

# Coffee, Tea, and Caffeinated Cognition

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## EXTENDED ABSTRACT

People drink coffee and tea every day, placing them just behind water as the most popular beverages in the world. However, our understanding of them, to date, has been limited to the physiological effects they have on the people who consume them. We adopt a psychological treatment to consider how coffee and tea – as a function of their differing levels of caffeine – configure consumer cognition.

Coffee has on average 150 milligrams of caffeine per cup, which often produces a “lift” that arouses the drinker. Meanwhile, tea has on average just 50 milligrams of caffeine per cup, and the effects usually have a later onset. This differing level of caffeine, in turn, can be seen in many societal and cultural associations of coffee and tea whereby people associate coffee with urgency and tea with relaxation.

These associations indicate that coffee prompts a focus on what is immediate and in the present, while tea encourages a view of things as less imminent and more in the future. This difference in temporal focus, in turn, should elicit differences in cognition. Construal level theory posits differences between thinking about the present and the future, broadly classified into either a concrete or an abstract construal (Trope & Liberman, 2010). Accordingly, coffee should draw people to process information in narrow, discrete terms (i.e., a concrete construal), while tea should draw them to process information in broad, superordinate terms (i.e., an abstract construal).

If coffee breeds a sense of urgency while tea prompts relaxation, coffee might cause people’s thoughts to gravitate toward the present moment, whereas tea would lead their thoughts to drift farther into the future. In Study 1, participants listed three activities that they planned to do but for which they had not yet determined an exact time. In an ostensibly unrelated task, they next were asked to generate slogans for a new beverage company that produced either coffee beans or tea leaves (via random assignment). Afterward, participants saw the same activities they had listed earlier and reported when they planned to engage in each. As predicted, participants generating slogans for coffee beans planned the activities sooner than those generating slogans for tea leaves. These findings indicate that coffee prompts people to focus on the present, while tea transcends to the future.

As a marker of construal level, thinking abstractly improves creativity by facilitating the generation of alternative, diverse, or unique ideas for the problem at hand (Friedman & Förster, 2008). Building on this relationship between construal and creativity, we predicted that coffee should cause people to be less creative than tea. We also tested the hypothesis that it is the caffeine that drives the associations between coffee and concreteness and between tea and abstraction. In Study 2, all participants first saw a banner ad before the main experiment. We created four versions of the ad (coffee-caffeine, coffee-decaf, tea-caffeine, tea-decaf), resulting in a 2 (coffee vs. tea) × 2 (caffeinated vs. decaffeinated) between-participants design. The ads showed either pictures of coffee beans or tea leaves, along with a text-based description of the caffeine content and the type of beverage. Afterwards, participants listed as many ways of using a brick as possible. Caffeinated beverages led to lower overall level of creativity than decaffeinated beverages; this main effect was qualified by a significant interaction. Among participants in the caffeine conditions, those exposed to the coffee ad scored lower on creativity than those exposed to the tea ad. Among those in the decaffeinated conditions,

participants exposed to the coffee ad scored similarly on creativity as those exposed to the tea ad. This pattern of moderation suggests that it is the caffeine content that underlies how people think in response to coffee and tea.

Would our hypothesis also hold when people actually *drink* coffee or tea? If so, our results would have practical relevance since many people drink coffee or tea daily. In Study 3, we assessed the influence of drinking coffee or tea on construal-dependent product evaluation. The study included an ostensible taste test for a new brand of coffee or tea and provided a small sample of one of the beverages (via random assignment) to each participant. While sampling the beverage, participants imagined a situation in which they bought a radio to listen to programs. For half of the participants (via random assignment), the radio had positive central features (e.g., excellent sound) but negative peripheral features (e.g., small clock display). For the other half, the radio had positive peripheral features (e.g., large clock display) but negative central features (e.g., poor sound). Participants indicated how satisfied they would be with the radio. People thinking concretely give greater evaluative weight to peripheral features, whereas those thinking abstractly prefer products with positive central features over those with positive peripheral features (Trope & Liberman, 2000). We predicted that, by giving greater weight to peripheral features, participants drinking coffee should make less of an evaluative distinction between the two radios, whereas those drinking tea should show a stronger preference for the radio with positive central features. Participants were more satisfied with the radio possessing positive central features; this main effect was qualified by a significant interaction. Among participants drinking coffee, they were similarly satisfied with the radio that had positive central features and one that had positive peripheral features. Participants drinking tea were more satisfied with the radio that had positive central features than with one that had positive peripheral features. This suggests that actually drinking these beverages also shapes how people evaluate product-related information.

Taken together, this research suggests that coffee and tea configure the temporal focus with which people appraise events, and this difference in timing – via shifts in construal – impacts a host of judgments and decisions. The connection between caffeine and cognition opens the door to consideration of other beverages, and a related stimulant-depressant dissociation tied to temporal focus and construal likely generalizes beyond just drinks. Thus, it remains important to understand not just the physical consequences of foods but also how they impact everyday judgement and decision-making.

## REFERENCES

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