Lifestyle and Health Assessment Among Software Employees

A Study on Diet, Physical Activity and BMI

[1] D. Subha Sruthi, [2] Divyaroopa.P, [3] K. Anjanee Gayatri

[1] Researcher & Student, [2] Asst. Professor in Nutrition, [3] Asst. Professor in Statistics

[1] dsruthi2002@gmail.com, [2] divyaroopap@gmail.com, [3] anjaneekalaga.off@gmail.com

Kasturba Gandhi Degree and PG College For Women.

***Abstract*---Software employees often face health challenges due to their demanding, sedentary jobs. This study explored how lifestyle factors relate to Body Mass Index (BMI) in this group. In this study, the data was collected on demographics, physical measurements, and lifestyle habits like work hours, eating patterns, and physical activity. It was found that as age increases, BMI tends to increase (a significant positive association). Through this we can conclude that weight was strongly linked to BMI. However, the number of hours worked didn't seem to impact BMI significantly. When we look at a combination of factors – age, weight, height, work hours, physical activity, and meal frequency –we could predict BMI with remarkable accuracy. This combination explained 98.4% of the differences in BMI among software employees, with very little error. This tells us that managing weight in software employees is complex. It isn't just about one thing like physical activity or diet; it's about the whole lifestyle picture. Because of this, workplace wellness programs for software employees should be holistic. They need to address overall lifestyle patterns – not just exercise or food – to effectively support healthy weight management and overall well-being.**

Key Words: Software employees, BMI, Lifestyle factors, Physical Activity, Meal Frequency

I. Introduction:

In today's digital era, software professionals are at the forefront of technological transformation—but ironically, many find themselves trapped in sedentary routines that can severely impact their well-being. The long hours spent at desks, reliance on processed foods, and limited opportunities for physical activity have quietly reshaped the health profiles of this population. While innovation flourishes in their workspaces, their lifestyle choices often reflect growing concerns over obesity, metabolic risk, and poor nutrition. Several studies have started to unpack this silent health epidemic. A large-scale study among corporate IT professionals in South India revealed a troubling trend of unhealthy eating habits, low physical activity, and elevated BMI levels, closely tied to their demanding work culture and lack of wellness infrastructure[1]. Similarly, workplace interventions such as digital lifestyle applications have demonstrated modest improvements in employee behaviour and BMI, highlighting the potential of personalized tech-driven nudges in reversing these risks[2]. Complementing these findings, research also shows that even well-educated software workers often fall short of meeting basic nutritional and physical activity guidelines, thereby exposing themselves to long-term health complications[3]. These studies collectively underscore the urgent need for structured health assessments and targeted wellness programs in the software sector. Understanding how diet, exercise habits, and body mass index interrelate in this sustainable and tailored to their work realities.

II. Objectives:

1. To assess the dietary habits and physical activity levels of software employees.
2. To examine the relationship between BMI and continuous lifestyle factors like age, weight, & working hours.
3. To predict BMI based on multiple lifestyle factors such as age, gender, working hours, & physical activity.
4. To compare mean BMI across groups with different lifestyle behaviours.

III. Review of Literature:

According to the "Physical Activity and Health" section from NCBI Bookshelf (2023), exercise plays a big role in keeping our bones healthy throughout life. When we move and exercise, it helps our bones grow and stay strong. This is important when we're young to build strong bones and as we age to slow down bone loss. For older adults, exercise helps prevent falls and fractures by boosting strength, balance, and coordination. A mix of weight-bearing, resistance, and balance exercises is best for bone health.[4] A study by Elzbieta Biernat et al. in 2010 found that many office workers in Poland weren't getting enough physical activity. Low physical activity levels were seen in 70% of local admin employees, 50% of bank officials, and 35% of civil admin workers. On average, these office workers spent 9.7 hours a day sitting. Increasing physical activity is crucial to reduce risks of metabolic and cardiovascular diseases.[5] A study by Merry Sunaryo et al. (2023) looked into what causes fatigue in workers at PT. Y, focusing on keeping employees safe and healthy. They found that how long people work and their nutritional status really impact how tired they

