

Corn Consumption, Tryptophan and Cross-National Homicide and Suicide Rates

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Mawson and Jacobs (1978) noted that current research indicated that serotonin (5-hydroxytryptamine) in the central nervous system may inhibit aggressive behaviour. The synthesis of serotonin of the body requires the precursor amino acid L-tryptophan, which is obtained from our diet. Corn has low levels of tryptophan as compared to other cereals, and so people who eat corn in preference to other cereals would have a lesser intake of tryptophan. They argued, therefore, that nations with a higher per capita consumption of corn would have higher homicide rates. A study of nations in 1972 confirmed their hypothesis.

The present note sought to replicate this report, using more recent data, and to extend the study to suicidal, in addition to homicidal, behaviour.

Data on suicide and homicide rates were obtained for the year 1978 from the World Health Organization (WHO, 1980, 1981, 1982, 1983).^{*} Data on corn consumption in 1980 were obtained from the U.S. Department of Agriculture (1983), using the same measure as that used by Mawson and Jacobs (total domestic corn consumption minus that used for animals, divided by the population). The population of each nation

was obtained from the WHO (1982) for 1979 and the gross national product per capita from the World Bank (1979) for 1977.

Complete data were available for 38 nations with populations over one million: Argentina, Austria, Australia, Bulgaria, Canada, Chile, Costa Rica, Denmark, Dominican Republic, Ecuador, Egypt, Finland, France, Germany (West), Greece, Honduras, Hong Kong, Hungary, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Nicaragua, Norway, Poland, Portugal, Singapore, Spain, Sweden, Switzerland, Syria, Thailand, Uruguay, USA, Venezuela and Yugoslavia.

The per capita consumption of corn was not related to homicide rates (Pearson $r = 0.04$, $p = 0.42$) or to suicide rates ($r = -0.01$, $p = 0.47$). Since both homicide and suicide rates were related to the gross national product per capita ($r = -0.29$ and 0.61 respectively),

^{*} Suicide and homicide rates were obtained for 1978 since this was the year for which most complete data were available. Both rates are very stable over time, and so the difference of a year should have a negligible impact on the results.

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partial correlation coefficients were calculated controlling for the GNP/capita, but the correlations were still not significantly different from zero.

Thus, the present study failed to replicate the result reported by Mawson and Jacobs.

References

- MAWSON, A., and JACOBS, K.: Corn consumption, tryptophan and cross-national homicide rates. *Journal of Orthomolecular Psychiatry* 7, 227-230, 1978.
- U.S. DEPARTMENT OF AGRICULTURE: Foreign Agriculture Circular: Grains. Washington, DC: U.S. Government Printing Office, 1983.
- WORLD BANK: 1979 World Bank Atlas. Washington, DC: World Bank, 1979.
- WORLD HEALTH ORGANIZATION: Annual Statistics. Geneva: World Health Organization, 1980, 1981, 1982, 1983.