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Analysis of Coffee Consumption Motives on Coffee Drinking Habits among Workers

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Abstract
Introduction: Coffee is a popular beverage among the public; however, excessive consumption can have negative effects. A preliminary survey showed that six out of ten respondents (60%) had poor coffee consumption. This study aimed to identify the factors associated with coffee consumption at X Company in 2025.
Methods: This study was conducted from May to June 2025. A cross-sectional study design was employed with a total sample of 68 participants. The dependent variable was coffee consumption, and the independent variables were habit, mood, alertness, social, symptom management, and taste. The sampling technique used was total sampling method. Data were analyzed using univariate and bivariate analyses with chi-square tests.
Results: Data analysis revealed that 79.4% of workers had poor coffee consumption. Further analysis revealed factors that influence it, including habit (PR=1.47, 95% CI=0.9-2.21), mood (PR=1.38, 95% CI=1.0-1.88), alertness (PR=1.41, 95% CI=0.9-2.00), social (PR=1.38, 95% CI=1.00-1.88), symptom management (PR=1.69, 95% CI= 0.9-3.17), and taste (PR=1.58, 95% CI=1.03-2.42).
Conclusion: Habit, mood, alertness, social factors, symptom management, and taste were associated with coffee consumption among workers at Company X. It is recommended that workers reduce their daily coffee consumption and limit sugar use when drinking coffee to minimize the long-term effects of excessive coffee consumption on health of workers.

Keywords: coffee consumption, habits, mood, alertness, social, symptom management, taste.

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Introduction

Data shows that Indonesia ranked second among the countries with the highest coffee consumption after Japan in 2021/2022 and 2022/2023.[1] A surveyed conducted on 4,538 respondents found that 79% of Indonesians consume coffee.[2] Approximately 46.2% of coffee drinkers were reported to be office workers.[3]

Drinking coffee can be done while working, engaging in various other activities, or relaxing. Coffee drinking has become a lifestyle choice among the public. Various groups consume coffee, ranging from lower to upper middle

classes. Coffee is consumed by people of all ages, from children to adults, with young people being the largest consumers.[4] The high number of people consuming coffee in Indonesia proves that it is one of the most popular beverages. Coffee is favored because it provides benefits when consumed within safe limits and without additional ingredients. The benefits include reducing drowsiness and making the body feel more refreshed.[5] A study among workers in Jakarta reported that the most commonly consumed type of coffee was coffee with additives such as milk, chocolate, foam, and other flavors (57.8%), Americano (13.9%), instant coffee (13.1%), and espresso (3.9%).[3] Workers were regular coffee drinkers, consuming coffee around 3-4 times daily.[3] A phenomenon of instant coffee consumption and other types of coffee among workers.[6]

Research in America indicated that short-term coffee consumption could increase abnormal heart rates and reduce sleep duration.[7] Another study found that high coffee consumption and drinking coffee at night can cause insomnia.[8] Drinking more than three cups of black coffee daily increased the risk of abnormal blood pressure.[8] Research found that adding sugar to black coffee increased the risk of abnormal blood pressure twofold compared to those who consumed black coffee without sugar.[5]

Research shows that consuming instant coffee, on average, 1-3 times per week with sugar, could increase body mass index (IMT).[9] A significant association between coffee consumption of more than three cups per day and the incidence of hypertension.[10] These findings suggest that drinking more than three cups of black coffee daily, adding sugar to black coffee, and consuming instant coffee 1-3 times per week with sugar can negatively affect health.

