



## Efek Kafein dan Tekanan Kinerja Terhadap *Working Memory*

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**Abstract.** Performance pressure and caffeine consumption are a common combination in daily life, and have both been shown to impact cognitive performance. This study examines the possibility an interaction effect both performance pressure and caffeine to enhance working memory. Performance pressure and caffeine consumption were a common combination in daily life, and have been shown to affect one's cognitive performance. Caffeine was given in the form of Robusta coffee at a dose of 50 mg of caffeine brewed in 150 ml 80 ° C and consumed acutely. Meanwhile, improving performance is a manipulation of a combination of three factors that provide incentives in the form of competition, and video recordings provided to create passion for participants, so participants need help to improve their performance. The study was conducted experimentally and there were four groups. Participants performed modular arithmetic tasks and the arousal level measurements used the Galvanic Skin Response (GSR). Performance pressure and caffeine consumption were manipulated orthogonally. The results show that caffeine consumption did not have a positive impact on working memory performance under conditions of performance pressure. So, findings suggest that there is no interaction effect of performance pressure and caffeine on working memory performance. However, regarding physiological measurement, GSR value showed significant differences among baseline, pre test and post test session for all group.

**Keywords:** *Caffeine consumption, performance pressure, working memory, GSR*

**Abstrak.** Tekanan kinerja dan konsumsi kafein merupakan kombinasi yang lazim dalam kehidupan sehari-hari, dan telah terbukti memengaruhi kinerja kognitif seseorang. Penelitian ini menguji pengaruh kafein dan tekanan kinerja terhadap *working memory*. Kafein diberikan dalam bentuk kopi jenis robusta dengan dosis kafein 50 mg yang diseduh dalam 150 ml air 80°C dan dikonsumsi secara akut. Sedangkan tekanan kinerja adalah manipulasi kombinasi tiga faktor yakni insentif uang, persaingan dan *videotaping* yang diberikan untuk menciptakan *arousal* pada partisipan sehingga partisipan merasa perlu untuk meningkatkan kinerjanya. Penelitian dilakukan secara eksperimen dan terdapat empat kelompok. Seluruh partisipan diminta untuk mengerjakan tugas aritmatika serta dilakukan pengukuran level arousal menggunakan *Galvanic Skin Response* (GSR). Tekanan kinerja dan kafein dimanipulasi secara ortogonal. Hasil menunjukkan bahwa konsumsi kafein tidak memberikan dampak positif pada *working memory* di bawah kondisi tekanan kinerja. Jadi, tidak ada efek interaksi dari tekanan kinerja dan konsumsi kafein terhadap *working memory*. Namun pada pengukuran fisiologis, nilai GSR menunjukkan perbedaan yang signifikan pada sesi baseline, pre test dan post test untuk semua kelompok.

**Kata kunci:** *Konsumsi kafein, tekanan kinerja, working memory, GSR*