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Health risk behaviors: An assessment of the Co-occurrence of HRBs among footwear industry workers

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Abstract

Industrial health is crucial in determining productivity and the effects of work on health. Being physically and mentally well are both parts of being in good health. Although there is some element of danger associated with every human activity, the ratio differs for each activity. Socioeconomic disparities and behaviours that are connected to health necessitate additional research and analysis. The goal of the current study was to elucidate how socioeconomic and personal characteristics affected certain health-risk behaviours among those employed in the footwear business.

Methodology: In a nationally representative sample aged 25 to 59 years old (20,030 men and 21,076 women), the relationships between six risk behaviours (i.e., current smoking, excessive alcohol consumption, poor dietary habits, physical inactivity, stress and non-attendance of health checkups), individual characteristics (i.e., age, marital status, occupation and household income) and regional (N = 60) indicators (per capita income and unemployment rate) were examined by multilevel analysis.

Results: Frequency of tobacco consumption was higher in both the sectors in comparison to alcohol and smoking. Majority of the workers consumed alcohol once a week and did not wear seat belt while driving. No evidences of a link between these health risks behaviours and education has been noted but smoking was significantly negatively correlated to age. Alcohol consumption was found positively correlated with not wearing seat belt.

Conclusion: Health risk behaviours had a tendency of co-occurring and it becomes more risky. So it is important to mitigate such practices among workers to ensure a good quality life.

Keywords: Health risk behaviors, footwear industry workers, socioeconomic

Introduction

In developing countries, the average worker spends one-third of their lives working. They were forced to work under subpar working conditions as a result of their lack of knowledge, attitude, and conduct as well as the lack of regulatory organisations. Numerous studies on the health condition of employees in the industrial and service sectors have revealed that the primary health risks are brought on by behavioural choices (health risk behaviours) that put workers at risk for major causes of morbidity and death. It is difficult to comprehend why some people engage in risky behaviour and what motivates them to do so. Numerous social cognitive theories and models, such as the theory of planned behaviour, the risk perception model, and the health belief model, have made an effort to aid in the understanding of these events. An individual dwells in and transitions between one of three emotional states depending on whether they are acting in a safe or dangerous manner (Caffray and Schneider, 2000). (Fig.1). Examining both ends of the motivational continuum is necessary to have a deeper understanding of how employees feel about achieving desired emotional outcomes (constructs that encourage and constructs that discourage participation).

