

A demographic study of Vishwakarma Population of Mysore District, Karnataka State, India

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Abstract

The present study is undertaken to understand the demographic variation of the Vishwakarma population in Mysore district of Karnataka state. The Vishwakarma, is an endogamous group, spread all over the state and country. Vishwakarma caste in India comprises the craftsmen, weavers, sculptors, artists, architects and designers. The present study reveals that the population is characterized by high social status as they are considered as an upper caste population alike to Brahmins. But they are economically lower as there is low educational status and majority of them do their traditional business like carpentry, gold smith, sculptors etc., and a noticeable number of them work as day labourers. Because of the impact of modernization and modern market most of the wooden, gold, iron and copper materials are available in the market at present. Women are married at an early age, though non consanguineous marriages are higher than consanguineous marriages. The age, sex and marital composition of the Vishwakarma population indicates a higher proportion of children and young adults and low proportion of older people as in most of the other Indian populations, which are the common characteristics of a growing population.

Key word: Vishwakarma, demography, marriage, consanguinity

Introduction

Demography, the science of population is defined as the scientific study of human population of more specifically, the study of the size, geographic distribution, age-sex structure and socio-economic composition of the population and the factors that affect changes in these dimensions namely, fertility, mortality and migration (Seigel, 2002). The demographic studies enable to understand of the human population in regard to its general structure, trend, family size, social position, movement, etc. The demographers main concern is not only to include the distribution of populations over space, their structure, their growth or decline over time but also their sizes, social composition, age and sex distribution, marital position and population movement as well. Thus demography bridges between different disciplines providing basic material for the analysis of bio-cultural changes as also economic,

social and political changes. India is one of the few countries where consanguinity is practiced. Traditionally, Marriage between man and his sister's daughter or mother's brother's daughter or father's sister's daughter is preferred by a large amount of people especially in South India. Among North Indian populations these types of related marriages are prohibited among majority communities. Several theoretical and empirical studies on consanguinity have been reported from various parts of the world. Sanghvi's (1954) first quantitative study on consanguineous marriages in India was followed by several other studies among the various population groups. The highest incidence of consanguinity was reported from South India, (Dronamraju and Meera Khan 1961, Mukerjee 1972, Veeraju 1973, Mukerjee 1992).

Marital distance is referred to the distance between the birth places of the spouses (husband and wife) and also called as marriage distance. The genetic structure of any population is determined by the amount of gene flow and the geographical area over which gene flow. The gene flow is facilitated by migration due to marriage and also some factors like age at marriage, type of marriage, socio economic factors like education, occupation, family type and size etc, influencing the marital distance (Mohan Reddy, 1979). Therefore, marital distance forms an important variable of the population studies.

Age at menarche is the sign of puberty, and it is the primary feature in the reproductive life of a women. The age at menarche has been the area of interest to the human biologists largely because of its genetic factors. The age at menarche generally occurs between eleven to fourteen years. Occasionally, some girls attain the age at menarche as early as nine years and some attain as late as sixteen years. Early menarche and late menopause result bigger reproductive span which in turn causing high fertility. The age at menarche is influenced by many factors like, climate, socio economic conditions, nutrition and many other genetic factors (Eveleth and Tanner, 1976). The first study on menarche was done by Robertson in 1895; later on many studies were carried out in different parts of the world, and different groups of populations particularly in India (Sen 1953, Rakshit 1962, Rami Reddy and Rajasekhara Reddy 1982, Sengupta and Rajkhowa 1996).

The age at marriage is an important indicator in the reproductive life of women. The fertility performance is realized by the physiological process of mating, without the physiological process of mating no fertility performance can be realized. This social counterpart of the biological issues enables the women with early marriage age to get an early opportunity of making their fertility performance and to have a longer period of fertility. Among the rural societies early marriages are common. This process is also affected by several factors such as religion, occupation, education, urbanization etc. Now this demographic component is conditioned by such social factors as effective contraceptive use and selective marriage patterns. The demographic study is likely to develop the knowledge about variation in normal

and abnormal genetically characters of a population. It reveals about patterns and changes in the mating systems. Also reveals physical dimensions of population and influence of patterns of marriage and family formation etc. The present study is undertaken to understand the demographic variation of the Vishwakarma population in Mysore district of Karnataka state.

