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## Caucasian migration: Anatomical evidence

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### Abstract

The facial index is the length of the face from the root of the nose to the bottom of the chin, expressed as a percentage of the greatest breadth across the cheekbones. Racial differences are much more marked in relation to face than elsewhere, so it is very useful anthropologically. For this hundred males from Pushkarna Brahmin community between the age group of 18-35 years were taken and their facial index was calculated.

The result indicated that average facial index in Pushkarna Brahmin individuals was 95.86. Mostly they were hyperleptoprosopic. The average facial index of Pushkarna Brahmin individuals was very close to North European and Nigerian population, indicating their racial similarities.

**Keywords:** Caucasian, facial index, hyperleptoprosopic

### Introduction

The word "Caucasian" is derived from the Caucasus Mountains, a mountain range stretching from the Black Sea to the Caspian Sea. This geographic location is where many scientists and historians believe that the first Caucasian people, the Aryans, have originated. The Aryans migrated into Europe and North Africa in the first wave of migration, and then later to modern-day Iran and India in a second wave of migration.

This study is based on comparative study of facial index of Pushkarna Brahmin community of Bikaner district of Rajasthan. Pushkarna Brahmins were settled on the banks of Indus River from the very old times. They are regarded as offshoot of Dravidian Civilisation and Indus Valley Civilisation were mostly contemporary as testified by excavations of Mohan-Jo-Daro. Ruins of Brahmanabad in Sindh also gave indication that these Brahmins were there in the Indus subcontinent.

Islam came in 8<sup>th</sup> century A.D. Muslim invaders started conversion of Hindus to Islam, Brahmins afterwards shifted to neighbouring Hindu states of rajputs to save themselves from conversion.

Brahmins from Multan and Bahawalpur shifted to Bikaner District of Rajasthan. There is no data available regarding the facial index of Pushkarna Brahmin community so a study was conducted to measure their facial index and to compare it with other communities and races.

### Review of Literature

Coon<sup>1</sup> 1939; in his book 'The Races of Europe', described facial index of different races of Europe. According to him facial index in middle Europe was 86-90, in north Europe above 90, in Mediterranean Africa 89.2, in India 86-90, in Turkey 86.5, in Arabia 85.1 and in Middle East was 88.9.

Joseph Antenor Firmin, 1966<sup>[2]</sup>; found facial index 68.5 in Negro population.

Ngeow W.C. and Aljunid S.T. 2009<sup>[3]</sup>; found facial index 85.5 in Malaysian Indians.

Staka, G. Disha, M. & Ddragidella, F., 2013<sup>[4]</sup>; found facial index among male Kosovo-Albanian population to be 95.6.

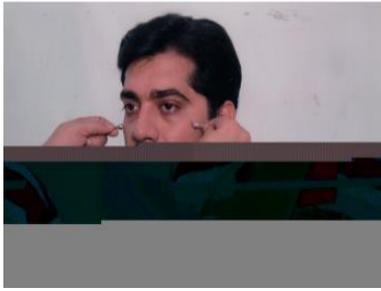
D. Jeremic *et al.* 2013<sup>[5]</sup>; found facial index 94.04 in the male population of Central Serbia.

### Material and Method

One hundred adult males from Pushkarna Brahmin community between age group of eighteen to 35 years were measured to study their facial index. Face breadth (zygomatic diameter) was taken with the help of spreading calliper. Face height from nasion to menton was taken with the help of sliding calliper.

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**Fig 1:** Method for measuring face breadth



**Fig 2:** Method for measuring face height

**Observations**

In Pushkarna Brahmin individuals, facial height varied from 10.8 cm to 13.9 cm, average facial height as observed was found to be 12.9 cm.

The face breadth varied from 11.6 cm to 14.2 cm, average

face breadth was found to be 12.61 cm.

The average facial index calculated from height and breadth of face as observed in Pushkarna Brahmin individuals was found to be 95.86. The minimum facial index was found to be 88.80 and maximum facial index was 99.21.

**Table 1:** Incidences of various facial indices in Pushkarna Brahmin individuals

Facial Index	Number observed	Facial Index	Number Observed
88.1 to 89	1	96.1 to 97	22
89.1 to 90	5	97.1 to 98	20
90.1 to 91	7	98.1 to 99	21
91.1 to 92	Nil	99.1 to 100	2
92.1 to 93	3	Above 100	nil
93.1 to 94	5		
94.1 to 95	9		
95.1 to 96	5		

Total No observed= 100, Minimum facial index= 88.80, Maximum facial index= 99.21, Average facial index= 95.86

**Table 2:** Facial index classification in Pushkarna Brahmin individuals

Facial index classification in Pushkarna Brahmin individuals	Facial index	Frequency
Hyperuryprosopic	Less than 78.9	Nil
Euryprosopic	79 to 83.9	Nil
Mesoprosopic	84 to 87.9	Nil
Leptoprosopic	88 to 92.9	16%
Hyperleptoprosopic	93 and above	84%

**Table 3:** Comparision of facial index in different Non-Indian Groups with Pushkarna Brahmin individuals

S. No.	Race/Group	Authors	Facial index
1.	Middle European	Coon C.S.	86 to 90
2.	North European	Coon C.S.	Above 90
3.	Eastern European	Coon C.S.	86 to 90
4.	Mediterranean African	Coon C.S.	89.2
5.	Turkish	Coon C.S.	86.2
6.	Arabians	Coon C.S.	85.1
7.	Middle East	Coon C.S.	88.9
8.	Eskimos	Joseph Antenor Firmin	73.4
9.	Negros	Joseph Antenor Firmin	68.5
10.	Bretons Gallots	Joseph Antenor Firmin	68.5
11.	Auvergnats	Joseph Antenor Firmin	67.5
12.	New Caledonians	Joseph Antenor Firmin	66.2
13.	Persians	Joseph Antenor Firmin	65.9
14.	Australians	Joseph Antenor Firmin	66.6
15.	Tasmanians	Joseph Antenor Firmin	62.0
16.	Malaysian Indians	W.C. Ngeow and Staljunid	85.5
17.	Pushkarna Brahmins, Bikaner, Rajasthan, India	Present study	95.86

**Result**

Based on the finding of average facial index in Pushkarna Brahmin individuals 84% were hyperleptoprosopic and 16% were leptoprosopic. The average facial index of Pushkarna Brahmin individuals was comparable to North Europeans and Nigerians. The comparable data of facial index of Pushkarna Brahmin and Europeans indicates Caucasian origin of this race.

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