging workplaces, ultimately contributing to better organizational outcomes and employee quality of life.

OBJECTIVES OF THE STUDY:

- To analyze the relationships between specific workplace conditions (Unsafe Condition, Non-Violence, Unstressed Work Environment, Welfare Facilities) and Employee Satisfaction.
- To investigate demographic variations (Gender, Age, Education, Marital Status) in perceptions and experiences of workplace safety, health, and satisfaction.
- To assess the role of health in employee satisfaction within the context of workplace safety and environmental conditions.

SCOPE OF THE STUDY:

Examining the effects of a variety of environmental elements on worker satisfaction, such as welfare services, non-violence, stress-free working circumstances, and dangerous conditions. Examining the perceptions and effects of workplace conditions on various demographic groups (gender, age, education, and marital status) in order to provide insights into the varied needs and experiences of employees. Investigating the connection between worker satisfaction and health (mental and physical) in order to pinpoint important health-related elements that affect worker satisfaction at work. Delivering data-driven suggestions for corporate practices and policies targeted at enhancing environmental, occupational health, and safety conditions.

LIMITATIONS OF THE STUDY:

- If the study adopts a cross-sectional design, it can capture the relationships between variables at a single point in time but cannot conclusively establish causality.
- Self-reported data on satisfaction, health, and perceptions of workplace conditions may be subject to bias, affecting the reliability of findings.
- The study's findings may be specific to the demographic and organizational contexts examined, limiting their applicability to different industries, cultures, or geographical regions.
- The complexity of measuring constructs like "unstressed work environment" or "non-violence" may lead to variability in results. Additionally, the unexpected positive correlation between unsafe conditions and satisfaction underscores potential challenges in operationalizing and interpreting these constructs.

RESEARCH METHODOLOGY:

RESEARCH DESIGN

Research design used in this research study is descriptive research design. A descriptive research design is a type of research methodology that is used to describe and analyze a particular phenomenon, situation, or group. The goal of a descriptive research design is to provide an accurate and comprehensive picture of the characteristics of the population or phenomenon being studied.

DATA COLLECTION METHOD

It is the process of gathering information or data from various sources in order to answer a research question or test a hypothesis.

- **Primary Data:** Data has been generated through surveys.
- **Secondary Data:** Using existing data generated by academic book, journals, company data etc. as part of organizational record keeping.

SAMPLE SIZE

This study utilized a pre-determined sample of 237 employees collected from the organization. A structured questionnaire was used to conduct a survey from 237 employees included in the study.

SAMPLING TECHNIQUES

Non-probability sampling is used in this study. Non-probability sampling is a type of sampling method in which the probability of any particular member of the population being selected for the sample is not known or is unequal. It is used in situations where probability sampling is not feasible or practical, such as when the population is difficult to define or access, or when the research question requires a specific sample that cannot be obtained through probability sampling.

CONVENIENCE SAMPLING

Convenience sampling is a type of non-probability sampling that involves the sample being drawn from the part of population that is close to the hand. The sampling is also known as grab sampling or availability sampling. There are no other criteria to the sampling method except that people be available and willing to participate.

TEST OF NORMALITY:

H_0: The data follows normal distribution

H_1: The data significantly deviates from normal distribution

TABLE SHOWING TESTS OF NORMALITY

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unsafe Condition	0.151	237	< 0.01	0.896	237	< 0.01
Non- Violence	0.14	237	< 0.01	0.891	237	< 0.01
Unstressed Work Environment	0.163	237	< 0.01	0.867	237	< 0.01
Welfare Facilities	0.158	237	< 0.01	0.868	237	< 0.01
Health	0.137	237	< 0.01	0.891	237	< 0.01
Employee Satisfaction	0.139	237	< 0.01	0.885	237	< 0.01
a. Lilliefors Significance Correction						

Inference:

From the above table, since p value < 0.05, the null hypothesis is rejected. It is inferred that the data significantly deviates from normal distribution Hence, non-parametric tools are used.