Materials and Methods

The demographic data were collected from 514 families of **Vishwakarma Population of Mysore District, Karnataka State, India**. The field work was conducted in the taluks of Mysore district (Mysore, Nanjungud, Hunsur, K R Nagar and H D Kote taluks), the sample size selected in the taluks are shown in table 1. The data on the demography were collected following the interview schedule method- Solanzo and Freire-Maia (1970), Cavalli-Sforza and Bodmer (1971), Roberts (1973), Bogue (1975), Rajasekhara Reddy (1984), Gangadhar (2005). The interview schedule was prepared to obtain the required demographic information such as education, occupation, income, age – sex and marital status composition, marriage type, Marital distance, age at menarche, age at marriage, etc.. The data was tabulated, number and percentage were calculated. Descriptive statistics such as Mean, standard deviation and standard error were calculated and inbreeding coefficient which shows the probability that an individual possesses at a given genetic locus was also calculated.

The study area and population

Karnataka State is in the southwestern part of India. It is mainly a tableland and an extension of Deccan Plateau. It is rhomboid in shape. The state extends to 805 km. from north to south and to about 283 km. from east to west. The total area of the state is 192,493 sq. km. Mysore district located on the southern region of the Karnataka state. Mysore was the name, by which Karnataka state was known prior to 1973. It is also known as one of the garden cities of India and is famous for the pomp and gaiety of its traditional Dasara festival. The district is surrounded by Mandya, Hassan, Kodagu, Chamarajnagar districts and Tamilnadu, Kerala States. The district comprises of 7 taluks namely Mysore, Najanagud, T.Narasipura. K.R.Nagar, Hunsur, H.D.Kote, and Periyapatna.

Vishwakarma or **Vishwabrahmin** is a term used in India for castes comprising engineers, architects, sculptors, temple builders, priests and artists. Hence, the term is applied to five sub-castes: Goldsmith, Blacksmith, Coppersmith, Carpenter and Sculptors. The Vishwakarma also called as Panchalas, they are largely found in Mysore district. There are some among them who wearing linga but

don't associate themselves with the lingayats. They conduct upanayana for their boys and wear sacred thread. Marriage ceremonies are celebrated with Vedic rituals by the caste priests. They worship their instruments of work on new moon days. According to traditional belief, the five faced god Vishwakarmaya was, according to Mulasthambha, the creator of the world. From his five faces arose his five sons. They are Manu (Blacksmith), Maya (Carpenter), Twashta (Metal craftsman), Silpi (Stone-carver) and Vishvajnya (Goldsmith). These were the Pancha Brahmas or the five Brahamins mentioned in Rig Veda and they were the ancestors of the Vishwakarmans of this day. The community is spread widely throughout India and played a vital role in the village economy. Their socio-economic status varied from a very high level to the low level in different parts of India as they earned high wages in towns because of their factory employment and low in villages. The total population of Vishwakarma in Mysore district is estimated to be nearly 2.5 lakhs. Proper records are not obtainable to uphold the population estimation of the Vishwakarma castes and sub castes. In the year 1990 O. Chinnappa Reddy Commission published Karnataka backward classes third commission report, according to this report the Vishwakarma's total population was estimated to be 4,32,400 which constitutes about 2.28% of the total population of the Mysore state (2,11,47,300) in the year 1960 (Mysore was the name, by which Karnataka state was known prior to 1973).

Results and Discussions

The results of the demographic data presented in the order of educational status, occupation status, income-wise distribution, family type, marriage type of spouses parents, age-sex-marital status composition, age at menarche, age at marriage, marital distance and comparative evaluation.

The educational status is the main determinant of the demographic behaviour of the population as the very important events of the fertility and mortality shows a discrepancy with the achievement of educational status. The educational status of the Vishwakarma males is presented in table 2. From the table it is evident that out of 514 males of each house hold irrespective of their age group, 150 males (29.18%) are illiterates; majority of the males (31.13%) had their education till high school level followed by primary education (26.46%), and a lowest number of them were educated till PUC (4.67%), UG (3.89%), PG (1.17%) and professional courses (3.50%). In females out of 514 females of each house hold irrespective of age group majority of them (33.85%) are illiterates. More number of them (32.30%) were educated till primary school followed by high school education (26.46%) and the lowest number of them had their education till PUC (5.45%), UG (1.56%), Professional (0.39%) and none (0.00%) in PG courses (table 3). It was observed that males have a better educational status than females among the Vishwakarmas.

Occupational status is an insightful sign of an individual's status. Occupation means the profitable earning by cash or exchange of labour. The occupational composition is the directory of the communities' economic silhouette. Table 4 shows the occupational status of the Vishwakarma males. From the table it is evident that out of 514 samples irrespective of age group more number (61.87%) of the selected Vishwakarma male samples do their traditional business like carpentry (62.89%), gold smith (29.56%), handy crafts (2.52%), iron smith (1.89%), sculptor (1.26%) and artists (0.63%). 8.56% of men do other business like electronics, auto drivers' etc. 14.40% of them work as day labourers as carpenters, gold smiths and agriculture; 7.39% of them are in government jobs and 0.78% of them are engaged in agriculture in their own lands. Among the females, (table 5) it is observed that out of 514 female samples majority (83.66%) are house wives, 10.89% of them work as day labourers in agriculture sector, 5.06% of them do businesses like tailoring, petty shops etc. and 0.39% of them are government employees.

