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Marital Migration and Neighbourhood Knowledge in a Contemporary Kerala Population

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ABSTRACT The pattern of marital migration among the Ezhavas of Alappuzha district of the state of Kerala has been investigated with reference to the distribution of distance between the birth places of spouses. The distribution of marriage distance was found to be positively skewed and leptokurtic. The mean marriage distance of the population was estimated to be 15.94±0.69 km. Comparison of marital distance between consanguineous and nonconsanguineous marriages show that unrelated spouses tend to be more mobile than consanguinial spouses. The observed frequency distribution of matrimonial distance was fitted well by the function $y=ax^{-b}$, is suggestive of an exponential relationship between mating frequency and birthplace distance in this group. The value of b is found to be 1.538 for consanguineous marriages and 1.504 for unrelated marriages, suggest that neighbourhood knowledge is determining the distribution of marriage distances among Ezhavas.

INTRODUCTION

In human population individuals often are distributed more or less discontinuously to form numerous colonies. Social organization through kinship based social structure where, geographic and religious features and socio-cultural norms dictates the marital choice and zone of marriage. However, individual may often been exchanged between neighbouring communities. The continual exchange of genes between contiguious communities usually prevents fixation or loss of alleles. This exchange is accomplished by migration and intermarriage of people. Thus study of migration is important in understanding the dynamics of genetic interchange between human populations. Many investigations of human marriage patterns have shown that migration is related in a systematic way to the distance between the birth places of the spouses (Boyce et al., 1967; Morill and Pitts, 1967; Swedlund, 1972; Fix, 1974; Cavalli-Sforza and Hewlett, 1982).

The present paper concerns the distribution of marital distances and frequency of consanguinity among the Ezhavas of Alappuzha district of the state of Kerala. Their relationship with neighbourhood knowledge and distribution of marital distances were also examined.

MATERIALS AND METHODS

As a part of a larger study of consanguinity (Sudhakaran, 1996) among certain population groups of Alappuzha district of the state of Kerala, data on marital distance between the birth places of the spouses were collected from a random sample of 1204 households of the Ezhava community, through door to door survey and personal interviews conducted during the period 1993-1996. Information such as the spousal relationship before marriage (for the period 1954-1995) and, marital distance between birth places were gathered by repeated cross questioning of the spouses. The distribution of marital distance was measured as straight line road distances in kilometers. The natal residence of the males were used as the basic unit of analysis. The mean marital distances of consanguineous and nonconsanguineous marriages, their standard errors, skewness and kurtosis were calculated through standard formulae. The relationship between neighbourhood knowledge and matrimonial distances were also assessed by using Boyce et al. (1967) formula.

RESULT AND DISCUSSION

In human population genetics, there has been a growing interest in the study of influence of geographic distances on mate selection

(White and Woods, 1980). Several mathematical models have been putforward to describe human migration. These models range from physical analogies (Cavalli-Sforza, 1958) to behavioural models (Morrill and Pitts, 1960). The neighbourhood knowledge model proposed by Boyce et al. (1967) fits into the latter category. According to this model the observed frequency distribution of matrimonial distances from one's usual abode can be fitted well by the function:

$y = ax^{-b}$

Where, y = the frequency of couples marrying at a distance x, and a and b are constants.

Fitting a curve of the family $y = ax^{-b}$ the data produced the equation $y = 6.092x^{-1.538}$ for consanguineous marriages and $y = 6.074x^{-1.504}$ for nonconsanguineous marriages. The values of b obtained for Ezhavas agree well with Boyce et al.'s view that marriage frequency is determined by neighbourhood knowledge. Consonant findings has been reported by Fix (1974).

The frequency distribution (Table 1) for all birth-place distances among the Ezhavas are positively skewed and leptokurtic. The mean marital distance (MMD) for consanguineous marriages are found to be much shorter (11.94 ± 0.52 km) than control (16.54 ± 0.82 km). The value of MMD for the total data based on 1204 couples is found to be 15.94 km. The high percentage of consanguineous marriages occuring within a distance of less than 16 km (consanguineous 78.04% and nonconsanguineous 60.96%) shows that the selection of the spouse from amongst Ezhavas were usually intensely local. The long-range migration (>75 km) constitute only a small proportion of the total marriages. It was found to be 2.44%, 3.08% and 2.99% for consanguineous, nonconsan-guineous, and total marriages, respectively. Thus the observed marriage patterns indicate that mate selection is very much determined by propinquity and spatial proximity. However, this strong local preference for mate selection is more pronounced in related marriages than unrelated marriages. These results of migration agree with findings of other studies, showing a decrease in frequency of marriage with distance (Boyce et al., 1967; Kusuma et al., 1995). The ethnic composition, closed endogamy, agricultural economy, and kinship structure are other motivating factors, limiting the range of gene flow in the present population.

Table 1: Distribution of matrimonial distance among the Ezhavas of Alappuzha, 1954-1995

Marriage distance	*Consan-guineous*		*Nonconsan-guineous*		*Total Marriages*	
km	*n*	%	*n*	%	*n*	%
0-5	103	62.81	342	32.88	445	36.96
6-15	25	15.24	292	28.08	317	26.33
16-25	16	9.76	238	22.88	254	21.10
26.50	10	6.10	118	11.35	128	10.63
51-75	6	3.65	18	1.73	24	1.99
> 75	4	2.44	32	3.08	36	2.99
Total	164	100	1040	100	1204	100
MMD ± SE	11.94±	0.515	16.54±	0.818	15.94±	0.699
Skewness	4.121		5.203		5.346	
Kurtosis	3.898		8.112		7.861	

Note: MMD = Mean marital distance SD = Standard deviation SE = Standard error

REFERENCES

Boyce, A.J., Kuchemann, C.F. and Harison, G.A.: Neighbourhood knowledge and the distribution of marriage distances. *Am. J. Hum. Genet.*, **30**: 335-338 (1967).

Cavalli-Sforza, L.L.: Some data on the genetic structure of human populations. *Proc. X Int. Congr. Genet.*, **1**: 389-34 (1958).

Cavalli-Sofrza, L.L. and Hewlett, B.: Exploration and mating range in African Pygmies. *Ann. Hum. Genet.*, **46**: 257-270 (1974).

Fix, A.G.: Neighbourhood knowledge and marriage distance: the Semai case. *Ann. Hum. Genet.*, **37**: 327-332 (1974).

Kusuma, Y.S., Babu, B.V. and Naidu, J.M.: Marriage distance among Jatapu tribe of Andhra Pradesh. *Bionature*, **15**: 7-9 (1995).

Morrill, R.L and Pitts, F.R.: Marriage, migration and the mean information field: a study in uniqueness and generality. *Ann. Assoc. Amer. Geography*, **57**: 401-422(1967).

Sudhakaran, M.V.: *Studies on Consanguinity and Its Effects in Certain Castes and Communities in Alappuzha (Kerala)*. Ph.D.Thesis, Universtiy of Kerala, Thiruvananthapuram (1996).

Swedlund, A.C.: Obervations on the concept of neighbourhood knowledge and distribution of marriage distances. *Ann. Hum. Genet.*, **35**: 327-330 (1972).

White, P. and Woods, R.: *The Geographical Impact of Migration*. Longman, London (1980).