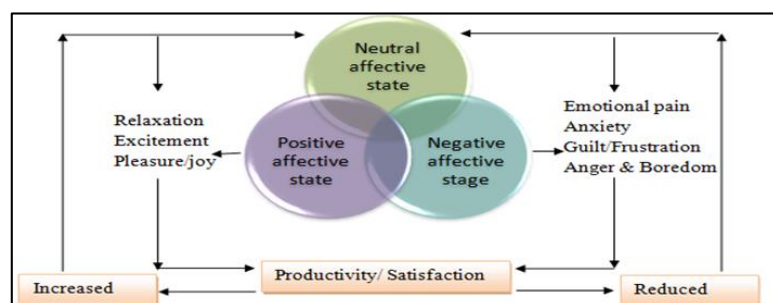


Fig 1: Emotional stages of an individual

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Risky Behaviors/Health-Risk Behaviors (HRBs) are actions that raise the possibility of suffering from adverse health effects both now and in the future. However, health is not just the absence of sickness or infirmity; it is also described as a condition of whole physical, mental, and social well-being. Workers working in different industries get involved in risk bearing activities in young age. These risk behaviors include those that lead to unintentional harm and violence, the use of alcohol, tobacco, and other drugs, unhealthy sexual behavior that lead to unwanted pregnancy and STDs like HIV, poor dietary habits, inactivity like not getting involved in sports, yoga or any other fitness activity, not taking proper rest; explained by Centers for Disease Control and Prevention (CDC, 2014) [11]. Apart from adults, health risk behaviours have great contribution in adolescence morbidity and mortality (Kann *et al.* 2014) [8]. According to Jessor (1991) [6], "HRBs can jeopardise the accomplishment of normal development of expected social roles, the acquisition of essential skills, the achievement of a sense of adequacy and competence, and the appropriate preparation for transition to the next stage in the life trajectory, young adulthood.". Additionally, not getting enough exercise on a regular basis can be considered as health risk behaviour that, when combined with inadequate diet, may cause serious health issues including high blood pressure, type II diabetes, and osteoporosis. As a result, not working out consistently increases the chance of having poor blood flow throughout the body by decreasing heart and lung function. Additionally, inactivity reduces the body's ability to fight fat which increases the risk of obesity and stops muscle growth, preventing the body from using the maximum amount of oxygen which is crucial for all activities. Nearly all human actions include some degree of uncertainty, although some are riskier than others. So, it becomes important to study risk behaviours of workers as occupational health and safety aims to promote the health and well-being of the employees through apprehension, recognition, assessment and control of hazards arising in/from the workplace (Joshi, 2011) [7]. Objective of this study was to examine co-occurrence of the health risk behaviors and the relationship of these behavioral patterns with age, education and other demographic factors.

Review of literature

Pandeya, Mishra and Khana (2021) [10] in their study on cement factory workers found that 29.2% of the total factory workers were used to do smoking less than half of the workers (48.1%) used to check their health status half-yearly. According to the research done by Imiete and Kpang (2019) [5], among the workers of oil and gas servicing company the majority of employees (60.6%) do not exercise. They don't set a schedule for their meals (83.34%) or take rest (84.9%). However, they consume a lot of alcohol (76.1%). Additionally, 32.6% of all respondents asserted that workplace productivity in the area was impacted by the health risky behaviours of the workers.

According to Vieira *et al.* (2015) [14] female workers in a footwear industry were younger, instead of having much less time in the organisation, they were more stressed ($p = 0.001$). They had less time for physical activity ($p = 0.004$), had a greater incidence of MSD symptoms in the last year ($p = 0.003$), and drank less alcohol ($p = 0.006$) than male employees. They proposed that while implementing MSD prevention programmes, the differences between male and female workers should be taken into account. Low back and

ankle discomfort, dizziness, and tingling pain in the hands were observed in a much larger proportion among working youngsters, according to Tyagi (2018) [13].

Methodology

A cross-sectional study was conducted in different shoe manufacturing factories of the Agra district (Uttar Pradesh), which is the major shoe manufacturing hub in India. Both organized and unorganized sectors of shoe manufacturing were selected for the study. Using stratified random sampling method total of 150 respondents were selected from both sector; i.e. 75 respondents from each sector.

The interview schedule was developed and translated into Hindi for better understanding of the respondents. Pretesting of the tool was carried out on different sample size and respondents and improvement or modification in tools was made accordingly.

Statistical analysis: Appropriate statistical method 'correlation' was employed using SPSS to describe the relationship of health risk behavior and demographic profile of the respondents along with the co-occurrence of health risk behaviours.

Results and Discussion

The current study solely included male workers because there were no female workers in industrial units and all of the female workers were 'home based workers'. Respondents from Jatav community, a schedule caste community had a significant percentage in footwear manufacturing industry of Agra, followed by OBC. Both sectors had a remarkably high number of illiterate workers: 78.66% in informal units and 65.33% in formal units. The literacy rate up to elementary school (12% and 18.66%, respectively) and middle school (9.33% and 12%) came next. Nearly nine out of 10 of those who lack literacy are poor or vulnerable, and most of them work as unorganized labour (Singh A. and Singh S., 2022) [12]. Contradictory to current research, shoe manufacturing employees in Ethiopia were reported to have good educational status, with up to secondary school education (Etefa, Teklu, & Teshome, 2018) [2].