Tools used:

Research tools can be defined as the instrument in the hands of researchers to measure what they indent to in their study. The collected data has been analyzed by the Research tools like Percentage Analysis, Chart, Mann–Whitney U test, Kruskal-Wallis H test, Spearman Rank Correlation, Regression and Chi- Square.

DATA ANALYSIS AND INTERPRETATION:

CORRELATION

TABLE SHOWING CORRELATION

Correlation	Unsafe Condition	Non-Violence	Unstressed Work Environment	Welfare Facilities	Health	Employee Satisfaction
Unsafe Condition	1					
Non-Violence	0.980**	1				
Unstressed Work Environment	0.964**	0.965**	1			
Welfare Facilities	0.972**	0.976**	0.968**	1		
Health	0.975**	0.981**	0.976**	0.979**	1	
Employee Satisfaction	0.977**	0.977**	0.963**	0.984**	0.983**	1
**. Correlation is significant at the 0.01 level (2-tailed).						

Inferences

- Holistic Approach Needed: The strong interconnections between different aspects of workplace well-being suggest that initiatives to improve any one area can have broad, positive impacts.
- Focus on Safety and Welfare: Prioritizing safe, non-violent environments and enhancing welfare facilities can significantly improve employee health and satisfaction.
- Comprehensive Policies: These findings advocate for integrated workplace policies that address safety, stress, violence, and welfare together, to foster a healthier, more satisfying work environment.

REGRESSION

TABLE SHOWING MODEL SUMMARY

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.986[a]	0.972	0.972	1.021
a. Predictors: (Constant), Health, Unstressed Work Environment, Welfare Facilities, Non- Violence, Unsafe Condition				

TABLE SHOWING ANOVA

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8425.55	5	1685.11	1616.43	0.000[b]
	Residual	240.815	231	1.042		
	Total	8666.36	236			
a. Dependent Variable: Employee Satisfaction						
b. Predictors: (Constant), Health, Unstressed Work Environment, Welfare Facilities, Non- Violence, Unsafe Condition						

TABLE SHOWING COEFFICIENTS

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.294	0.252		1.166	0.245
	Unsafe Condition	0.215	0.075	0.224	2.872	0.004
	Non- Violence	0.243	0.077	0.238	3.154	0.002
	Unstressed Work Environment	0.243	0.061	0.244	4.005	0
	Welfare Facilities	0.267	0.07	0.274	3.814	0
	Health	0.013	0.065	0.013	0.208	0.836

a. Dependent Variable: Employee Satisfaction

The regression equation is

Y = 0.294 + 0.215 X1 + 0.243 X2 + 0.243 X3 + 0.267 X4 + 0.013 X5

Where y – Employee Satisfaction, X1 – Unsafe Conditions, X2- Non-Violence, X3 – Unstressed Work Environment, X4 – Welfare Facilities, X5 - Health

Inference

- Organizations should prioritize enhancing welfare facilities, ensuring non-violence, and reducing stress in the workplace to boost satisfaction.
- Health's Role: The minor role of health in this analysis points to the possibility that the measured aspects of health might not be the most relevant to satisfaction, or their effects are overshadowed by the workplace environment factors.
- A holistic approach that integrates improvements in welfare facilities, stress reduction, and violence prevention appears most effective for increasing employee satisfaction. Further qualitative insights could help clarify the unexpected findings and refine strategies.

U TEST - Gender

Null Hypothesis H0: There is no significant difference between the mean ranks of men and women with respect to Unsafe Conditions, Non-Violence, Unstressed Work Environment, Welfare Facilities, Health and Employee Satisfaction.

Alternative Hypothesis H1: There is significant difference between the mean ranks of men and women with respect to Unsafe Conditions, Non-Violence, Unstressed Work Environment, Welfare Facilities, Health and Employee Satisfaction.