Income is a virtual indicator of the socio-economic status. The population dynamics is determined by the material comfort, wealth and resources of the people. It also plays a vital role in affecting the fertility by diverse other socio economic factors. Table 6 depicts income (per month in rupees) of the Vishwakarma males. Out of 514 selected samples irrespective of their occupation, majority (40.47%) earn a monthly income between 3001-4000 rupees followed by 2001-3000 rupees (15.18%), 5001-6000 rupees (12.06%) and 7000 rupees and above (8.56%). In the females out of 514 households, the majority females (83.27%) do not earn any income as they are house wives. 7.98% of them earn between 100-1000 rupees from their business and daily wages and none of them earn above 3000 rupees per month (table 7).

The prevalence of family type among the Vishwakarmas is presented in the table 8. The majority (77.43%) of the Vishwakarma families is found to be nuclear type and joint families were found to be less prevalent (22.57). Table 9 presents the marriage type of spouses' parents. It is observed that among the parents of both husband and wife consanguineous mating were relatively higher than the non-consanguineous matings.

The age, sex and marital status composition of a population influences the trends of fertility, mortality, migration and marriage patterns. The age and sex are also the important factors for the study of population structure on the basis of which the other types of demographic data are classified and analyzed. It reveals the growth trends of both past and present demographic processes and also predicts the future growth of a population and is a potential source to study the dynamics of population growth.

Table 10 shows the age, sex and marital status composition of the Vishwakarmas. The age, sex and marital composition among the Vishwakarma population shows more number of unmarried males are found in the age group of 10-14 years and 15-19 years and in females more number of them are found in the age group of 10-14 years followed by 5-9 years. Among the married more number of males comes under the age range of 35-39 years and 30-34 years and majority of females come under the age range of 25-29 years, 20-24 years and 30-34 years. On the whole majority of the Vishwakarma males and females whether married or unmarried come under the age range of 20-24 years, 25-29 years, 30-34 years and 35-39 years, followed by 10-14 years, 15-19 years, 5-9 years, 40-44 years and 0-4 years. Numbers of females are higher in the age groups of 0-4 years to 10-14 years. The males are more when compared to females in the age groups ranging from 40-44 years to 60-64 years. More number of married males and females are in the age group of 25-29 years (12.95%), 11.90% of them are in the age group of 20-24 years and 30-34 years respectively and 10.10% of them are in the age group of 35-39 years. The pyramid has a broader base as it gradually becomes narrower with the increasing age from infancy to old age. This indicates high birth rate and low mortality rate prevail.

The frequency and type of consanguinity among the Vishwakarmas are presented in table 11. From the table it is known that the frequency of non-consanguineous marriage type (78.60%) is relatively more than the consanguineous type (21.40%). Among the consanguineous marriages first cross cousin marriages are higher than the maternal uncle-niece marriages. The Patrilateral cross cousin marriages are more than the matrilateral cross cousin marriages in the first cross cousin. The mean autosomal inbreeding and sex linked inbreeding coefficients are 0.0195 and 0.0188 respectively. The present study is compared with some Indian populations. It has been observed that the consanguinity varies from (6.50%) in Mathuras of Adilabad district of Andhra Pradesh to (76.00%) in Kolam of the same district. The occurrence of consanguinity in the present study of Vishwakarmas (21.40%) comes closer to Andhas of Adilabad district of Andhra Pradesh (22.20%) only. The autosomal inbreeding coefficient of the present study (0.0195) is same to Vokkaligas of Hassan and Mandya districts, Karnataka (0.0195). The sex linked inbreeding coefficient of some of the Indian populations is, F_A values ranges from 0.0488 in the Magga Shettys of Mandya, Karnataka to 0.005 in the Mathuras of Adilabad of Andhra Pradesh and F_x values ranges from 0.0475 in Magga Shettys of Mandya, Karnataka to 0.006 in Mathuras of Adilabad of Andhra Pradesh.

