

TRENDS IN CONSANGUINEOUS MARRIAGE IN KARNATAKA, SOUTH INDIA, 1980–89

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Summary. Analysis of data on 106,848 marriages in the cities of Bangalore and Mysore, South India, between 1980 and 1989 showed that levels of consanguineous marriage varied between cities through time and by religion. The average coefficient of inbreeding was higher in Bangalore ($F=0.0339$) than in Mysore ($F=0.0203$), principally reflecting large-scale, post-Independence rural migration into Bangalore. Although there was some evidence of a decline in consanguineous marriages in Mysore, there was no convincing support in either city for earlier projections of a rapid reduction in the popularity of unions between close biological relatives.

Introduction

In the four southern states of India, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, consanguineous marriages traditionally have been strongly favoured (Dronamraju & Meera Khan, 1963; Kumar, Pai & Swaminathan, 1967; Centerwall *et al.*, 1969; Radha Rama Devi, Appaji Rao & Bittles, 1982). However, in the early 1960s a rapid decline in the prevalence of such marriages was predicted (Haldane, 1963; Dronamraju, 1964). The aim of the present study was to investigate whether there was evidence of such a transition in the state of Karnataka, using data collected during the period 1980–89.

Subjects and methods

The data on which the present analysis is based were obtained as part of a multiphasic investigation organised in the state of Karnataka, South India (Appaji Rao *et al.*, 1988; Bittles, Radha Rama Devi & Appaji Rao, 1988; Bittles *et al.*, 1991). Information on consanguinity was collected by personal interview from women who had just given birth to live offspring in hospitals, clinics and maternity homes located in Bangalore, the present capital of Karnataka, and Mysore, the former capital of the pre-Independence state of Mysore. It is estimated that approximately 80% of all births in the two cities are hospital deliveries, therefore the data can be taken as representative of a large proportion of the currently fertile urban population.

Table 1. Percentage consanguineous marriage by city, Karnataka, 1980–89

	Bangalore	Mysore
Non-consanguineous ($F=0$)	62.3	69.4
Beyond second cousin ($F < 0.0156$)	3.5	6.4
Second cousin ($F=0.0156$)	1.0	3.6
First cousin ($F=0.0625$)	12.5	9.7
Uncle–niece ($F=0.125$)	20.7	10.8
Total samples	75,884	30,964

In each city mothers were interviewed by trained, local paramedical staff in their own language(s). Of the 111,624 women questioned, complete data were available on the consanguinity status of 106,848 marriages. The religious profiles of the mothers in Bangalore and Mysore were very similar, with Hindus comprising 80.4% of the combined populations, Muslims 15.9%, and Christians 3.8%. Of the mothers, 34.3% were primiparae. Maternal age ranged from 12 to 47 years, with a mean of 23.8 years (SD 4.44). No significant change was observed in maternal age distribution during the course of the study. Average coefficients of inbreeding (F) were calculated for all progeny born in each city by year and religion, and 3-year running means plotted.

Results

The consanguinity profiles for the two cities during the period 1980–89 are presented in Table 1. Consanguineous marriages were more prevalent in Bangalore than Mysore, with an average F for Bangalore of 0.0339 and for Mysore of 0.0203. These values refer to the present generation only. In both cities the highest F values were observed in the majority Hindu community while the lowest were reported by Christians in Mysore (Figs. 1, 2). There was a marked overall increase in the proportion of consanguineous marriages during the study period in Bangalore, with greatest effect between 1980 and 1985 followed by a slight decline from 1985 to 1989 (Fig. 1). This trend was especially apparent among Hindus, and to a lesser extent Christians, in both cases due mainly to increased proportions of uncle–niece marriages. By comparison, the mean level of consanguinity in the Muslim community remained relatively constant throughout the decade. The picture in Mysore was quite different, with a gradual increase in reported consanguinity among Hindus from 1980 to 1985 and then a decrease to below the mean initial level by 1986–88 (Fig. 2). This trend was closely paralleled in the Muslim community, and to a limited extent by the numerically small Christian group.