Research has also found an association between coffee consumption and gastritis.[11] Wachamo found that coffee consumption can cause various health problems.[12] Excessive or long-term coffee consumption may impair bone hardening and increase the risk of fractures, especially in women. The risk of coronary artery disease may increase in individuals with slow caffeine metabolism who drink two or more cups of coffee daily. Additionally, coffee consumption may reduce female fertility, lowering the chances of conception by around 27%.[12]

A preliminary survey was conducted on May 6, 2025, involving 10 workers to assess coffee intake. The results showed that six out of ten respondents had poor coffee consumption patterns. Poor coffee consumption was evident, with 7 respondents (70%) consuming more than three cups per day, 7 respondents (70%) drinking coffee less than six hours before sleep, 9 respondents (90%) consuming instant coffee, 9 respondents (90%) consuming coffee with additives such as sugar, milk, creamer, and palm sugar, and 6 respondents (60%) consuming coffee excessively. This study focused on workers, as coffee consumption is commonly used to help maintain alertness and productivity during work. However, inappropriate consumption patterns, such as high frequency, unsuitable timing, excessive volume, and certain types of coffee and added ingredients, may lead to negative effects when consumed over a long period. Therefore, this study aimed to determine the motives associated with coffee consumption among workers at X Company in 2025.

Methods

This study was conducted at X Company, located in North Jakarta, from April 2025 to August 2025, was used. This study employed a quantitative approach with a cross-sectional design.[13] The study population comprised all 78 employees of X Company; however, 10 were excluded because they had participated in the preliminary study. As a result, 68 respondents were selected using a total sampling technique. The primary data used in this study were collected directly from the respondents. The dependent variable was coffee consumption, defined as the respondents' habits related to the frequency, volume, type of coffee, additives, and timing of consumption within one day. Good consumption was categorized as good if it met the following criteria: not consuming instant coffee,

adding additives (sugar, milk, or creamer), consuming coffee at least 6 hours before sleep, and a daily intake of less than 450 ml. Respondents who did not meet these criteria were categorized as having poor coffee consumption.

The independent variables included mood, habit, alertness, social factors, symptom management, and taste, measured using the Motives for Caffeine Consumption Questionnaire (MCCQ). [14] Mood referred to respondents' perception that drinking coffee can help improve negative mood. Habit described respondents' enjoyment of coffee, which subsequently developed into habitual behavior. Alertness reflects the respondents' belief that coffee consumption increases alertness. Social factors referred to social situations that triggered coffee consumption. Symptom management described respondents' motivation to consume coffee to manage physical symptoms they experience, such as headaches or blood pressure. Taste referred to the respondents' belief that the taste of the coffee motivated their consumption.

Habit was categorized as habit or non-habit, mood as positive or negative, alertness as improved alertness or did not improve alertness, social as for interaction or not for social interaction, symptom management as symptom management or not, and taste as due to taste or not due to taste. Coffee consumption motives were categorized using either mean or median values. Data were analyzed using univariate and bivariate analyses, with the chi-square test applied for statistical analysis.

Results

In Table 1, coffee consumption was categorized into groups: poor and good coffee consumption. The results showed that out of 68 respondents, the highest proportion consisted of workers with poor coffee consumption, totaling 54 (79.4%). Most respondents were in the 41-50 years group -33 respondents (48.5%) and were male -56 participants (82.4%).

In Table 2, workers with positive mood motives showed the highest proportion of poor coffee consumption, with 38 workers (88.4%) showing poor coffee consumption. Among workers with a negative mood, the highest proportion of poor coffee consumption was found in 16 workers (84%). The obtained p-value was 0.037 (p-value < 0.05), indicating a significant relationship between mood-related motives and coffee consumption among workers. Workers with habit motives showed the highest proportion of poor coffee consumption, with 44 workers (86.3%). Among workers with non-habit motives, the highest proportion was poor coffee consumption (10 workers [58.8 %]). The obtained p-value was 0.033 (p-value < 0.05), indicating a significant relationship between habit-related motives and coffee consumption among the workers. Workers with motives related to alertness had the highest proportion of poor coffee consumption, with 41 workers (87.2%). Among workers with motives for not improving alertness, the highest proportion of poor coffee consumption was found, with 13 workers (61.9%). The obtained p-value was 0.025 (p-value < 0.05), indicating a significant relationship between alertness-related motives and coffee consumption among the workers. Workers motivated by interaction showed the highest proportion of poor coffee consumption (38 workers, 88.4%). Among workers who did not have the motive of interaction, the highest proportion was poor coffee consumption, with 16 workers (84%) having poor coffee consumption. The obtained p-value was 0.037 (p-value < 0.05), indicating a relationship between social-related motives and coffee consumption among the workers.