A majority of the respondents in formal (60%) and informal (46.66%) units have families of 4-6 persons, which is considered to be a medium family size. Studies have been conducted on the effects of family size as an independent variable on both personality development and family relationships. The quality of life was positively impacted by family size (<2 children) (Karunanithi *et al.*, 2018) [9]. The majority of employees in unorganized shoe factories had between 10-15 years (42.66%) experience in the footwear manufacturing sector, while in organized industry, 40 percent of workers had experience ranging from 10-15 years. All the respondents from current study had a 5-day workweek, while the majority of workers (96%) in the unorganized sector put in more labour than those in the organized sector (100%) who typically put in 7 to 10 hours a day. Work hours have association with the mental as well as physical health of the workers, as it is associated with cognitive load and physiological exertion. The findings of current study revealed that 74.66% of workers from both sectors belonged to the upper lower socioeconomic class, followed by the lower middle class. The respondents from the upper middle class made up the least percentage among the workers in footwear manufacturing units.

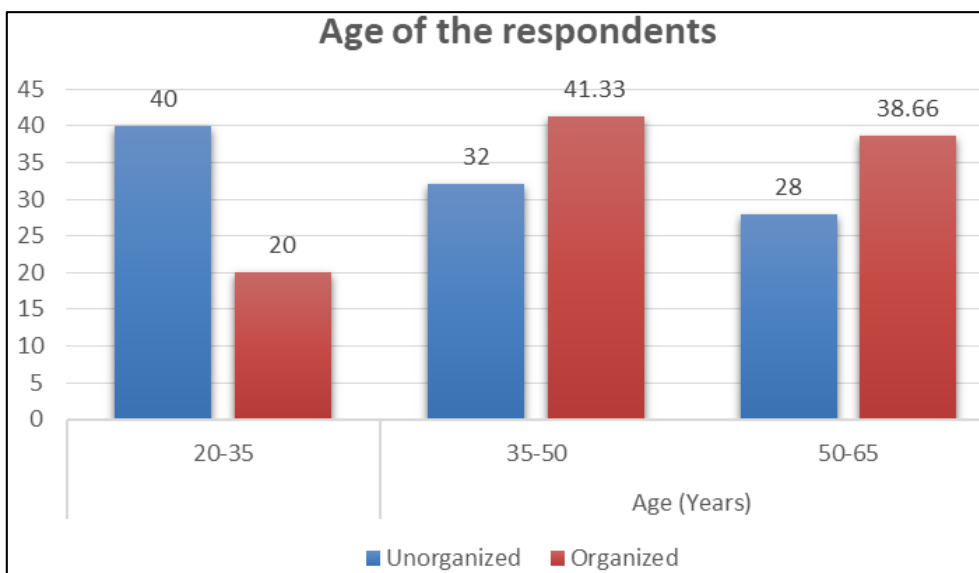


Fig 1: Distribution of shoe makers on the basis their age

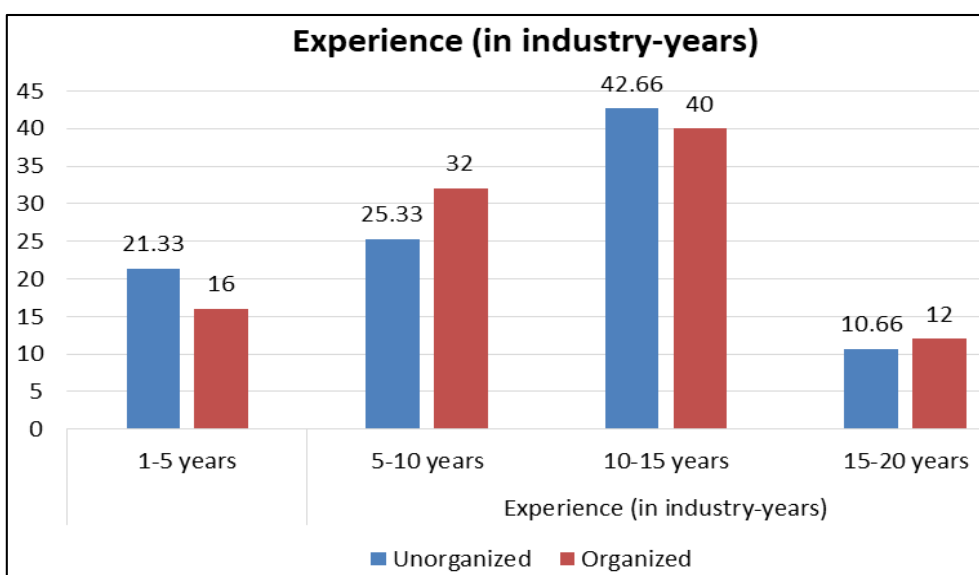


Fig 2: Years of experience in footwear manufacturing sector

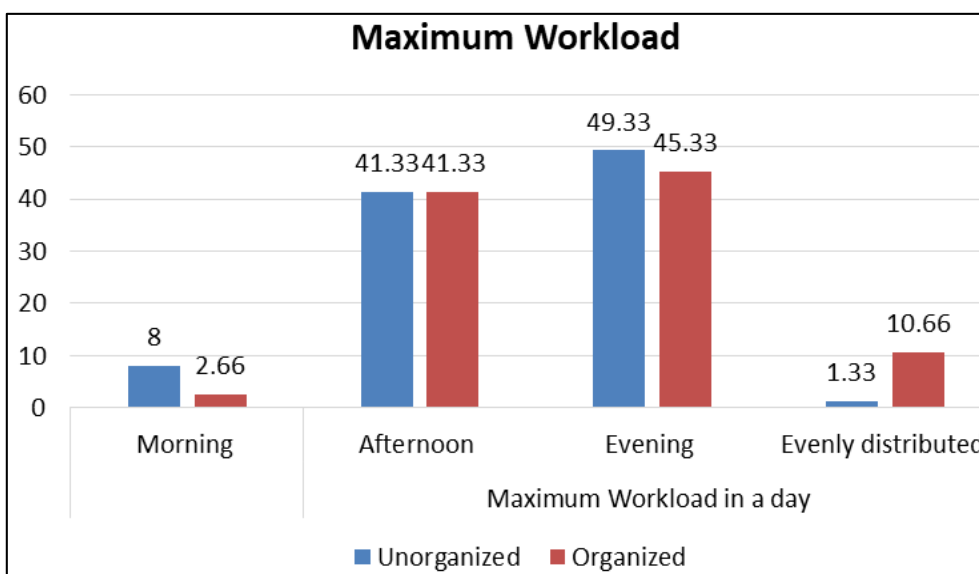


Fig 3: Distribution of workload throughout the day

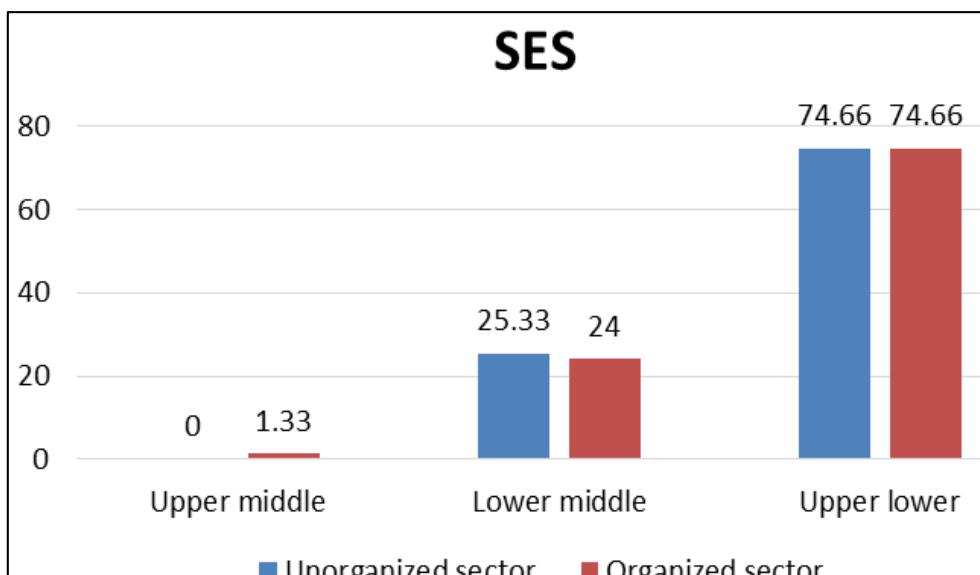


Fig 4: Socioeconomic status of the workers in footwear manufacturing units

