

THE EFFECTS OF GINSENG ON THE SYMPATHETIC NERVOUS SYSTEM AND THE GSR RESPONSES

Klodiana Rafti

PhD Candidate., European University of Tirana, Albania, klodiana.rafti@uet.edu.al

Abstract

Ginseng, the herbal remedies, is widely used to improve overall energy and vitality, particularly during times of fatigue or stress. While there is not much clinical evidence to support an energy boosting effect, it is stated that ginseng has various effects and studies show its potential value in stimulating immune function, improving memory and symptoms of attention deficit-hyperactivity disorder (ADHD) in children. This study examines the effects of ginseng on sympathetic nervous system by using galvanic skin response (GSR), which is a change in the electrical resistance of the skin, and it reflects sweat gland activity and changes in the sympathetic nervous system and measurement variables. In our study we tempted to observe if the effects of ginseng in the sympathetic nervous system would result in more arousal in the organism. This study considers the Galvanic Skin Response (GSR) of forty (40) participants which took place in a lab environment. The subjects were asked to receive a certain amount of ginseng, which is a stimulant that has many pharmacological effects. This study consisted of four groups of ten participants in each group. Moreover, each participant was exposed to a shock stimulus and a GSR measure thirty minutes after the transmission of the pill. Their reactions were then observed in a computer scope. These results indicated that there is a statistical significance in the second trial of rise time. The results of t-test confirm that particular point of significance. However, there is no significance on the other trials. More specifically, there is no significance between variables on the first trial of duration. The variation of scores between groups and the variation between the group means is less than 0.05. The F ratio should be less than $0.05 > p$. In the duration of the third trial, we observed that the F ratio is also less than 0.05. So, the first trial, and the second trial of the onset latency come up with the same results. Again, on the rise time of the first trial, the F ratio is less than 0.05. However, on the rise time of the second trial we observed a significance of two variables. Particularly, we see that the p-value in this specific point is $0.03724 < 0.05$. In this point, we used a t-test in order to see the interaction in rise time between ginseng and voltage variables. These results indicated that there is no significance in the first and second trial of duration. Similarly, there is no significance in the first and second trial of the onset latency, and also in the first trial of the rise time. However, we found that there is significance on the second trial of the rise time. Therefore, the present data suggest that factors such as noise, amount of ginseng, participants' emotional state, and age, might have influenced our results. Furthermore, much more research must be done to see the effects of ginseng on the sympathetic nervous system measured by the galvanic skin response.

Keywords: ginseng, sympathetic nervous system, galvanic skin response, physiological state.