Workers with the motive of symptom management showed the highest proportion of poor coffee consumption, with 49 workers (84.5%). Among workers who did not have the motive of symptom management, the proportions were balanced between poor and good coffee consumption. The obtained p-value was 0.025 (p-value < 0.05), indicating a relationship between symptom management-related motives and coffee consumption among the workers. Workers with a consumption motive showed the highest proportion of poor coffee consumption (44 workers, 88%). Among

workers who did not consume coffee for taste, the highest proportion had poor coffee consumption, with 10 workers (55.6%). The obtained p-value was 0.007 (< 0.05), indicating a relationship between taste-related motives and coffee consumption among the workers.

Table 3 shows that workers who used various coffee additives to improve their mood predominantly exhibited poor coffee consumption (38 workers, 74.5%). Workers who consumed coffee more than three times per day demonstrated poor coffee consumption habits (33 respondents or 82.5%), and those who consumed more than 450 ml of coffee per day showed similar habits (36 workers or 81.8%). Total 32 workers (80%) who consumed coffee more than three times per day reported motives related to increasing alertness, while 35 workers (79.5%) who consumed more than 450 ml of coffee per day also reported motives related to increasing alertness. Furthermore, 29 workers (72.5%) who consumed coffee more than three times per day reported social interaction as a motive, and 31 workers (70.5%) who consumed more than 450 ml of coffee per day reported social interaction as a motive. Workers who consumed coffee more than three times per day reported symptom management motives, totaling 36 workers (90%). Additionally, workers who consumed instant coffee reported taste-related motives. Workers who added ingredients to their coffee, such as milk, creamer, palm sugar, sugar, and other additives, also reported taste-related motives, totaling 43 (84.3%).

Table 1. Characteristics of the Respondents

Variables	Total	Percentage
Age		
20-30 years	6	8.8%
21-40 years	29	42.6%
41-50 years	33	48.5%
Gender		
Famale	12	17.6%
Male	56	82.4%
Coffee Consumption		
Good	14	20.6%
Poor	54	79.4%

Table 2. Factors Associated with Coffee Consumption

Variables	Coffee Consumption				Total		*P-value*	PR (95% CI)
	Poor		Good					
	F	%	f	%	f	%		
Mood								
Mood Positive	38	88.4	5	11.6	43	100.0	0.037	1,38 (1,00-1,88)
Mood Negative	16	64.0	9	36.0	25	100.0		
Habit								
Habit	44	86.3	7	13.7	51	100.0	0.033	1.47 (0.97-2.21)
Non habit	10	58.8	7	41.2	17	100.0		
Alertness								
Improve alertness	41	87.2	6	12.8	47	100.0	0.025	1.40 (0.99-2.00)
Does not improve alertness	13	61.9	8	38.1	21	100.0		
Social								
For interaction	38	88.4	5	11.6	43	100.0	0.037	1.38 (1.00-1.88)
Not for interaction	16	64.0	9	36.0	25	100.0		
Symptom management								
Symptom management	49	84.5	9	15.5	58	100.0	0.025	1.69 (0.90-3.17)
Not for symptom management	5	50.0	5	50.0	10	100.0		
Taste								
Due to taste	44	88.0	6	12.0	50	100.0	0.007	1.58 (1.03-2.42)
Not due to taste	10	55.6	8	44.4	18	100.0		