The historical record of the developed countries of today reveals that industrialization is a key factor in determining economic expansion. The primary driver of growth during the initial phases of economic development is the industrialization of labour. Conditions of workers in the Indian labour market are defined by the conditions of their social class. Therefore, it is crucial to investigate their socioeconomic background in order to forecast the degree of progress they attained following industrialization. Daily smoking, drinking alcohol and using tobacco at high risk were the health-risk behaviours examined. The majority of respondents in the unorganized sector units were who used alcohol did so once per week (46.66%), followed by those who did so on alternate days (4%). 57.89% of respondents began drinking alcohol between the ages of 18 and 28 followed by the age group of 8–18 years (42.10%). More over half of the population who were drinking it consumed 4 -5 pegs at a time. 49.33% of the respondents had never consumed alcohol. In organized sector 53.33% respondents consumed alcohol once a week and 1-2 pegs at a time (100%). The majority of employees in an organized setting (61.4%) started drinking alcohol at a similar age to those in an unorganized system. Majority of the employees did not wear seat belt and were not involved in any kind of physical

activity like yoga/ sports to keep them healthy. Frequency of tobacco consumption was higher in both the sectors in comparison to alcohol and smoking. More than half of the sample size from both the manufacturing setups consumed tobacco 3-4 time per day and majority of them started consuming tobacco at the age 18-28 years. The frequency of consumption differed between the two sectors, with unorganized sector respondents generally consuming more than five packets per