

FREQUENCY OF LEFT-HANDEDNESS AMONG THE ANDHRA PRADESH PEOPLE

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The percentages of left-handed people among the males and females of Andhra Pradesh tribals in India were found to be 15.49 and 7.79, and in Hindus 6.9 and 4.65. The difference between the sexes among tribals is significant. The tribal people studied were Koya Doras, Sugalis (or Lambadis), and Konda Reddis. It is suggested that similar quantitative studies of left-handedness should be made in other tribal and aboriginal populations before they are culturally conditioned to right-handedness.

Handedness is one of the phenotypic traits in man which may be determined partly by genetical and partly by environmental factors. The convincing evidence of genetic components in handedness comes from anatomical features determined in the early embryo, such as the pattern of ridges in special areas of the palm and finger tips and the network of veins under the dorsal surface of the hands (Strangmann-Koehler and Ludwig 1954, Stern 1960). Handedness is thus suited for the study of genetic variation in different human populations. Though several authors reported on the incidence of left-handedness in various populations, few have studied the tribal or aboriginal communities. The following is a brief report on the incidence of left-handedness among the tribal and nontribal people of the state of Andhra Pradesh in southeastern India (Table). The tribal people studied were Koya Doras, Sugalis (also known as Lambadis), and Konda Reddis, and the nontribals were Hindus.

Dronamraju and Meera Khan (1963) investigated the frequency of colour blindness types among these peoples. Ishihara (1960) plates numbered 26 to 38 were used (in the reverse order) because many of the subjects could not read arabic numerals. They trace the lines on the Plates with a fine brush. Handedness of each person was at first noted according to which hand they used to hold the brush. This was further confirmed by the person tested and his or her relatives, who provided information about which hand he or she most frequently

used in such daily activities as wood-cutting, basket weaving and carrying loads. Altogether, 517 people were tested, out of which 431 were tribals and 86 Hindus. The numbers tested for each tribe are given in the Table.

Among the tribals, 15.49% of males and 7.79% of females were left-handed, while among the nontribal 6.9% of males and 4.65% of females were left-handed. The frequency among the nontribals did not differ significantly from any of the tribal groups, but the number of nontribal people tested was small. The difference between the frequencies in the two sexes among tribals is significant ($\chi^2_1 = 6.22$).

There is no general agreement among the investigators as to what constitutes left-handedness

Table. *Handedness among the Andhra Pradesh People (Polavaram Agency Area)*

	Right-handed		Left-handed		Total
	M	F	M	F	
Tribals:					
Koya Doras	122	142	30	14	308
Sugalis	58	55	1	3	117
Konda Reddis	0	4	2	0	6
Total	180	201	33	17	431
%			15.49	7.79	
Nontribals	40	41	3	2	86
%			6.9	4.65	

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or right-handedness. Rife (1940) tested 1969 males and 1583 females in U.S.A. and classified them on the basis of such manual operations as throwing, bowling, sewing and writing. He found that 8.1% of males and 6.5% of females were left-handed. There was no significant difference between the frequencies in the two sexes ($\chi^2_1 = 3.367$). Woo and Pearson (1927) used a grip dynamometer to measure the "muscularity of right and left hands". Out of 4,948 cases, they found 64.37% to be dextralists, 6.73% ambilateralists, and 28.9% sinistralists.

Recently Beckman and Elston (1962) studied the incidence of left-handedness among 492 males and 489 females in different parts of Sweden. The percentage of left-handed people among females was found to be 5.73 and among males 5.08 and the difference between the sexes was not significant.

Few of the tribals I studied had been taught to write. Nor had they been taught, as their settled neighbours are, to use the right hand only to convey food to their mouths. Thus their handedness was little affected by cultural tradition. I hope that similar counts will be made on other primitive peoples before they have been culturally conditioned to right-handedness.

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