

weight than DZ twins (MZ within-pair correlation = 0.61; DZ = 0.70). By one year of age, however, the MZ twins had become increasingly similar ($r_{mz} = 0.87$), while the DZ twins moved further apart in weight ($r_{dz} = 0.55$). The same pattern was evident for length in even more pronounced form; at birth, the MZ correlation was 0.58 and the DZ correlation was 0.77. By two years of age, however, the MZ correlation reached 0.89, while the DZ correlation regressed to 0.58. The results are discussed in terms of (a) prenatal influences that differentially affect birth size within MZ pairs and DZ pairs, and (b) the rapid convergence of each twin on his genetic growth curve during the first year of life.

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DETECTION OF GENETIC VARIANCE IN BLOOD PRESSURE: THE NATIONAL HEART AND LUNG INSTITUTE TWIN STUDY

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The National Heart and Lung Institute Twin Study has examined 514 white adult male twin sets aged 42-56 at five centers in the United States. Blood pressure measurements for cotwins were obtained on the same day at the same center but by different physicians according to a standardized protocol. The distributions of diastolic and systolic blood pressures in the twins were comparable to those observed in other populations. Significant differences between centers were observed but no differences by zygosity were demonstrable after adjustment was made for center differences.

The data were analyzed by a method of Christian et al. which eliminates possible biases in estimated genetic variances that

could result from different total variances in MZ and DZ twins. Results of the test for the presence of genetic variance indicate that both systolic and diastolic blood pressure are to a considerable extent genetically controlled with an estimated heritability of 0.8 for systolic and 0.6 for diastolic pressure. Although these findings are at variance with some previous reports, it is thought that much of the discrepancy results from application of different analytic techniques, not in the data themselves. The application of these findings to our understanding of hypertension epidemiology and community hypertensive control programs are discussed.

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GENETICS OF PLASMA CHOLESTEROL AND TRIGLYCERIDES

A Study of Adult Male Twins

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White male twins born from 1917 to 1927 (514 sets, 250 MZ and 264 DZ) were studied in 5 U.S. Centers as a part of the National Heart and Lung Institute Twin Study. Fasting plasma triglycerides and cholesterol, as well as cholesterol in very-low-density and high-density lipoproteins (HDL), were measured. Analysis of variance of the five lipids revealed no significant differences between the means of MZ and DZ twins and only HDL cholesterol was significantly variable among the 5 centers.

A new method was used to choose an estimate of genetic variance. This method includes an estimate of genetic variance for