day while organized sector workers used 1- 2 packets daily A significant factor in the decreased health-related quality of life and rising incidence of non-communicable illnesses has been recognized as being health risk behaviours. People who are stressed out may engage in behaviours that affect their health and impair their ability to work. These findings were consistent with the findings from Imiete and Kpang (2019) [5] study on oil industry workers where 16% of the workers did not use seat belt, consume excessive fast food and patronized commercial sex workers (16.5%). It becomes a vulnerable point that a quality life style must be ensure for the workers in every industry, with a great synchronization between work and family life so that worker can get better life instead involving that such life threatening activities.

Table 1: Health risk behaviour of the respondents in footwear manufacturing units

Health Risk Behaviour	Behaviour	Unorganized sector (n=75)			Organized sector (n=75)		
		Alcohol	Smoking	Tobacco	Alcohol	Smoking	Tobacco
Frequency of consumption	Never	37 (49.33)	55 (73.33)	18 (24)	34 (45.33)	60 (80)	11 (14.66)
	Once a week	35 (46.66)	15 (20)	-	40 (53.33)	15 (20)	-
	Alternate days	3 (4)	3 (4)	-	1 (1.33)	-	-
	Everyday	-	-	-	-	-	-
	Twice a day	-	1 (1.33)	13 (17.33)	-	-	12 (16)
	3-4 times a day	-	-	3 (4)	-	-	2 (2.66)
	More than 4 times	-	1 (1.33)	41 (54.66)	-	-	50 (66.66)
Age of getting indulged in HRB	Below the 8 years	-	1 (5)	2 (3.5)	-	-	-
	8-18 years	16 (42.10)	3 (15)	18 (31.57)	-	-	2 (3.12)
	18-28 years	22 (57.89)	14 (70)	35 (61.40)	25 (60.97)	10 (66.66)	62 (96.87)
	More than 28 years of age	-	2 (10)	2 (3.5)	16 (39.02)	5 (33.33)	-
Frequency of consumption in a go/ per day	1-2 drinks/puffs/packs	6 (15.7)	17 (85)	7 (12.28)	-	15 (100)	64 (100)