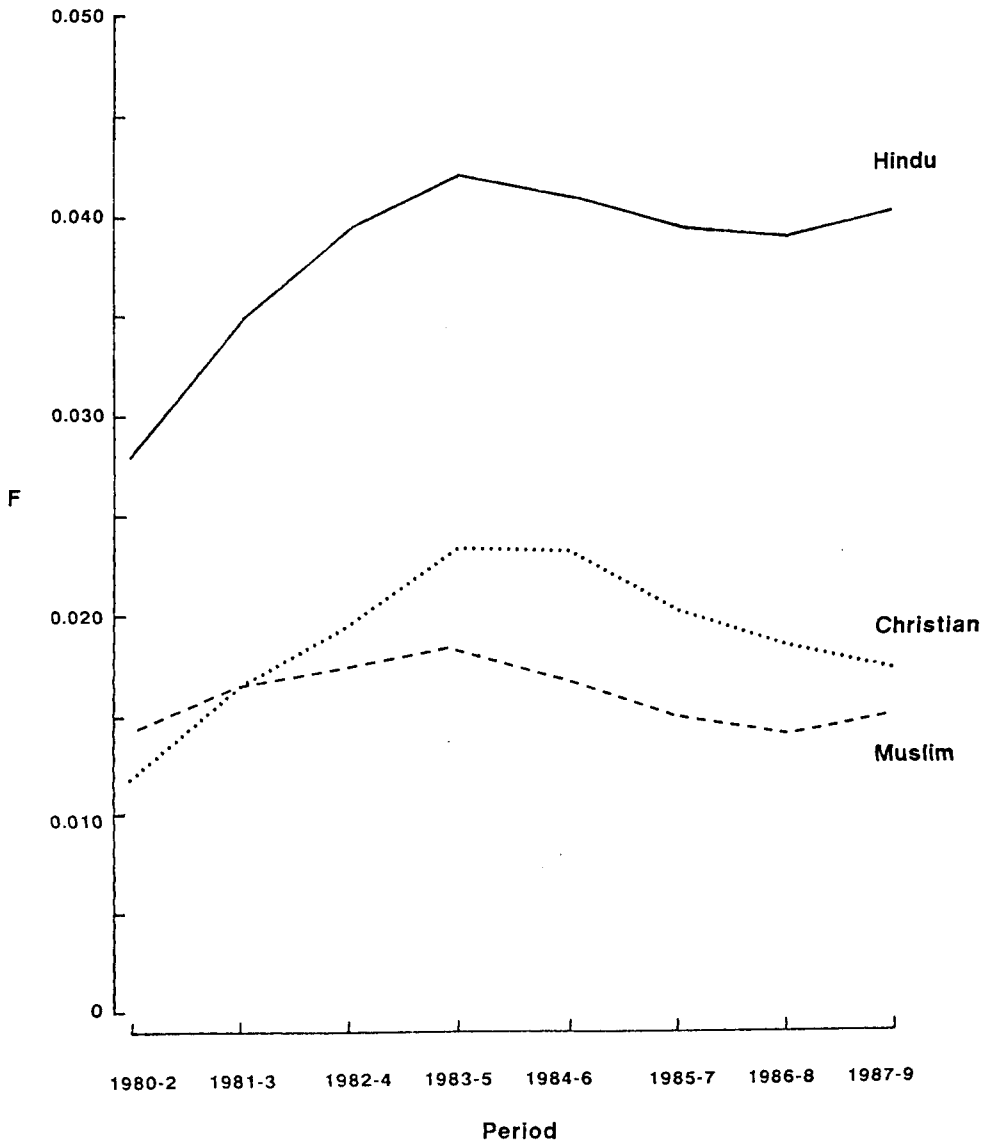


Fig. 1. Coefficients of inbreeding (F) of progeny: 3-year running means by religion, 1980-89, Bangalore.

Discussion

As is the case in virtually all less developed countries, migration in Karnataka is strongly unidirectional, from more isolated rural populations towards the larger urban centres, and the data in the present study are most readily interpreted in this light. From 1951 to 1981 the total population of Karnataka increased by 91%, and there was an equivalent increase in the urban population of Mysore of 96%. During this period the population of