Table 3. Motives for Coffee Consumption by Frequency Category

Variables	Coffee Consumption Frequency				Total	*P-value*	PR (95% CI)	
	>3 cups/ day		1-3 cups/ day					
	f	%	f	%	F	%		
Mood								
Mood Positive	31	72.1	12	27.9	43	100.0	0.005	2.00 (1.15-3.48)
Mood Negative	9	36.0	16	64.0	25	100.0		
Habit								
Habit	33	64.7	18	35.3	51	100.0	0.155	1.57 (0.86-2.87)
Non habit	7	41.2	19	58.8	17	100.0		
Alertness								
Improve alertness	32	68.1	15	31.9	47	100.0	0.040	1.78 (1.00-3.19)
Does not improve alertness	8	38.1	13	61.9	21	100.0		
Social								
For interaction	29	67.4	14	32.6	43	100.0	0.101	1.53 (0.94-2.49)
Not for interaction	11	44.0	14	56.0	25	100.0		
Symptom management								
Symptom management	36	62.1	22	37.9	58	100.0	0.297	1.55 (0.82-3.40)
Not for symptom management	4	40.0	6	60.0	10	100.0		
Taste								
Due to taste	32	64.0	18	36.0	50	100.0	0.243	1.44 (0.82-2.51)
Not due to taste	8	44.4	10	55.6	18	100.0		

Table 4. Motives for The Timing of The Last Coffee Intake prior to Sleep

Variables	*The Timing of The Last Coffee Intake prior to Sleep*				Total	*P-value*	PR (95% CI)	
	< 6 hours		≥ 6 hours					
	f	%	f	%	f	%		
Mood								
Mood Positive	28	65.1	15	34.9	43	100.0	0.038	1.80 (1.02-3.18)
Mood Negative	9	36.0	16	64.0	25	100.0		
Habits								
Habits	31	60.8	20	39.2	51	100.0	1.122	1.72 (0.87-3.40)
Non habit	6	35.3	11	64.7	17	100.0		
Alertness								
Improve alertness	28	59.6	19	40.4	47	100.0	0.310	1.39 (0.80-2.40)
Does not improve alertness	9	42.9	12	57.1	21	100.0		
Social								
For interaction	25	58.1	18	41.9	43	100.0	0.578	1.21 (0.74-1.95)
Not for interaction	12	48.0	13	52.0	25	100.0		
Symptom management								
Symptom management	33	56.9	25	43.1	58	100.0	0.494	1.42 (0.64-3.13)
Not for symptom management	4	40	6	60.0	10	100.0		
Taste								
Due to taste	29	58.0	21	42.0	50	100.0	0.475	1.30 (0.74-2.30)
Not due to taste	8	44.4	10	55.6	18	100.0		

Table 5. Motives for Drinking Instant Coffee

Variables	Instant Coffee				Total		*P-value*	PR (95% CI)
	Yes		No					
	f	%	f	%	f	%		
Mood								
Mood Positive	35	81.4	8	18.6	43	100.0	0.022	1.56 (1.04-2.34)
Mood Negative	13	52.0	12	48.0	25	100.0		
Habit								
Habit	41	80.4	10	19.6	51	100.0	0.006	1.95 (1.08-3.50)
Non habit	7	41.2	10	58.8	17	100.0		
Alertness								
Improve alertness	39	83.0	8	17.0	47	100.0	0.002	1.93 (1.16-3.22)
Does not improve alertness	9	42.9	12	57.1	21	100.0		
Social								
For interaction	35	81.4	8	18.6	43	100.0	0.022	1.56 (1.04-2.34)
Not for interaction	13	52.0	12	48.0	25	100.0		
Symptom management								
Symptom management	44	75.9	14	24.1	58	100.0	0.054	1.89 (0.87-4.10)
Not for symptom management	4	40.0	6	60.0	10	100.0		
Taste								
Due to taste	39	78.0	11	22.0	50	100.0	0.053	1.56 (0.96-2.53)
Not due to taste	9	50.0	9	50.0	18	100.0		