TABLE SHOWING RANKS

Ranks				
	GENDER	N	Mean Rank	Sum of Ranks
Unsafe Condition	Men	114	130.6	14888
	Women	123	108.25	13315
	Total	237		
Non- Violence	Men	114	130.71	14901
	Women	123	108.15	13302
	Total	237		
Unstressed Work Environment	Men	114	130.33	14858
	Women	123	108.5	13345

	Total	237		
Welfare Facilities	Men	114	127.29	14510.5
	Women	123	111.32	13692.5
	Total	237		
Health	Men	114	130.3	14854
	Women	123	108.53	13349
	Total	237		
Employee Satisfaction	Men	114	128.76	14678.5
	Women	123	109.96	13524.5
	Total	237		

TABLE SHOWING TEST STATISTICS

Test Statistics[a]						
	Unsafe Condition	Non-Violence	Unstressed Work Environment	Welfare Facilities	Health	Employee Satisfaction
Mann-Whitney U	5689	5676	5719	6066.5	5.72E+03	5898.5
Wilcoxon W	13315	13302	13345	13692.5	1.34E+04	13524.5
Z	-2.519	-2.557	-2.469	-1.814	-2.468	-2.132
Asymp. Sig. (2-tailed)	0.012	0.011	0.014	0.07	0.014	0.033
a. Grouping Variable: GENDER						

INFERENCE:

From the above table, since the p value is less than 0.05 we reject null hypothesis. There is significant difference between the mean ranks of men and women with respect to Unsafe Conditions, Non-Violence, Unstressed Work Environment, Welfare Facilities, Health and Employee Satisfaction.

H TEST - Age

Null Hypothesis H0: There is no significant difference among the mean ranks of age groups with respect to Unsafe Conditions, Non-Violence, Unstressed Work Environment, Welfare Facilities, Health and Employee Satisfaction.

Alternative Hypothesis H1: There is significant difference among the mean ranks of age groups with respect to Unsafe Conditions, Non-Violence, Unstressed Work Environment, Welfare Facilities, Health and Employee Satisfaction.

TABLE SHOWING RANKS

Ranks			
	AGE	N	Mean Rank
Unsafe Condition	21-25 years	92	121.8
	26-30 years	51	124.56
	31-35 years	23	114.33
	36-40 years	47	108.45
	Above 40 years	24	121.6
	Total	237	
Non-Violence	21-25 years	92	123.38
	26-30 years	51	123.64
	31-35 years	23	115.93
	36-40 years	47	104.94
	Above 40 years	24	122.85
	Total	237	
Unstressed Work Environment	21-25 years	92	123.23
	26-30 years	51	124.18
	31-35 years	23	113.5
	36-40 years	47	107.13
	Above 40 years	24	120.31
	Total	237	
Welfare Facilities	21-25 years	92	124.91
	26-30 years	51	123.57
	31-35 years	23	114.78
	36-40 years	47	104.46
	Above 40 years	24	119.17
	Total	237	
Health	21-25 years	92	121.68
	26-30 years	51	124.2
	31-35 years	23	122.02
	36-40 years	47	105.83
	Above 40 years	24	120.58
	Total	237	

Employee Satisfaction	21-25 years	92	123.15
	26-30 years	51	125.44
	31-35 years	23	118.76
	36-40 years	47	104.57
	Above 40 years	24	117.88
	Total	237	

TABLE SHOWING TEST STATISTICS

Test Statistics[a,b]						
	Unsafe Condition	Non-Violence	Unstressed Work Environment	Welfare Facilities	Health	Employee Satisfaction
Chi-Square	1.76	2.761	2.241	3.191	2.272	2.936
df	4	4	4	4	4	4
Asymp. Sig.	0.78	0.599	0.692	0.526	0.686	0.569
a. Kruskal Wallis Test						
b. Grouping Variable: AGE						

INFERENCE:

From the above table, since p value is greater than 0.05 we accept H0. There is no significant difference among the mean ranks of age groups with respect to Unsafe Conditions, Non-Violence, Unstressed Work Environment, Welfare Facilities, Health and Employee Satisfaction.

U TEST – Marital Status

Null Hypothesis H0: There is no significant difference among the mean ranks of marital status with respect to Unsafe Conditions, Non-Violence, Unstressed Work Environment, Welfare Facilities, Health and Employee Satisfaction.