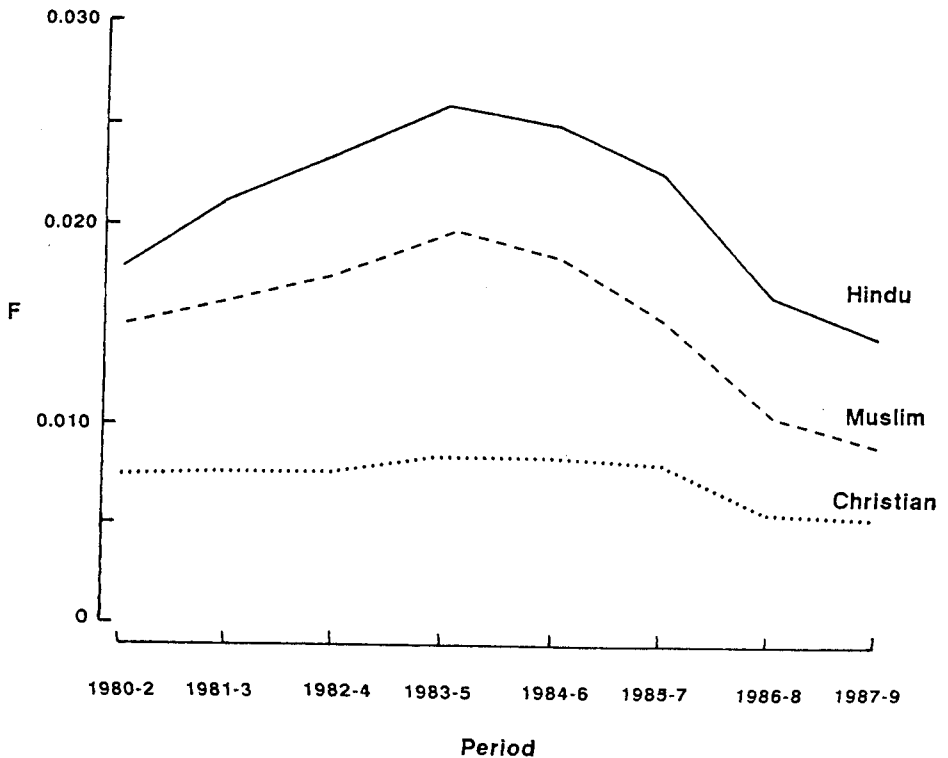


Fig. 2. Coefficients of inbreeding (F) of progeny: 3-year running means by religion, 1980-89, Mysore.

the rapidly industrialising city of Bangalore grew by 237% (Government of India, 1984), and preliminary estimates from the 1991 Census of India indicate expansion continuing at this rate.

It seems reasonable to assume that much of the increase in the population of Bangalore was fuelled by migration from rural areas of the four southern states of India, a view reinforced by the multiple Dravidian languages spoken by mothers giving birth in hospitals in the city. Since greater levels of consanguinity have consistently been reported in rural than in urban groups (Sanghvi, 1966; Rao & Inbaraj, 1977), the increasing levels of consanguinity reported by Hindu mothers in Bangalore from 1980 to 1989 can most readily be ascribed to increased sampling of women formerly from rural backgrounds. For that reason it is difficult to generalise from the Bangalore data to regional trends in the prevalence of marriage between close biological relatives. As noted above, the population growth rates in Mysore are close to the state average. Therefore the net declines observed in consanguinity in all three religions in the city during the 1980s are probably more representative of other established urban populations in South India.

The overall impression is that consanguineous marriages remain widely popular in Karnataka, even in major urban centres. Whether this will remain the case in future generations is open to question, but it is improbable that such a central feature of the

social system, with important socioeconomic ramifications in terms of the scale of dowry and bride-wealth payments (Govinda Reddy, 1988), would rapidly be abandoned. However, changes within certain of the acceptable forms of consanguineous marriage do seem inevitable. In particular, the general reduction in family size throughout South India will make uncle-niece unions more difficult to arrange within accepted spousal age difference norms (Radha Rama Devi *et al.*, 1982; Mohan Reddy & Malhotra, 1991). Constraints of this nature may also extend to preferred forms of Hindu first cousin marriage, for example, mother's brother's daughter, and a report of Hindu parallel first cousin unions in Madras, the capital of Tamil Nadu (Ramesh, Srikumari & Sukumar, 1989), could be evidence of this type of change.

The gradual acceptance of Western cultural values represents a potent additional consideration, especially in the burgeoning urban centres. In general, consanguineous marriages are rare in Western societies (Bittles *et al.*, 1991), and it probably is not coincidental that within the last decade both the English language and the vernacular press in South India have printed articles alluding to the increased risk of deleterious recessive alleles being expressed in the progeny of close biological relatives. Although these articles have often been factually incorrect, their cumulative effect may significantly influence urban public opinion against inbred unions in the coming decades. It is much less certain whether their message will be as readily accepted in rural communities, where family sizes are larger and consanguineous marriage is an important factor in the maintenance of land-holdings. Under these circumstances, rather than predicting a rapid general decline in inbred unions throughout South India, a more credible future scenario would be one in which urban-rural differentials in the incidence of consanguinity increase.

Acknowledgments

Financial support was provided to AHB during the course of this work by The Fulbright Commission.

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Received 16th December 1991