Table 6. Motives for Adding ingredients to Coffee

Variables	Adding ingredients to Coffee				Total		*P-value*	PR (95% CI)
	Yes		No					
	f	%	f	%	f	%		
Mood								
Mood Positive	38	88.4	5	11.6	43	100.0	0.002	1.69 (1.14-2.51)
Mood Negative	13	52.0	12	48.0	25	100.0		
Habit								
Habit	41	80.4	10	19.6	51	100.0	0.106	1.36 (0.89-2.08)
Non habit	10	58.8	7	41.2	17	100.0		
Alertness								
Improve alertness	38	80.9	9	19.1	47	100.0	0.173	1.30 (0.90-1.87)
Does not improve alertness	13	61.9	8	38.1	21	100.0		
Social								
For interaction	35	81.4	8	18.6	43	100.0	0.191	1.27 (0.91-1.76)
Not for interaction	16	64.0	9	36.0	25	100.0		
Symptom management								
Symptom management	46	79.3	12	20.7	58	100.0	0.106	1.58 (0.84-2.98)
Not for symptom management	5	50.0	5	50.0	10	100.0		
Taste								
Due to taste	43	86.0	7	14.0	50	100.0	0.001	1.93 (1.14-3.28)
Not due to taste	8	44.4	10	55.6	18	100.0		

Table 7. Motives for the high Coffee volume

Variables	Volume				Total		*P-value*	PR (95% CI)
	≥450 ml		<450 ml					
	f	%	F	%	f	%		
Mood								
Mood Positive	33	76.7	10	23.3	43	100.0	0.014	1.74 (1.08-2.79)
Mood Negative	11	44.0	14	56.0	25	100.0		
Habit								
habit	36	70.6	15	29.4	51	100.0	0.143	1.50 (0.87-2.56)
Non habit	8	47.1	9	52.9	17	100.0		
Alertness								
Improve alertness	35	74.5	12	25.5	47	100.0	0.025	1.73 (1.03-2.92)
Does not improve alertness	9	42.9	12	57.1	21	100.0		
Social								
For interaction	31	72.1	12	27.9	43	100.0	0.159	1.38 (0.91-2.11)
Not for interaction	13	52.0	12	48.0	25	100.0		
Symptom management								
Symptom management	39	67.2	19	32.8	58	100.0	0.307	1.34 (0.70-2.56)
Not for symptom management	5	50.0	5	50.0	10	100.0		
Taste								
Due to taste	36	72.0	14	28.0	50	100.0	0.070	1.62 (0.94-2.79)
Not due to taste	8	44.4	10	55.6	18	100.0		

Discussion

Overview of Coffee Consumption among Workers at X Company in 2025

The results of the study conducted to describe coffee consumption among workers at X Company in 2025 showed that out of 68 respondents, the highest proportion consisted of workers who fell into the poor coffee consumption category, totaling 54 respondents (79.4%). In this study, poor coffee consumption was assessed based on the frequency, volume, type of coffee, added mixtures, and time consumption. This finding is consistent with a study among workers in Jakarta, which reported that the most commonly consumed type of coffee among coffee drinkers was coffee containing added liquids such as milk, chocolate, foam, and other flavorings (57.8%).[3] The study among workers in Jakarta also reported that workers who consumed coffee regularly drank coffee approximately 3-4 times per day. A study conducted also noted the phenomenon of instant coffee consumption and other types of coffee among workers.[6]

Coffee consumption is an activity that is currently enjoyed by people from all walks of life. Caffeine can be part of a healthy diet for most people; however, it may have negative effects if consumed excessively and can be harmful to health when consumed in large amounts.[15] Coffee consumption is popular because it can be enjoyed while engaging in other activities, such as working, performing various tasks, or relaxing. Drinking coffee has now become part of modern lifestyle patterns.[4]

The results of this study found that many workers consumed coffee in an unhealthy way. Forms of poor coffee consumption included 58.9% of workers consuming coffee more than three times per day and 95.6% consuming coffee less than six hours before bedtime, 70.6% consumed instant coffee, 75% consumed coffee with added mixtures such as sugar, creamer, and milk, and 64.7% consumed more than 450 ml of coffee per day.