The menarcheal age among both the consanguineous and non-consanguineous Vishwakarma women is presented in table 12. It is evident from the table that majority of the girls in the consanguineous group attain their menarcheal age by 12 years (30.91%) and 13 years (30.91%) followed

by 14 years (21.81%) with a mean age of menarche of 13.10 years. Low percentage of sampled girls in the consanguineous group menstruate at 11 years, 15 years and 16 years. Majority of girls in the non-consanguineous group menstruate at the age of 14 years (26.73%) and 13 years (25.74%) followed by 12 years (18.80%) with a mean age of menarche of 13.55 years. Lowest proportion of the girls of non consanguineous group attain their menarcheal age by 10 years and 17 years. It is evident that the mean menarcheal age among the consanguineous group (13.10 years) is slightly lower than that of non consanguineous group (13.55 years). Majority of the girls among both the groups of Vishwakarmas menstruate at the age of 13 years (26.85%) and 14 years (25.68%) followed by 12 years (21.40%). The lowest proportion of girls attain the menarcheal age by 10 years and 17 years. The mean age of menarche among the Vishwakarma women is 13.46 years. The mean age at menarche of the Vishwakarma women is compared with some other Indian populations. The comparative evaluation of the menarcheal age shows that it ranges from 11.88 years in Sikh Harijans of Punjab to 14.88 Years among the Gujaratis of Gujarat. The mean menarcheal age of the Present study Vishwakarma women (13.46) comes closer to Yadava of Andhra Pradesh (13.44 years), Kanyakubja Brahmin of Uttar Pradesh (13.58 years), Sarayuparin Brahmin of Uttar Pradesh (13.57 years) and Mahajan of Jammu (13.55 years).

The distribution of age at marriage among the Vishwakarma males and females is shown in table 13. The age at marriage of the majority (23.64%) of the males in the consanguineous group is 26-27 years followed by 22% at 22-23 years. The mean age of marriage in the consanguineous group is 24.61 years. The age at marriage of the majority (26.73%) of males in the non consanguineous group is 24-25 years. The mean age at marriage in non consanguineous group is 25.06 years. The age at marriage among the consanguineous males (24.61 years) is slightly earlier than the non-consanguineous group males (25.06 years). The pooled data show that the age at marriage of majority (24.51%) of the Vishwakarma males is 24-25 years and the mean age of marriage among them is 24.97 years.

The table 14 depicts that the age at marriage of the majority (29.29%) of the females in the consanguineous group is 14-15 years followed by 27.27% at 16-17 years. The mean at marriage among the consanguineous group is 16.36 years. The age at marriage of majority (26.24%) of females in the non-consanguineous group is 18-19 years followed by 22.28% at the age of 14-15 years and 16-17 years. The mean age at marriage in this group is 16.94 years. The mean age at marriage among the consanguineous females (16.36 years) is slightly lower than the non consanguineous group females (16.94 years). The pooled data show that the majority (24.51%) of Vishwakarma females' age at marriage is 18-19 years followed by 23.74% and 23.35% at the age of 14-15 and 16-17 years respectively and the mean age at marriage is 16.82 years (figure 18). The mean age of marriage of the present Vishwakarma males and

females is compared with some other populations of India. Among the males the mean age at marriage ranges from 16.80 years among the Brokpas of Muslims of Ladak region of Jammu and Kashmir to 31.97 years among the Iyengars of Melukote, Karnataka and in the females the mean age at marriage ranges from 14.10 years among the Gond of Jabalpur, Madhya Pradesh to 24.34 years and 24.33 years among the Deori and Tengaponiya of Assam respectively. The mean age at marriage in the present Vishwakarma males (24.97 years) come closer to Kaniyas of Karnataka (25.40 years), Brahmins of Central Himalayas (24.01 years), Jenu Kurubas of Hunsur and H.D. Kote, Karnataka (24.48 years), while in females the mean age of marriage among the Vishwakarma females is (16.82 years) come closer to Magga Shettys of Melukote, Karnataka (16.90 years); Kolam of Adilabad, Andhra Pradesh (16.50 years); Marchas of Central Himalayas (16.73 years), Jenu Kurubas of Hunsur and H.D. Kote, Karnataka (16.61 years) and Ahalehadie (Muslims) of Vishakapatnam, Andhra Pradesh (16.60 years).

The frequency distribution of marital distance among persons of both consanguineous and non-consanguineous matings of Vishwakarmas is portrayed in tables 15. The distance ranges from from 0-5 kms to 76 and above kms with an average of 38.69 kms in the pooled group. The mean marital distance of the consanguineous group is relatively higher (42.41 kms) than the non consanguineous group (37.67 kms). The marital distance of some of Indian populations have been compared with the present study. The mean marital distance among some of populations in India ranges from 6.40 kms among the Vadabaliyas of Puri, Orissa to 40.49 kms among the Kummars of Andhra Pradesh. The mean marital distance of the present Vishwakarmas (38.69 kms) comes closer to Mangals of Andhra Pradesh (37.29 kms) and Kummars of Andhra Pradesh (40.49 years).

