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Electroencephalographic Effects of Caffeine, Nicotine, Tobacco Smoking, and Alcohol[1]

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Introduction

Of the four psychotropic drugs probably most widely consumed in the world, caffeine (coffee, tea, cola, yerba maté and chocolate), nicotine (tobacco), alcohol and arecoline (betel nut), this paper will concern the first three. Knowledge of the exact behavioral effects of these compounds would be useful, but behavioral effects are sometimes difficult to untangle and quantitate. However, since the time of HANS BERGER, certain electroencephalographic (EEG) findings have been known to correlate very closely with behavioral states and with shifts in those states. So the premise is accepted that careful study of the EEG effects of psychotropic compounds can lead to logical inferences about their behavioral effects.

This paper, therefore, concerns the quantitative and qualitative EEG effects of caffeine, nicotine and tobacco smoking, and alcohol. It is limited mainly to the effects of amounts ordinarily consumed. Many psychotropic drugs have effects on sleep cycles, and some data of this type will also be included.

Methodology

Before proceeding to examine reports, however, some factors which strongly influence the kinds and appearances of the data obtained should be mentioned. If one gives a large dose of a strong drug to a subject, the results are usually uniform and unequivocal, for example, an anesthetic, a large dose

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