Interviews with workers revealed that the high prevalence of poor coffee consumption was due to workers feeling drowsy when working all day without coffee. Additionally, instant coffee was

preferred because it is inexpensive and affordable. Workers also stated that since coffee is provided at the office, they can consume coffee continuously without worrying about spending money on purchasing coffee during working hours.

The Relationship Between Mood-Related Motives and Coffee Consumption Among Workers

The statistical test results showed a significant relationship between mood-rated motives and coffee consumption among workers at X Company. This finding is consistent with the study which reported an association between mood and coffee consumption.[14]

This indicates that drinking coffee may improve mood, not only due to the caffeine content but also because of the sweetness added from sugar or other ingredients mixed with coffee, as coffee contains stimulants that act as agents to enhance central nervous system activity. Examples of stimulants include amphetamines, cocaine, nicotine and caffeine. Stimulants can lead to both physiological and psychological dependence. They may influence mood, cognitive processes, perceptions, and behavior. Individuals often consume stimulants such as caffeine to alter their state, induce pleasure, or cope with stress and daily life pressure.[16]

These findings indicate an association between mood-related motives and coffee consumption among workers. Workers face deadlines with limited resources, often having to complete tasks that two individuals should ideally handle. In addition, revisions and reprimands from supervisors contribute to employees' negative moods. For instance, workers in the window film installation division were required to install window films on more than 35 vehicles each day. If the product fails to meet the installation standards, workers risk receiving reprimands. These working conditions contribute to unfavorable moods among employees, leading them to choose coffee consumption as a coping strategy to improve their mood during work hours. Coffee is frequently consumed with added sweeteners, such as sugar, creamers, and milk. This finding aligns with the study results, which revealed that 38 respondents (88.4%) perceived that drinking coffee can help improve or restore a negative mood (mood positives) (Table 6); this perception may lead to excessive or unhealthy coffee consumption among workers, such as adding ingredients (sugar, milk, creamer, and caramel) to the coffee.

The Relationship Between Habit Motives and Coffee Consumption Among Workers

The statistical test results indicated a significant relationship between habitual motives and coffee consumption among the workers at Company X. This finding is consistent with a study that confirmed an association between habit and coffee consumption.[17] Caffeine intake from coffee acts on the central nervous system, leading to both addiction and withdrawal. Addiction refers to dependence on caffeine, while withdrawal symptoms such as headaches, nausea, fatigue, drowsiness, anxiety, muscle stiffness, and difficulty concentrating occur when caffeine consumption is abruptly discontinued. This explains why coffee consumption often becomes habitual, as caffeine can cause dependency and trigger bodily reactions when not consumed.[18]

The study revealed that habit motives were a contributed to poor coffee consumption among workers at X Company in 2025. Interviews indicated that workers regularly consumed three to four cups of coffee daily, making it a daily routine. Workers expressed that drinking coffee had become a mandatory activity, both at the office and outside, to the point that they felt something was missing if they did not drink coffee every day. The findings showed that 33 workers (64.7%) with habitual motives consumed more than three cups of coffee daily (Table 3). Many workers had started drinking coffee since school, which continued into their working lives.

However, poor coffee-drinking habits may have adverse health effects. Previous studies found that excessive coffee is associated with higher body mass index (BMI), hypertension, stronger heart

contractions, and increased risk of worsening coronary heart disease.[9]

The Relationship Between Alertness Motives and Coffee Consumption Among Workers

The statistical test results showed a significant relationship between alertness-related motives and coffee consumption among the workers at Company X. This finding is consistent with a study that reported an association between alertness and coffee consumption.[19] This association may be explained by the nature of coffee as a stimulant. Coffee contains stimulants that enhance central nervous system activity and increase alertness and wakefulness. Examples of stimulants include amphetamines, cocaine, nicotine, and caffeine. Such stimulants can cause both physiological and psychological dependence and influence thought processes, perception, and behavior. Typically, people consume stimulants (such as caffeine) to heighten their alertness and maintaining focus.[16] Based on this explanation, caffeine in coffee is a stimulant that supports the body's alertness function.[16]

