

INTERNATIONAL COFFEE ORGANIZATION

POSITIVELY COFFEE PROGRAMME

WORK WELL – BENEFITS AT WORK

QUESTIONS AND ANSWERS

There is considerable literature on the effects of caffeine on performance. Coffee is the major source of caffeine for most people, which suggest that consumption of coffee will have beneficial effects.

Q. How does coffee affect mental performance?

A. Most of the research on this topic has involved measuring the mental processes that underlie our ability to perform a variety of tasks. The research may be summarized as follows:

- (1) Caffeine in coffee increases alertness and reduces fatigue. This may be especially important in low arousal situations (e.g. when working at night).
- (2) Caffeine in coffee improves performance on vigilance tasks and simple tasks, which require sustained response. Again, these effects are often clearest when alertness is reduced, although there is evidence that benefits may still occur when the person is unimpaired.

Q. If I drink coffee regularly, will my body adjust to higher levels?

A. Regular caffeine consumption from coffee appears to be beneficial on an ongoing basis. Whilst higher consumers do not have better mental functioning, they are more alert at performing normal functioning activities. This does not appear to alter over time.

Q. How do I know what amount of coffee is best for me?

A. Most people are very good at controlling their coffee consumption to a level that suites them. For example, the pattern of consumption over the day shows that coffee is often consumed to increase alertness. Indeed, many people do not consume much coffee later in the day, as it is important not to be alert when one goes to sleep.

Q. Does coffee have an effect on my physical performance?

A. Major reviews have concluded that caffeine from drinking coffee assists endurance. In contrast, effects on tasks requiring high outputs over a short time (lifting, carrying etc) are less clear-cut.



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Q. How can coffee help when I am feeling tired or bored?

A. A number of studies show that the effects of drinking caffeinated coffee on mood and performance are most obvious in low arousal situations. Such consumption has been found to remove performance impairments.

Q. Why is this important in the workplace?

A. Reduced alertness is a major problem in the work place. It is especially important for safety critical jobs where lapses in attention may result in accident or injury. Coffee has been shown to be beneficial, even in extreme military circumstances and drinking coffee is a recommended method of counteracting fatigue.

Q. How has all this actually been assessed in the workplace?

A. By examining the effects of caffeine from coffee on mood and performance at the beginning and at the end of the working day, the difference between them provides a measure of fatigue and hence performance efficiency over the day.

Q. Can you give me an example of one of those studies?

A. Professor Andrew Smith, at the Department of Psychology at University of Bristol, UK, conducted such a study investigating the effects of caffeine consumption on performance changes over the day. In addition, the participants also monitored their mood in order to examine whether certain mood states lead to subsequent consumption of caffeine.

The study consisted of four conditions. In the free-living condition, participants were able to follow their usual routine. Conditions two and three were free choice but restricted to either caffeinated or decaffeinated coffee, tea and cola products provided. In the fourth condition, where consumption was controlled, participants were instructed to consume the following beverages only, one cup of coffee at 10.30, one cup of tea at 15.30 and one glass of cola at 20.30.

Mood was assessed at consistent times during the day and the results showed that caffeine consumption was greatest in the morning and that the pattern of consumption was similar in all groups.



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Results

In terms of alertness, the greatest reduction was in those consuming only decaffeinated coffee over most of the day. The results also showed that drinking caffeinated coffee led to beneficial effects on alertness and performance. Responses to tasks were slower in the decaffeinated condition at the end of the day than those participants who consumed high levels of caffeine.

So, this study clearly shows that caffeine from coffee consumption consumed regularly can reduce fatigue throughout the working day. Results obtained in this way could also be applied to other situations or jobs, which require observation of the beneficial effects of caffeinated coffee over a longer duration.

Q. What are the effects of regular levels of coffee consumption?

A. The strongest evidence for beneficial effects of regular consumption of caffeine comes from a study by Dr Martin Jarvis at the Institute of Psychiatry in London, UK, published in 1993. In this study, the relationship between habitual coffee and tea consumption and cognitive performance was examined. Subjects completed tests of simple reaction time and choice reaction time, in addition to providing self-reports of usual coffee and tea intake.

There was a clear relationship between improved performances with higher levels of coffee consumption (best performance associated with about 400mg caffeine per day). Results showed that improvement in cognitive performance was strongest in those who had consumed high levels for the longest time.

Additional Information

Caffeine content (mg) of Coffee*

| | Typical | Range |
|----------------------|---------|---------|
| Coffee (150 ml cup) | | |
| Brewed, drip method | 115 | 60 -180 |
| Brewed, percolator | 80 | 40 -170 |
| Instant | 65 | 30 -120 |
| Decaffeinated | 3 | 2- 5 |
| Espresso (30 ml cup) | 40 | 30-50 |

* Data from Coffee Science Information Centre

