

Literature Cited

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IDENTICAL TWINS DISCORDANT IN TONGUE-ROLLING

THE ability to turn up the lateral edges of the tongue, known as tongue rolling, is present in about 65 percent of the general population.* There are two distinct classes in regard to this ability, those able to roll their tongue are designated as positive, those lacking the trait being negative. Those individuals classified as positive are able to turn the lateral edges of the tongue completely up from the proximal end of the tongue distally about three-fourths of the total length of the tongue.

Rare cases of children have been found in which the ability may be acquired after considerable practice, although this factor is negligible. Data collected from a mixed population of 228 individuals indicate that tongue rolling has no relation to sex and that it shows a definite heritability.

It has been postulated that tongue rolling is simply inherited. If it is due solely to heredity, monozygotic twins would always be concordant for tongue rolling. It is the purpose of this investigation to determine the influence that heredity plays in the ability to roll the tongue. Over a period of two years, we have collected data from monozygotic twins in regard to tongue rolling. The usual criteria for diagnosis of monozygotic twins were employed. If there was any doubt as to monozygosity, the blood groups, the blood types, the finger and palm prints of the twins in question were compared. A total of 33

pairs of monozygotic twins, ranging in age from 10 years to 86 years, were classified. There were 25 pairs of monozygotic female twins and eight pairs of monozygotic male twins. This large numerical difference in sex can be explained by the fact that these data were collected at twin conventions which are attended in greater numbers by female twins than by male twins. The difference in sex number is of no consequence in this investigation as there appears to be no inter-sex alteration of heritability of this trait.

The number of concordant and discordant pairs observed are as follows:

	Male	Female	Total
No. of pairs both twins positive	5	13	18
No. of pairs both twins negative	1	7	8
No. of pairs positive and negative	2	5	7
	8	25	33

Of the total of 33 pairs there were 18 pairs of monozygotic twins who were positive and concordant for the trait, eight pairs who were negative and concordant, and seven pairs who were discordant. The percentage of discordant twins calculated from the data is 21.2 percent.

From the results of this investigation it must be concluded that tongue rolling is not entirely hereditary.

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