In the context of X Company, many workers reported consuming coffee to reduce drowsiness and restore concentration after lunch, as they must work at their computers until the late afternoon. In addition, one of the tasks at X Company involves cutting window film, a process that requires high concentration. To maintain focus, many workers consume large amounts of coffee. During this activity, workers cut rolls of window film into rectangular sections using cutters, which are then trimmed to fit the dimensions of each vehicle. This task also exposes workers to occupational risks, such as cuts, scratches, and puncture injuries from the cutter.

As a result, workers tend to consume coffee frequently and in large quantities. The findings showed that 32 workers (68.1%) who consumed coffee for alertness drank coffee more than three times a day, while 35 workers (74.5%) consumed more than 450 ml daily (Tables 3 and 7). This pattern indicates poor coffee consumption practices, characterized by an excessive frequency and volume of intake.

The Relationship Between Social Motives and Coffee Consumption Among Workers

The statistical test results showed a significant relationship between social motives and coffee consumption among the workers at Company X. This is consistent with a study that reported that social interaction is closely linked to coffee consumption.[19] In the social context, coffee often serves as a medium for communication, which plays an important role in maintaining relationships and supporting decision-making. Coffee consumption provides opportunities for informal communication, fostering relaxed interactions and strengthening interpersonal relationships.[20]

The results of the study further indicate that social motives were significantly associated with coffee consumption among workers at X Company in 2025. During scheduled breaks (at 10 a.m., 3 p.m., or lunchtime), workers commonly prepare and consume coffee together in the pantry while engaging in casual conversations or discussing work-related issues. Coffee gatherings also took place after working hours at security posts, nearby coffee stalls or cafés. Additionally, after returning from external assignments, workers often stopped at coffee shops to continue work-related discussions. Many workers have reported that conversations accompanied by coffee feel more enjoyable and facilitate social interaction.

However, this social use of coffee was also associated with poor coffee consumption patterns. The findings showed that 29 workers (67.4%) with social motives consumed coffee more than three times a day, while 31 workers (72.1%) consumed more than 450 ml/d (Tables 3 and 7). These consumption patterns indicate excessive frequency and volume of intake, which can be categorized as poor coffee consumption practices. Socially driven coffee drinking may unintentionally encourage repeated consumption throughout the day, increasing the total daily intake beyond the recommended limits.

The Relationship Between Symptom Management Motives and Coffee Consumption Among Workers

The statistical test results showed a significant relationship between symptom management motives and coffee consumption among workers at Company X. This finding is consistent with previous studies reporting that caffeine in coffee exerts pharmacological effects that may relieve headaches, depending on the site of action, dose, and duration of exposure (symptom management).[21] Regular caffeine consumption can lead to tolerance and physiological dependenc,e which becomes apparent when individuals experience caffeine withdrawal symptoms. These symptoms are strongly related to the amount of caffeine consumed and the abruptness of withdrawal from caffeine. Caffeine withdrawal symptoms typically begin 12-24 hours after the last intake, peak at 24-48 hours, and usually resolve within one week. One of the most symptoms is a throbbing headaches that worsens with movement which can be temporarily alleviated by further caffeine consumption.[18]

The findings of this study indicate that symptom management motives were significantly associated with coffee consumption among workers at Company X in 2025. Many workers have reported experiencing headaches due to heavy workloads and high job demands that were not proportional to the available resources. Workers perceived that these tasks exceeded their capacity, resulting in fatigue, neck stiffness, and headache. In addition, interpersonal conflict among workers occasionally contributes to muscle tension and headache complaints. Although the severity or frequency of symptoms was not quantitatively assessed in this study, workers stated that when they experienced throbbing headaches or neck stiffness, they tended to consume coffee because they believed that coffee was effective in relieving symptoms. This perception may explain why workers with symptom management motives reported frequent coffee consumption, which was reflected in the poor coffee consumption patterns observed in our results.

