

## A Study on The Distribution of Morphological and Behavioural Traits in Seven Endogamous Groups of Haryana

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**ABSTRACT** Baseline data are provided on the distribution of ear-lobe attachment, hand-clasping, arm-folding, leg folding and handedness among seven endogamous groups of Haryana viz., Od, Pal-gadariya, Sunar, Balmiki, Jheenvar, Khati and Sansi. All these traits, except hand-clasping, showed significant differences among them.

### INTRODUCTION

The population of Haryana comprises a number of backward and scheduled castes (Bhasin et al., 1992). However, the studies carried out on these castes are quite limited (Malik et al., 1988; Yadav and Gupta, 1992; Yadav et al., 1994). The present study is, therefore, aimed at investigating the distribution of five morphological and behavioural traits viz., ear lobe attachment, hand clasping, arm folding, leg folding and handedness among seven endogamous caste groups of Haryana viz., Od, Pal-gadariya, Sunar, Balmiki, Jheenvar, Khati and Sansi.

### MATERIALS AND METHODS

The endogamous groups Balmiki and Sansi comprise the scheduled castes of Haryana; Balmikis are sweepers by profession and Sansi lower agricultural peasants. The groups Od, Sunar, Khati, Jheenvar and Pal-gadariya belong to the backward castes; Sunars are goldsmiths; Khatis are carpenters and masons; Jheenvars are *Dhobis* (washermen); Pal-gadariyas take care of domestic animals and odd work as farm labourers. Apart from Haryana these castes are also found residing in neighbouring areas of Punjab, Himachal Pradesh, Rajasthan and Uttar Pradesh.

The morphogenetic data were collected from subjects residing in different regions of Haryana State (Table 1). For each endogamous group 100 unrelated individuals in the age group 12-55 years were studied. Investigations were made following standard techniques of Weiner and Lourie (1969).

### RESULTS AND DISCUSSION

*Ear-lobe Attachment* : The frequency of attached ear-lobes varied from 57 to 22% (Table 1), the highest being observed in Od and the lowest in Pal-gadariya. Several inter-group comparisons (Od with Pal-gadariya, Balmiki, Khati, Pal-gadariya with Balmiki, Sunar, Jheenvar and Sansi, Khati with Sansi) showed statistically significant differences. There was a significant difference in the total population indicating a heterogeneous distribution of this trait among the present seven endogamous groups (Table 2).

*Hand-clasping* : The incidence of R-type hand-clasping was higher than L-type hand-clasping in all the groups (Table 1). The frequency of R-type was highest in Pal-gadariya, Balmiki and Sansi (68%), whereas it was lowest in Sunar (58%). All inter-group comparisons were found to be non-significant.

In the total material statistically non-significant difference was found indicating a homogeneous distribution of this trait in the present groups of Haryana (Table 2).

*Arm-folding* : The incidence of R-type arm-folding showed lots of variation. R-type arm-folding was higher than L-type among Od, Pal-gadariya and Sunar, whereas the others (Balmiki, Khati and Sansi) showed a higher incidence

**Table 1: Percentage frequency distribution of various traits among seven endogamous groups of Haryana**

Caste	Area (District)	n	Ear-lobe attachment	Hand- clasping	Arm- folding	Leg- folding	Handed- ness
			Attached	R-type	R-type	R-type	R-type
Od	Kurukshetra	100	57	62	55	86	96
Pal-gadariya	Kurukshetra	100	22	68	67	87	96
Sunar	Panipat	100	44	58	72	53	83
Balmiki	Kurukshetra	100	39	68	39	82	95
Jheenvar	Karnal	100	37	61	45	85	96
Khati	Kurukshetra	100	30	59	47	88	99
Sansi	Karnal	100	48	68	48	82	99

R = Right, L = Left

**Table 2: Chi-square values for inter-group differences in the distribution of various traits among seven endogamous groups of Haryana**

Trait	$\chi^2$	d.f.	p	Remarks
Ear-lobe attachment	33.35	6	0.001<p	Significant
Hand-clasping	5.16	6	0.70>p>.50	Non-significant
Arm-folding	30.56	6	0.001<p	Significant
Leg-folding	57.72	6	0.001<p	Significant
Handedness	37.00	6	0.001<p	Significant

of L-type arm folding (Table 1). The highest frequency was observed in case of Sunar (72%) and the lowest in Balmiki (39%).

Inter-group comparisons showed significant difference in case of Od with Pal-gadariya, Balmiki and Sunar; Pal-gadariya with Balmiki, Khati and Sansi, Sunar with Balmiki, Jheenvar, Sansi and Khati. Overall distribution of this trait was found to be heterogenous among the present seven endogamous groups of Haryana (Table 2).

**Leg-folding** : The frequency of R-type was higher than L-type in all the groups. The highest frequency was recorded in Khati (88%) and the lowest in Sunar (53%, Table 1). Inter-group differences were statistically significant in case of Od, with Sunar; Pal-gadariya with Sunar; Sunar with Jheenvar, Balmiki, Khati and Sansi. The distribution of this trait in the total population was found to be heterogeneous (Table 2).

**Handedness** : In all the seven endogamous groups studied, right-handed individuals were prominent (Table 1). The frequency of R-type

varied from 99% (Khati and Balmiki) to 83% (Sunar). Inter-group comparisons showed significant differences in case of Sunar with Od, Pal-gadariya, Balmiki, Jheenvar, Khati and Sansi.

There was a significant difference in the total population indicating a heterogeneous distribution in this trait among the seven endogamous groups studied (Table 2).

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