Conclusion

The age, sex and marital composition of the Vishwakarma population indicates a higher proportion of children and young adults and low proportion of older people as in most of the other Indian populations, which are the common characteristics of a growing population. Though non consanguineous marriages are higher than consanguineous marriages, the practice of consanguineous marriages in Vishwakarma population of the present study is relatively higher than other caste population like Vokkaligas and Nayakas and lower than the Maggashettys and Iyengars and also other Indian populations. The Vishwakarmas prefer early marriages particularly for girls like other caste populations like Vokkaligas, Magga Shettys etc., This may be due to the lower literacy rate in the people of the lower strata, thus indicating higher fertility rates.

Table: 1 Sample Size of Vishwakarmas in the selected Taluks of Mysore district

Sl.No	Taluk	Demography
		No. of Families Surveyed
1	Mysore	184
2	Nanjangud	118
3	Hunsur	96
4	K.R.Nagar	52
5	H.D.Kote	64
Total		514

Table 2: Distribution of Male Education Status among the Vishwakarmas

Age Group (in years)	Illiterate		Primary school		High school		PUC		UG		PG		Professional		Total	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
16-20	0	.00	0	.00	2	1.3	0	.00	0	.00	0	.00	0	.00	2	0.4
21-25	2	1.3	4	2.9	8	5.0	0	.00	0	.00	0	.00	0	.00	14	2.7
26-30	18	12.0	20	14.7	16	10.0	6	25.0	2	10.0	0	.00	6	33.3	68	13.2

31-35	24	16.0	28	20.6	32	20.0	8	33.3	4	20.0	0	.00	0	.00	96	18.7
36-40	26	17.3	16	11.8	28	17.5	2	8.3	4	20.0	2	33.3	2	11.1	80	15.6
40-45	22	14.7	20	14.7	22	13.8	2	8.3	4	20.0	0	.00	2	11.1	72	14.0
46-50	20	13.3	16	11.8	16	10.0	0	.00	0	.00	2	33.3	2	11.1	56	10.9
51-55	12	8.0	10	7.4	16	10.0	0	.00	0	.00	0	.00	4	22.2	42	8.2
56-60	12	8.0	14	10.3	12	7.5	2	8.3	2	10.0	2	33.3	0	.00	44	8.6
61 & above	14	9.3	8	5.0	8	5.0	4	16.7	4	20.0	0	.00	2	11.1	40	7.8
Total	150	100.0	136	100.0	160	100.0	24	100.0%	20	100.0	6	100.0	18	100.0	514	100.0

Table 3: Distribution of Female Education Status among the Vishwakarmas

Age Group (in years)	Illiterate		Primary school		High school		PUC		UG		PG		Professional		Total	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
16-20	6	3.4	18	10.8	10	7.4	0	.00	2	25.0	0	.00	0	.00	36	7.0
21-25	18	10.3	28	16.9	22	16.2	10	35.7	2	25.0	0	.00	2	25.0	82	16.0
26-30	28	16.1	24	14.5	36	26.5	14	50.0	2	25.0	0	.00	0	.00	104	20.2
31-35	34	19.5	22	13.3	18	13.2	4	14.3	0	.00	0	.00	0	.00	78	15.2
36-40	34	19.5	30	18.1	20	14.7	0	.00	0	.00	0	.00	0	.00	84	16.3
40-45	14	8.0	20	12.0	4	2.9	0	.00	2	25.0	0	.00	0	.00	40	7.8
46-50	18	10.3	14	8.4	8	5.9	0	.00	0	.00	0	.00	0	.00	40	7.8
51-55	10	5.7	2	1.2	14	10.3	0	.00	0	.00	0	.00	0	.00	26	5.1
56-60	8	4.6	8	4.8	4	2.9	0	.00	0	.00	0	.00	0	.00	20	3.9
61 & above	4	2.3	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	4	0.8
Total	174	100.0	166	100.0	136	100.0	28	100.0	8	100.0	0	100.0	2	100.0	514	100.0

