

A Study on Some Behavioural Traits Among Kaibartas of Assam, India

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ABSTRACT The behavioural traits - hand clasping, arm folding, tongue rolling, leg folding and dominant eye among the Kaibartas of Assam, India have been studied. The frequency of R-type or +ve type of the five traits was a little higher among females than the males but in no case was sexual dimorphism statistically significant. Inter groups variability have also been made and Kaibartas show more closer to groups with the Caucasoid affinities than those with the Mongoloid affinities.

INTRODUCTION

Hand clasping, arm folding, tongue rolling, leg folding and dominant eye are behavioural morpho-genetic traits which are important character in the study of human diversity for their simplicity in existence and diagnosis of variation among the population. A good number of studies on the distribution of various behavioural traits among various population groups of India have been reported by Bhasin et al. (1992). In North East India a very few studies have been carried out by Das et al. (1969), Das and Buragohain (1972), Das and Baruah (1976) and Dattachaudhury (1984) on various morpho-genetic traits among different ethnic groups.

Kaibartas (Scheduled Caste of Assam) are spread all over Assam and fishing is their traditional profession, alongwith their allied occupation like cultivation.

MATERIALS AND METHODS

The present data were collected from various hamlets of Assam in the year 1988-89. For this study a total of 190 subjects were tested of which 100 were males and 90 were females. Proper care was taken in each case while observing and collecting the data.

RESULTS AND DISCUSSION

The frequency distribution of five behavioural traits viz., hand clasping, arm folding, tongue rolling, leg folding and dominant eye among the Kaibartas of Assam have been presented in table 1. It reveals that the R-type and +ve type in all the five traits are more frequent than the other types (69.94% vs 31.05%; 57.89% vs 42.11%; 64.21% vs 35.78%; 57.37% vs 42.63% and 67.36% vs 32.63%, respectively).

With regard to sexual dimorphism it has been seen that the R-type of hand clasping is more common in male than females (72.00% vs 65.55%). The χ^2 analysis however does not show statistically significant difference ($\chi^2_{(1)} = 0.919$, $0.50 > P > 0.30$). It has been observed from various studies reported from Assam and Arunachal Pradesh that the frequency of this trait is high among the Kaibartas in comparison to Baishya and Keot (63.7% and 63.8%; Das et al., 1969), Brahmin and Kalita (61.9% and 64.8%; Deka Mahapatra and Das, 1975), Aka (55.00%; Das and Buragohain, 1972), Nocte and Tangsa (64.75% and 49.28%; Das et al., 1976). On the other hand the present sample when compared with Muslim (86.16%; Das et al., 1975), Khowa (72.48%; Das and Buragohain, 1972), Wancho (71.79%; Das et al., 1976), Munda and Santal (91.50% and 90.00%; Buzarbaruah and Phookan, 1981) it was low. The χ^2 analysis reveals statistically significant differences when the present sample is compared with Muslim, Santal and Munda (Table 2).

Among Kaibarta the R-type of arm folding is more common in female than male (62.22% vs 54.00%). The χ^2 analysis shows non-significant sexual dimorphism ($\chi^2_{(1)} = 1.314$, $0.50 > P > 0.30$). It is apparent from table 2 that the frequency of R-type of arm folding is slightly low

Table 1: Frequency distribution of hand clasping, arm folding, tongue rolling, leg folding and dominant eye of the Kaibarta of Assam

Sex	n	Hand clasping			Arm folding			Tongue rolling			Leg folding			Dominant eye		
		R	%	L	R	%	L	+	%	-ve	R	%	L	R	%	L
Male	100	72	72.00	28	54	54.00	46	62	62.00	38	57	57.00	43	70	70.00	30
Female	90	59	65.55	31	56	62.22	34	60	66.67	30	52	57.78	38	58	64.44	32
Total	190	131	69.94	59	110	57.89	80	122	64.21	68	109	57.37	81	128	67.36	62
Male vs Female $\chi^2_{(1)} = 0.919, 0.50 > P > 0.30$					1.314, 0.30 > P > 0.25			0.449, 0.70 > P > 0.50			0.0116, 0.95 > P > 0.90			0.665, 0.50 > P > 0.30		

R = Right, L = Left, +ve = Positive, -ve = Negative.

in comparison to Muslim (66.03%; Das et al., 1976), Ahom (59.00%; Dutta and Phookan, 1978-79), but higher in comparison to other Caucasoid and Mongoloid groups. The χ^2 analysis revealed statistically significant differences with Baishya, Sema, Miji, Santal and Munda (Table 2).

The +ve type of tongue rolling is more frequent in female than in male among Kaibarta (66.67% vs 62.00%), but the difference is statistically non-significant ($\chi^2_{(1)} = 0.449, 0.70 > P > 0.50$). The positive type of tongue rolling is more frequent in the present sample in comparison to other Caucasoid and Mongoloid group of affinities except Khowa of Arunachal Pradesh (64.40%; Das and Buragohain, 1972) and Sema of Assam (65.00%; Dutta and Phookan, 1976). The χ^2 analysis shows statistically significant differences only with Kaibarta, Baishya, Ahom and Muslim (Table 2).

The frequency of leg folding is a little more common in female as compared to male among Kaibartas (57.78% vs 57.00%). In respect of leg folding no statistically significant difference is observed between males and females ($\chi^2_{(1)} = 0.016, 0.95 > P > 0.90$).