This reliance on coffee for symptom management was reflected in poor coffee consumption patterns. The results showed that 36 workers (62,1%) with symptom management motives consumed coffee more than three times per day (Table 3). Such frequent consumption indicates poor coffee consumption practices driven by dependence-related symptom relief rather than nutritional or social needs. Excessive coffee intake may reinforce a cycle of caffeine dependence, where withdrawal-related symptoms prompt repeated consumption throughout the day.

The Relationship Between Taste-Related Motives and Coffee Consumption Among Workers

The statistical test results showed a significant relationship between taste-related motives and coffee consumption among the workers at Company X. This finding is consistent with a previous study reporting that taste is associated with coffee consumption.[17] In this context, taste refers to the flavor and aroma perceived when drinking coffee. Sensory stimulation from coffee is processed by the brain and may produce a pleasurable response, particularly when the taste matches the individual's preferences. This pleasurable sensory experience can reinforce habitual coffee consumption, as individuals tend to repeatedly consume beverages they find palatable. [22]

The findings of this study further indicate that taste-related motives were significantly associated with coffee consumption among workers at X Company in 2025. Workers reported having preferred coffee brands that they consumed regularly, believing that each brand offered a distinct flavor. Many workers stated that their daily routine felt incomplete without coffee that matched their taste preferences. Observations further showed that X Company provided various instant coffee types and additives, such as sugar and milk, allowing workers to customize the flavor according to their preferences. However, these taste-driven preferences may also contribute to poor consumption patterns. These results showed that 39 workers (78.0%) consumed instant coffee primarily because of taste

preference, and 43 workers (86.0%) added ingredients such as milk, creamer, palm sugar, or other sweeteners to enhance flavor (Tables 5 and 6). Frequent consumption of palatable coffee combined with the use of multiple additives may encourage excessive intake and increase overall calorie and sugar consumption, reflecting poor coffee consumption practices. Therefore, taste-related enjoyment may unintentionally promote repeated consumption throughout the day, increasing the frequency and volume of coffee intake.

The findings show that coffee consumption is influenced by various factors, including habit, mood, alertness, social factors, symptom management, and taste. These results highlight the importance of interventions that go beyond simply limiting consumption by addressing the underlying reasons for this behavior, such as the need to stay alert and manage stress. Therefore, workplace health programs should integrate education on safe coffee consumption, covering frequency, timing, volume, type of coffee, and additives such as milk, along with alternative strategies for managing work-related stress and promoting healthy lifestyles. Such efforts are essential to minimize the potential long-term negative effects of poor coffee consumption on workers.

Limitation

This study had several limitations. The variable of coffee consumption was collected through interviews, in which respondents may have recalled their coffee consumption from the previous week, leading to a potential recall bias. Ideally, coffee consumption should be measured through direct observation so that researchers can accurately assess respondents' caffeine intake from coffee consumption. However, observations could not be carried out in this study because of the time required.

Conclusion

It can be concluded that habits, mood, alertness, socialization, symptom management, and taste were associated with coffee consumption among workers. It is recommended that X Company educate workers regarding healthy coffee consumption frequency, safe intake limits, and the potential impacts of excessive consumption. Workers are also advised to reduce their daily coffee intake and limit sugar use when consuming coffee.

Ethical Approval

This study was approved by the Research Ethics Committee of Esa Unggul University (approval number 0925-07.004/DPKE-KEP/FINAL-EA/UEU/VII/2025).

Data and materials availability

The datasets used and/or analyzed during the current study are available from the first author upon reasonable request.

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Author contributions

Ivana Shintya Nathania was responsible for obtaining research permits, preparing the proposal, conducting data analysis, writing the results and discussion sections, and drafting the manuscript. Ira Marti Ayu provided input in writing the proposal, results, and discussion, edited, and paraphrased the manuscript. Decy Situngkir and Erna Veronika contributed input in writing the proposal, results, and discussion.

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