Table 4: Distribution of Male Occupation Status among the Vishwakarmas

Age group (in years)	Day laborer		Business																		Government Officials		Agriculture		Dead		Total	
			others		Artist		Auto Driver		Carpenter		Electronic s		Gold Smith		Handy Crafts		Iron Smith		Sculptor									
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%		
16-20	0	.0	0	.0	0	.0	0	.0	2	1.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	2	.4
21-25	4	5.4	2	5.3	0	.0	0	.0	6	3.0	0	.0	2	2.1	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0	14	2.7
26-30	8	10.8	4	10.5	0	.0	0	.0	32	16.0	0	.0	16	17.0	0	.0	2	33.3	0	.0	2	5.3	2	50.0	2	5.0	68	13.2
31-35	14	18.9	4	10.5	0	.0	2	50.0	48	24.0	0	.0	22	23.4	2	25.0	0	.0	0	.0	4	10.5	0	.0	0	.0	96	18.7
36-40	8	10.8	10	26.3	0	.0	0	.0	46	23.0	0	.0	8	8.5	4	50.0	0	.0	0	.0	4	10.5	0	.0	0	.0	80	15.6
40-45	14	18.9	6	15.8	2	100.0	0	.0	24	12.0	0	.0	12	12.8	0	.0	0	.0	0	.0	8	21.1	2	50.0	4	10.0	72	14.0
46-50	8	10.8	8	21.1	0	.0	0	.0	14	7.0	0	.0	12	12.8	2	25.0	0	.0	2	50.0	8	21.1	0	.0	2	5.0	56	10.9
51-55	6	8.1	2	5.3	0	.0	2	50.0	14	7.0	2	100.0	4	4.3	0	.0	2	33.3	0	.0	6	15.8	0	.0	4	10.0	42	8.2
56-60	8	10.8	2	5.3	0	.0	0	.0	6	3.0	0	.0	10	10.6	0	.0	0	.0	2	50.0	4	10.5	0	.0	12	30.0	44	8.6
61 & above	4	5.4	0	.0	0	.0	0	.0	8	4.0	0	.0	8	8.5	0	.0	2	33.3	0	.0	2	5.3	0	.0	16	40.0	40	7.8
Total	74	100.0	38	100.0	2	100.0	4	100.0	200	100.0	2	100.0	94	100.0	8	100.0	6	100.0	4	100.0	38	100.0	4	100.0	40	100.0	514	100.0

Table 5: Distribution of Female Occupation Status among the Vishwakarmas

Age group (in years)	Day Labourers		Business		Government Officials		House Wives		Total	
	No	%	No	%	No	%	No	%	No	%
16-20	2	3.6	2	7.7	0	.00	32	7.4	36	7.0
21-25	4	7.1	6	23.1	0	.00	72	16.7	82	16.0
26-30	2	3.6	0	.0	0	.00	102	23.7	104	20.2
31-35	8	14.3	2	7.7	2	100.0	66	15.3	78	15.2
36-40	10	17.9	2	7.7	0	.00	72	16.7	84	16.3
41-45	8	14.3	6	23.1	0	.00	26	6.0	40	7.8
46-50	10	17.9	2	7.7	0	.00	28	6.5	40	7.8
51-55	4	7.1	4	15.4	0	.00	18	4.2	26	5.1
56-60	8	14.3	2	7.7	0	.00	10	2.3	20	3.9
61 & above	0	.00	0	.00	0	.00	4	0.9	4	0.8
Total	56	100.0	26	100.0	2	100.0	430	100.0	514	100.0

Table 6: Income-wise Distribution of Male Vishwakarmas (per month in Rupees)

Type of occupation	100-1000		1001-2000		2001-3000		3001-4000		4001-5000		5001-6000		6001-7000		7000 & Above		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Day labourers	0	.00	6	18.8	24	30.8	42	20.2	0	.00	2	3.2	0	.00	0	.00	74	14.4
Others	0	.00	2	6.3	6	7.7	20	9.6	0	.00	6	9.7	0	.00	4	9.1	38	7.4
Artists	0	.00	0	.00	0	.00	0	.00	2	5.6	0	.00	0	.00	0	.00	2	0.4
Auto drivers	0	.00	0	.00	0	.00	2	1.0	0	.00	2	3.2	0	.00	0	.00	4	0.8
Carpenters	0	.00	6	18.8	32	41.0	100	48.1	26	72.2	30	48.4	4	28.6	2	4.5	200	38.9
Electronics	0	.00	0	.00	0	.00	2	1.0	0	.00	0	.00	0	.00	0	.00	2	0.4
Gold smiths	0	.00	12	37.5	8	10.3	34	16.3	8	22.2	14	22.6	10	71.4	8	18.2	94	18.3
Handy Crafts	0	.00	0	.00	0	.00	4	1.9	0	.00	4	6.5	0	.00	0	.00	8	1.6
Iron smiths	0	.00	0	.00	2	2.6	2	1.0	0	.00	0	.00	0	.00	2	4.5	6	1.2
Sculptors	0	.00	2	6.3	2	2.6	0	.00	0	.00	0	.00	0	.00	0	.00	4	0.8
Government officials	0	.00	2	6.3	2	2.6	2	1.0	0	.00	4	6.5	0	.00	28	63.6	38	7.4
Agriculturists	0	.00	2	6.3	2	2.6	0	.00	0	.00	0	.00	0	.00	0	.00	4	0.8
Dead	40	100.0	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	40	7.8
Total	40	100.0	32	100.0	78	100.0	208	100.0	36	100.0	62	100.0	14	100.0	44	100.0	514	100.0