feel. Both poor nutrition and longer work hours were linked to more fatigue. The study suggests companies do things like "fit to work" checks, encourage healthy eating, balance workloads, and make sure workers get enough rest to help prevent fatigue and keep employees well and productive.[6] A study by Inggrid Mentari Batu Bara et al. (2024) looked at how nutrition affects productivity among factory workers at Pt. Wijaya Karya Beton Tbk in North Sumatra, Indonesia. They found that more than half (57.1%) of the workers weren't as productive as they could be. There was a clear link between having good nutrition and being productive at work. Workers with normal nutrition were more likely to do well at work. So, paying attention to workers' nutritional needs could help boost performance in industrial settings.[7] A study by Mohammad Didar Hossain et al. (2005) looked at how diet and nutrition affect the quality of working life among 65 male factory workers. Workers generally felt "medium" about their work life – older, more experienced, and higher-paid workers were more satisfied. But there was a problem: their diets weren't great. They weren't eating enough calories, and they weren't getting enough nutrients because they mostly ate cereals and veggies with very little protein like meat or milk. About 20% of the workers were actually undernourished. The study says that having a so-so work life combined with poor nutrition could hurt how well workers perform on the job.[8] A study by Mascherini et al. (2020) looked at the eating and exercise habits of 291 office workers at an international company. Workers tended to eat a lot of cereal-based foods but not much fresh meat, fruits, or veggies. They weren't very active – doing only about 30 minutes of moderate exercise per week. The study says workplaces can help employees make healthier choices by tailoring programs based on their current habits. Understanding how employees live is key to creating effective wellness programs at work.[9] A study by Pesona Dessaritina et al. (2024) looked at how nutrition affects how well workers perform physically. They reviewed 20 studies and found that workers who eat balanced diets do better physically and mentally – and that means they're more productive. When workers don't eat well, they tend to feel more tired, have less work capacity, and face more health risks. The study says companies should help workers eat healthier by offering good food choices and teaching them about balanced diets. Doing this can make workers more efficient, healthier, and happier in the long run.[10]

IV. Methodology:

The study "LIFESTYLE & HEALTH ASSESSMENT AMONG SOFTWARE EMPLOYEES: A STUDY ON DIET, PHYSICAL ACTIVITY & BMI" used a mixed qualitative and quantitative approach via a 33-question questionnaire with four sections to assess lifestyle and health among 201 software employees aged 21-50 in Hyderabad, analysing data using descriptive statistics, coefficient analysis, and multiple linear regression.

V. Findings:

Descriptive statistics: Meal Frequency

Parameter	Mean	Standard Deviation
Typical Number of Meals per Day	1.78	0.710
Fast Food Consumption per Week	0.96	0.670
Daily Servings of Fruits and Vegetables	1.46	0.648
Sugary Drink Consumption per Week	0.93	0.781
Office Provides Healthy Food Options	1.25	1.207
Bring Your Own Lunch to Work	1.24	0.621
Consider Your Diet to Be Healthy	2.11	0.687
Regularly Skip Breakfast	0.89	0.888

- People typically eat 1-3 meals a day and a lot of folks skip breakfast sometimes.
- They don't eat much fast food or sugary drinks, which is a plus.
- But they're not getting enough fruits and veggies – most eat less than the recommended 5 servings a day.
- Healthy food options at the office aren't always available, and this varies a lot between workplaces.
- Lots of people bring their lunch to work, maybe to keep their diet on track.
- Overall, people think their diet is "moderately healthy" – not perfect, but not terrible either.

Descriptive statistics: Physical Activity

Parameter	Category	N	Percentage (%)
Follow Any Exercise Regime	0 – No	117	58.2
	1 – Yes	65	32.3
	2 – Maybe	19	9.5
Days of Moderate to Vigorous Physical Activity/Week	1 - 1-2 days	118	58.7
	2 - 3-4 days	35	17.4
	3 - 5 days	22	10.9
	4 - 5+ days	26	12.9
Average Minutes per Day in Physical Activity	1 - Low (<30 mins)	118	58.7
	2 - Moderate (30-60 mins)	59	29.4
	3 - High (>60 mins)	24	11.9
Use Active Commute (Walking/Cycling)	0 – No	155	77.1
	1 – Yes	46	22.9
Take Regular Breaks During Work Day	0 – No	11	5.5
	1 - Yes, frequently	94	46.8
	2 - Yes, Occasionally	96	47.8
Duration of Breaks (If Yes)	1 - Short (5 mins)	87	43.3
	2 - Moderate (10 mins)	61	30.3
	3 - Long (15 mins	23	11.4
	4 - Very Long (20 mins)	30	14.9
Office Provides Physical Activity Facilities	0 – No	143	71.1
	1 – Yes	31	15.4
	2 – No idea	27	13.4
Office Organizes Extracurricular Activities	0 – No	108	53.7
	1 - Yes, Frequently	26	12.9
	2 - Yes, Occasionally	67	33.3
Participate in Office Extracurricular Activities	0 – No	143	71.1
	1 – Yes	58	28.9
Workplace Supports Healthy Lifestyle	0 – No	62	30.8
	1 – Yes	56	27.9
	2 – Partially	83	41.3