Numerous studies have demonstrated how socio-cultural variables affect how adolescents and adults begin using alcohol and cigarettes and how they continue to do so. Similarly, the present study sought to determine the relationship between certain demographic characteristics of the respondents and health risk behaviours. Contrary to the widespread belief that education must make smoking, drinking, and using cigarettes outlawed among the general population, the results of the current investigation (Table 2) revealed no evidence of a link between these health risks and education. The data also shows a relatively inverse relationship between drinking and experience, as well as a relationship between smoking and respondents' ages. Similar findings were reported by Goswami *et al.* (2005) [3] in their study; that the number of subjects who smoked cigarettes decreased with age, from 77% in the 60-64 age group to 63.9%, and that the percentage of men who drank alcohol decreased with age, from 25.4% in the 60-64 age group to 10.5% in the 75+ age groups. In contrast to the current study, a study of Brazilian workers (Silveira *et al.*, 2020) [11] found that smoking prevalence was inversely correlated with

educational attainment. Workers with higher levels of stress smoked more. Findings also depict (Table 3) that smoking and binge drinking were significantly and positively related with each other at 1% level of significance. Alcohol consumption also negatively (-0.224 at 1% level of significance) correlated with the practice of wearing seat belt. The respondents who drank alcohol were less used to wearing seat belts while driving which makes them more prone to accidents. Fruits consumption was also significantly and negatively correlated with alcohol consumption (-0.193 at 5% level of significance) and smoking (-0.347** at 1% level of significance). Tobacco consumption was found in significantly negative correlation with yoga/ fitness practices among the workers, while yoga practice has positive correlation to the practice of wearing seat belt. Non-significant positive correlation of socio-economic status was found with alcohol consumption, smoking and tobacco consumption. It emphasized that respondents who were more concerned about their health and involved into some kind of fitness activities were more aware of wearing seat belt as a safety measure.

Table 2: Relationship of health risk behaviours with age, experience and education of the workers

Variables		Age	Education	Experience
Health risk behavior	R	0.120	0.067	0.046
	p value	0.145	0.417	0.576
Alcohol	R	0.074	0.73	-0.001
	p value	0.371	0.372	0.989
Smoking	R	-0.003	0.149	0.093
	p value	0.975	0.069	.258
Tobacco	R	0.117	0.010	0.022
	p value	0.153	0.901	0786

Table 3: Relationship among co occurrence of health risk behaviours

HRB		Alcohol	Smoking	Tobacco	Yoga	Fruits consumption	Seat belt
Alcohol	R	1	.426**	0.067	-0.097	-0.193*	-0.224**
	p value		<0.001	0.415	0.236	0.018	0.006
Smoking	R	.426**	1	0.001	-0.118	-0.347**	-0.129
	p value	<0.001		0.991	0.150	<0.001	0.114
Tobacco	R	0.067	0.001	1	-0.191*	0.126	-0.084
	p value	0.415	0.991		0.019	0.125	0.309
Yoga	R	-0.097	-0.118	-0.191*	1	0.067	0.186*
	p value	0.236	0.150	0.019		0.417	0.023
Fruits consumption	R	-0.193*	-0.347**	0.126	0.067	1	-0.32
	p value	0.018	<0.001	0.125	0.417		0.694
Wearing seat belt	R	-0.224**	-0.129	-0.084	0.186*	-0.32	1
	p value	0.006	0.114	0.309	0.023	0.694	

Conclusion

The results of current study serve as a catalyst for the creation of preventative programmes and treatments that address the co-occurrence of risk behaviours among shoemakers, particularly those that concentrate on high-risk categories. As the findings reveals significant relationship of co-occurrence of health risk behavior, for example people who consume excessive alcohol are more into smoking than the respondents who were not binge drinkers. Alcoholic workers could be more prone to road accident as tendency of not wearing seat belt increases with increased frequency of alcohol consumption. Getting involved in fitness activities on a regular basis might have considerable impact on worker's health as negative relation between smoking and physical activity provides the evidences that people who were engaged in healthy habit were less involved in risk taking activities.

The study's findings also show that use of cigarettes, alcohol, and depression are still significant public health concerns that require understanding and cogent treatment. In order to raise the occupational and public health professionals' awareness of a situation that otherwise may not be discussed or disclosed, behavioural health practises should take the co-occurrence of health risk behaviours in industrial workers into consideration and screen for multiple risk behaviours at once.

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