Table 7: Income-wise Distribution of Female Vishwakarmas (per month in Rupees)

Type of occupation	00		100-1000		1001-2000		2001-3000		Total	
	No	%	No	%	No	%	No	%	No	%
Day labourers	0	.00	31	75.6	23	65.7	2	20.0	56	10.9
Business	0	.00	10	24.4	8	22.9	8	80.0	26	5.1
Government Officials	0	.00	0	.00	2	5.7	0	.00	2	0.4
House wives	428	100.0	0	.00	2	5.7	0	.00	430	83.7
Total	428	100.0	41	100.0	35	100.0	10	100.0	514	100.0

Table 8: Prevalence of family type among Vishwakarmas

Family type	Number	Percentage
Nuclear	398	77.43
Joint	116	22.57
Total	514	100.00

Table 9: Marriage type of spouses' parents

Marriage Type	Husband parents		Wife parents	
	Number	Percent	Number	Percent
Consanguineous	434	84.4	414	80.5
Non Consanguineous	80	15.6	100	19.5
Total	514	100.0	514	100.0

Table 10: Age, Sex and Marital Status Composition of the Vishwakarmas

Age Group (in Years)	Unmarried		Married		Widowed		Total	Percentage		Percentage
	Male	Female	Male	Female	Male	Female	Male + Female	Male	Female	Male + Female
0-4	40	66	00	00	00	00	106	3.80	6.30	5.05
5-9	86	74	00	00	00	00	160	8.18	7.06	7.61
10-14	102	104	00	02	00	00	208	9.70	10.11	9.90
15-19	110	62	02	30	00	00	204	10.65	8.79	9.71
20-24	74	14	18	144	00	00	250	8.75	15.08	11.90
25-29	30	04	82	156	00	00	272	10.65	15.26	12.95
30-34	14	00	106	126	00	04	250	11.40	12.40	11.90
35-39	08	00	112	88	00	04	212	11.40	8.78	10.10
40-44	02	00	84	56	00	06	148	8.18	5.92	7.05
45-49	00	00	62	30	00	06	98	5.89	3.44	4.67
50-54	00	00	46	30	00	08	84	4.38	3.62	4.00
55-59	00	00	34	14	00	06	54	3.23	1.90	2.57
60-64	00	00	24	02	00	10	36	2.28	1.14	1.71
65-69	00	00	06	02	00	00	08	0.57	0.19	0.38
70-74	00	00	06	00	00	00	06	0.56	00	0.29
75-79	00	00	00	00	00	00	00	00	00	00
80-84	00	00	02	00	00	00	02	0.19	00	0.10
85-89	00	00	02	00	00	00	02	0.19	00	0.10
90-94	00	00	00	00	00	00	00	00	00	00
94 & above	00	00	00	00	00	00	00	00	00	00
Total	466	324	586	680	00	44	2100	100.00	100.00	100.00

Table 11: Frequency and Type of Consanguinity among the Vishwakarmas

Relationship	Number	Percentage	Inbreeding coefficient	
			Autosomal (F_A)	Sex linked (F_x)
I. Non Consanguineous	404	78.60	-	-
II. Consanguineous	110	21.40	-	-
a. First Cross Cousin	60	11.67	0.0073	-
1. Patrilateral	38	7.39	0.0046	0.0000
2. Matrilateral	22	4.28	0.0027	0.0026
b. Maternal Uncle-Niece	50	9.73	0.0122	0.0122
Total	514	100.00	0.0195	0.0188

Table 12: Distribution of Menarcheal age among the Vishwakarma Females

Age at menarche (in years)	Consanguineous Matings				Non Consanguineous Matings				Both			
	No.	%	Mean±S.E.	S.D. ±S.E.	No.	%	Mean±S.E.	S.D.±S.E.	No.	%	Mean±S.E.	S.D.±S.E.
10	00	0.00	13.10±0.10	1.12±0.07	04	1.0	13.55±0.07	1.43±0.05	04	0.78	13.46±0.06	1.38±0.04
11	04	3.64			18	4.45			22	4.28		
12	34	30.91			76	18.80			110	21.40		
13	34	30.91			104	25.74			138	26.85		
14	24	21.81			108	26.73			132	25.68		
15	12	10.91			50	12.38			62	12.06		
16	02	1.82			34	08.42			36	7.00		
17	00	0.00			10	2.42			10	1.95		
Total	110	100.00			404	100.00			514	100.00		