- Exercise habits: Most people (58.2%) don't follow any regular exercise routine. About a third (32.3%) do exercise regularly.
- Active days per week: Over half (58.7%) are moderately active only 1-2 days a week. Not many (12.9%) are active 5+ days.
- Daily activity time: Most (58.7%) do less than 30 minutes of physical activity daily.
- Getting to work: Most people (77.1%) don't walk or bike to work.
- Breaks at work: About half take breaks occasionally (47.8%) or frequently (46.8%).

- Office support for activity: Most offices (71.1%) don't have physical activity facilities. Over half (53.7%) don't organize extracurricular activities.
- Workplace healthy lifestyle support: Opinions are mixed – 41.3% say their workplace partially supports healthy habits, 30.8% say no support, and 27.9% say yes.

Correlation:

Correlation between		Correlation Coefficient	p-value
Age	**BMI**	0.239	<0.001
Weight	**BMI**	0.837	<0.001
Working Hours	**BMI**	0.094	0.183

- Age and BMI: Older people tend to have a slightly higher BMI. This makes sense because metabolism and lifestyle can change with age. This link is pretty reliable based on the stats.
- Weight and BMI: No surprise here – people who weigh more tend to have a higher BMI. Since BMI is calculated using weight, this connection is really strong and definitely reliable.
- Working Hours and BMI: How many hours someone works doesn't seem to have much connection to their BMI. Based on the stats, this link isn't strong or reliable.

Multiple Regression Analysis:

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.992[a]	.984	.983	.60171
a. Predictors: (Constant), Number of days per Week of Moderate to Vigorous Physical Activity, Height in Centimeters, Typical Number of Meals per Day, Age in Years, Working hours, Weight in Kilograms				

- Connection between lifestyle and BMI: There's a super strong link between the lifestyle factors looked at in the study and BMI.
- How well the model explains BMI: The model explains a huge chunk – about 98.4% – of why people's BMIs are different. That means the model fits the data really well.
- Accuracy of predictions: The model's predictions of BMI are pretty precise – the actual BMIs are usually within less than 1 unit of what the model predicts.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.992[a]	.984	.983	.60055
a. Predictors: (Constant), Working hours, Age in Years, Height in Centimeters, Weight in Kilograms				

Link between predictors and BMI: The model does a super good job predicting BMI using factors like working hours, age, height, and weight. The connection between these factors and actual BMIs is extremely strong.

How much the model explains BMI: About 98.4% of why BMIs differ between people can be explained by these factors together. That's a really good fit.

Model precision: The model's predictions are pretty spot-on – actual BMIs are usually within about 0.6 units of what the model predicts.

VI. Conclusion:

This study looked at how lifestyle factors connect to Body Mass Index (BMI) among 200 software employees. What they found is that the mix of things like age, work hours, diet, and physical activity strongly predicts someone's BMI. No single thing is the cause – it's the combo of lifestyle habits that matters. For example, older people tend to have a slightly higher BMI. Interestingly, just

working long hours doesn't directly connect to a higher BMI on its own, but might affect things like stress, food choices, and activity levels. The study's model was really good at predicting BMI using these lifestyle factors.

For future research, I would like to recommend to track how BMI changes over someone's career in software and to look at more factors like stress levels, sleep quality, and what people eat to get an even clearer picture of health in this job field. Overall, the study says companies and employees should focus on balanced lifestyles for better health. Some ideas include having wellness programs at work that help with healthy eating, exercise, and work-life balance. It'd also be helpful to teach software employees about how daily choices add up for long-term health.

VII. References

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