Alternative Hypothesis H1: There is significant difference among the mean ranks of marital status with respect to Unsafe Conditions, Non-Violence, Unstressed Work Environment, Welfare Facilities, Health and Employee Satisfaction.

TABLE SHOWING RANKS

Ranks				
	MARITAL STATUS	N	Mean Rank	Sum of Ranks
Unsafe Condition	Married	138	126.1	17401.5
	Unmarried	99	109.11	10801.5
	Total	237		
Non- Violence	Married	138	125.92	17376.5
	Unmarried	99	109.36	10826.5
	Total	237		
Unstressed Work Environment	Married	138	125.5	17319.5
	Unmarried	99	109.93	10883.5
	Total	237		
Welfare Facilities	Married	138	125.53	17323.5
	Unmarried	99	109.89	10879.5
	Total	237		
Health	Married	138	125.88	17371.5
	Unmarried	99	109.41	10831.5
	Total	237		
Employee Satisfaction	Married	138	125.59	17331.5
	Unmarried	99	109.81	10871.5
	Total	237		

TABLE SHOWING TEST STATISTICS

Test Statistics[a]						
	Unsafe Condition	Non-Violence	Unstressed Work Environment	Welfare Facilities	Health	Employee Satisfaction
Mann-Whitney U	5851.5	5876.5	5933.5	5929.5	5.88E+03	5921.5
Wilcoxon W	10801.5	10826.5	10883.5	10879.5	1.08E+04	10871.5
Z	-1.891	-1.852	-1.737	-1.754	-1.843	-1.766
Asymp. Sig. (2-tailed)	0.059	0.064	0.082	0.079	0.065	0.077
a. Grouping Variable: MARITAL STATUS						

INFERENCE:

From the above table, since p value is greater than 0.05 we accept H0.There is significant difference among the mean ranks of marital status with respect to Unsafe Conditions, Non-Violence, Unstressed Work Environment, Welfare Facilities, Health and Employee Satisfaction.

SUGGESTIONS:

- Given the strong interconnections between different aspects of workplace well-being, it's essential to adopt a holistic approach to address safety, stress, violence, and welfare comprehensively. This means creating policies that consider these factors together to promote a healthier and more satisfying work environment.
- The study points to the importance of reducing stress and ensuring a non-violent workplace. It can be handled by introducing stress management programs, such as mindfulness training or counseling services.
- Employee welfare is crucial for satisfaction and productivity. Organizations should focus on providing welfare facilities that meet the needs of a diverse workforce by Offering flexible work hours to accommodate different lifestyles and family needs, Providing adequate break areas, restrooms, and dining facilities and Ensuring employees have access to resources that support their well-being, such as fitness programs or mental health resources.
- Given the significant differences in experiences based on gender, age group, and marital status, it's vital to tailor workplace policies to address these variations for gender-based disparities, ensure that workplace facilities and safety measures are inclusive of both men and women. Consider creating a diversity and inclusion committee to oversee these efforts, for age-based groups, offer programs that cater to different career stages, such as mentorship for younger employees and career development for older ones and for marital status differences, provide family-friendly policies, such as parental leave and childcare support.

CONCLUSION:

To conclude, ensuring the safety, health, and environmental sustainability of employees at Tube Products of India is not just a regulatory requirement; it is a core principle that drives the company's success and reputation. The implementation of robust safety protocols, continuous training, and a proactive approach to health and environmental concerns form the cornerstone of a sustainable workplace. Employees play a pivotal role in creating a culture of safety and environmental consciousness. By encouraging open communication, regular safety audits, and a focus on ergonomics and mental well-being, Tube Products of India can minimize workplace incidents and promote a positive working environment. Additionally, adopting eco-friendly practices and reducing waste demonstrates the company's commitment to environmental stewardship. The company's dedication to these principles will not only reduce workplace hazards and contribute to employee well-being but will also enhance its corporate image and relationships with stakeholders. The focus on safety,

health, and the environment ultimately leads to a more productive, motivated, and committed workforce, paving the way for sustained growth and innovation.

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