Table 13: Distribution of Age at Marriage among the Vishwakarma Males

Age at marriage (in years)	Consanguineous Mating				Non-Consanguineous Mating				Both			
	No.	%	Mean \pm S.E	S.D \pm S.E	No.	%	Mean \pm S.E	S.D \pm S.E	No.	%	Mean \pm S.E	S.D \pm S.E
14-15	00	0.00	24.61 \pm 0.34	3.65 \pm 0.24	02	0.50	25.06 \pm 0.20	4.13 \pm 0.14	02	0.39	24.97 \pm 0.17	4.03 \pm 0.12
16-17	00	0.00			02	0.50			02	0.39		
18-19	08	7.27			20	4.95			28	5.45		
20-21	14	12.73			52	12.87			66	12.84		
22-23	22	20.00			68	16.83			90	17.51		
24-25	18	16.36			108	26.73			126	24.51		
26-27	26	23.64			58	14.36			84	16.34		
28-29	10	9.09			38	9.40			48	9.34		
30-31	08	7.27			26	6.43			34	6.61		
32-33	04	3.64			16	3.97			20	3.89		
34 & above	00	0.00			14	3.46			14	2.72		
Total	110	100.00			404	100.00			514	100.00		

Table 14: Distribution of Age at Marriage among the Vishwakarma Females

Age at marriage (in years)	Consanguineous Mating				Non-Consanguineous Mating				Both			
	No.	%	Mean \pm S.E	S.D \pm S.E	No.	%	Mean \pm S.E	S.D \pm S.E	No.	%	Mean \pm S.E	S.D \pm S.E
Below 9	00	0.00	16.36 \pm 0.26	2.82 \pm 0.19	02	0.49	16.94 \pm 0.16	3.25 \pm 0.11	02	0.39	16.82 \pm 0.13	3.17 \pm 0.09
10-11	00	0.00			08	1.98			08	1.56		
12-13	16	14.55			38	9.41			54	10.51		
14-15	32	29.09			90	22.28			122	23.74		
16-17	30	27.27			90	22.28			120	23.35		
18-19	20	18.18			106	26.24			126	24.51		
20-21	06	5.45			38	9.41			44	8.56		
22-23	02	1.82			12	2.97			14	2.72		
24-25	04	3.64			12	2.97			16	3.11		
26-27	00	0.00			06	1.48			06	1.16		
28-29	00	0.00			02	0.49			02	0.39		
30-31	00	0.00			00	0.00			00	0.00		
32-33	00	0.00			00	0.00			00	0.00		
34 & above	00	0.00			00	0.00			00	0.00		
Total	110	100.00			404	100.00			514	100.00		

Table 15: Distribution of Marital distance among the Vishwakarmas

Marital distance (in kms)	Consanguineous Mating				Non-Consanguineous Mating				Both			
	No.	%	Mean \pm S.E	S.D \pm S.E	No.	%	Mean \pm S.E	S.D \pm S.E	No.	%	Mean \pm S.E	S.D \pm S.E
0-5	30	27.27	42.41 \pm 5.23	54.89 \pm 3.70	110	27.23	37.67 \pm 2.31	46.62 \pm 1.64	140	27.24	38.69 \pm 2.13	48.49 \pm 1.51
6-10	06	5.45			20	4.95			26	5.05		
11-15	10	9.09			22	5.45			32	6.24		
16-20	02	1.81			28	6.93			30	5.84		
21-25	02	1.81			10	2.47			12	2.33		
26-30	14	12.73			44	10.89			58	11.28		
31-35	12	10.91			28	6.93			40	7.78		
36-40	04	3.65			24	5.94			28	5.45		
41-45	00	0.00			06	1.48			06	1.17		
46-50	08	7.27			34	8.42			42	8.17		
51-55	00	0.00			00	0.00			00	0.00		
56-60	04	3.65			22	5.45			26	5.05		
61-65	02	1.81			04	0.99			06	1.17		
66-70	00	0.00			10	2.47			10	1.95		
71-75	00	0.00			00	0.00			00	0.00		
76 & above	16	14.55			42	10.40			58	11.28		
Total	110	100.00			404	100.00			514	100.00		

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