The frequency of R-type of dominant eye is more common in male in comparison to female among Kaibarta (70.00% vs 64.44%). This difference however is not statistically significant ($\chi^2_{(1)} = 0.665, 0.50 > P > 0.30$). Occurrence of R-type is lower among the Kaibartas concerning the dominant eye when compared to populations with Caucasoid affinities and it is more frequent than the Khasi (51.7%; Das and Baruah, 1974), the Mongoloid groups.

The χ^2 analysis shows statistically significant difference only with Kaibarta (Table 2). A comparative statement in this regard, i.e., hand clasping, arm folding, tongue rolling, leg folding and dominant eye, is shown in table 2.

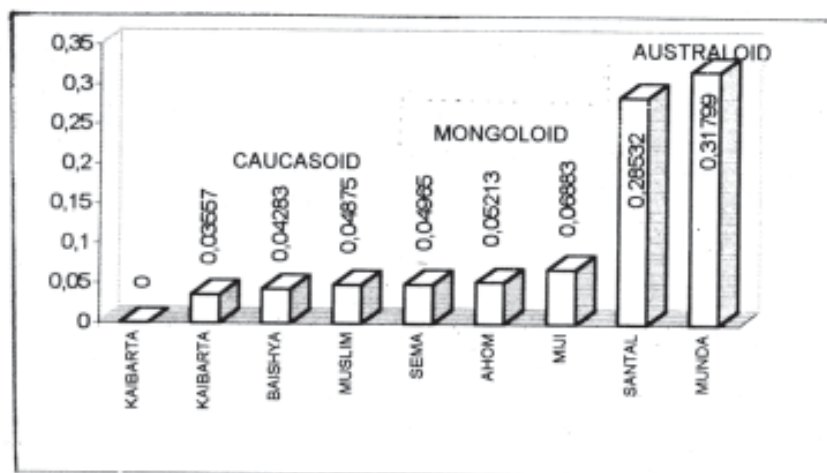
It is seen from the above results that for the frequency distribution of five behavioural traits studied among Kaibartas no statistically significant sexual dimorphism was found.

To find out Caucasoid and Mongoloid affinities, and hence biological distance, Co-efficient of Divergence, as used by Najjer (1978), has been calculated. The results of these calculations are shown in figure 1. The figure shows

Table 2: Percentage frequencies of hand clasping, arm folding, tongue rolling, leg folding and dominant eye of different populations

Population	Area	n	Hand clasping R-type	Arm folding R-type	Tongue rolling + ve	Leg folding R-type	Dominant eye R-type	Reference
CAUCASOID								
Baishya	Assam	361	63.7	48.1*	49.03*	-	70.9	Das et al., 1969
Keot	Assam	227	63.8	47.1	37.88	-	69.6	Das et al., 1969
Brahmin	Assam	189	61.9	32.3	51.85	-	75.7	Deka Mahapatra and Das, 1975
Kalita	Assam	310	64.8	34.5	50.32	-	73.6	Deka Mahapatra and Das, 1975
Muslim	Assam	318	86.16*	66.03	47.79*	-	72.64	Das et al., 1975, 1976
Kaibarta	Assam	200	62.5	50.00	53.60*	-	76.00*	Das and Das, 1981
Kaibarta	Assam	190	69.94	57.89	64.21	57.37	67.36	Present study
MONGOLOID								
Aka	Arunachal Pradesh	180	55.00	44.00	52.22	-	-	Das and Buragohain, 1972
Khowa	Arunachal Pradesh	149	72.48	43.42	64.40	-	-	Das and Buragohain, 1972
Gallong	Arunachal Pradesh	244	52.87	44.27	-	-	-	Das and Choudhury, 1975
Khasi	Meghalaya	201	69.1	37.8	-	-	51.7	Das and Baruah, 1974
Nocte	Arunachal Pradesh	201	64.76	36.19	60.48	-	-	Das et al., 1976
Wancho	Arunachal Pradesh	117	71.79	37.61	47.86	-	-	Das et al., 1976
Tangsa	Arunachal Pradesh	207	49.28	48.31	59.42	-	-	Das et al., 1976
Sema	Assam	100	70.00	43.00*	65.00	-	-	Phookan and Begum, 1976
Ahom	Assam	100	62.00	59.00	48.00*	-	-	Dutta and Phookan, 1978-79
Miji	Arunachal Pradesh	84	66.67	38.09*	63.09	-	-	Dattachaudhury, 1984
AUSTRALOID								
Santhal	Assam	200	90.00*	30.50*	-	-	-	Buzarbaruah and Phookan, 1981
Munda	Assam	200	91.50*	13.50*	-	-	-	Buzarbaruah and Phookan, 1981

*Significant at .05 level of probability

**Fig. 1. Biological distances-based on behavioural traits among groups with Caucasoid, Mongoloid and Australoid affinities**

that the groups with Caucasoid affinities, viz., Kaibarta (0.03557), Baishya (0.04283) and Muslim (0.04875) are nearer to the present sample in comparison to the groups with Mongoloid affinities, namely, Sema (0.04965), Ahom (0.05216) and Miri (0.06883), whereas, Santal and Munda (0.28532 and 0.31799) are a little away from Kaibarta. According to Sarkar (1928) Santal and Munda possess strong Australoid affinities in addition to Mongoloid elements. Moreover, the Kaibartas are an endogamous group of people in Assam mostly its members marrying within their group.

In conclusion this study demonstrates that behavioural traits, i.e., hand, clasping, arm folding, tongue rolling, leg folding and dominant eye, among the Kaibartas of Assam are genetically controlled, irrespective of sexes and ages.

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