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Aspect of cognitive dynamics with reference to sex in a population group of Karnataka, India

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Abstract
Neuroanthropology is defined as an interdisciplinary field which help us understand the interactive effects of environment, culture and biology on human development and behaviour. It is intended to embrace all dimensions of human neural activity, including emotion, perception, cognition and motor control. The concept of cognition is closely related to abstract concepts as mind, reasoning, perception, intelligence, learning, and many others that describe numerous capabilities of human mind. The present research attempts to study neuro-anthropological variations among both the genders using psychological variable i.e. cognition.The sample size selected for the study were 364 Muslims including both males and females from Bangalore, Karnataka. Major findings from the study were that Muslim females of Bangalore were more emotionally driven, compromising and receptive in recognizing emotions of others as compared to the males but on the other hand they too believed in embracing small, immediate pleasures of life as do the males.

Keywords: Neuroanthropology, environment, culture, human development, behaviour, cognition, neural activity

1. Introduction
Neuroanthropology exemplifies the holism that has been a hallmark of anthropology. The field draws on both biology and culture for data and theory, and embraces both empiricism and critical analysis. The implication of Neuroanthropology is: forms of enculturation, social norms, ritual, language and patterns of experience shape how our brains work and structured. Neuroanthropology is a field of study closely related to social and culture neurosciences that theoretically and methodologically integrates anthropology and neuroscience, to study the poorly understood relationship between culture and the brain. Neuroanthropology has been regarded as being dependent on and complementary to social and cultural neurosciencees.
Neuroanthropology offers u a dual integration. Neuroscience and Anthropology has much to offer to one another. Neuroscience has begun to embrace cross-cultural research methods and the understanding of human variation as both shaped by and shaping neural dynamics. Alied neuroanthropology recognises the importance of human variation in the success (and failure) of projects of all sorts, highlighting that few (if any) universal solutions exist to the problems we face around the globe. Alied neuroanthropology points to patterns of human variation that are often not reducible to either biological or cross-cultural etiology alone; rather, human difference and similarity emerge through interactions across the biology-culture divide. It advocates a community-based approach to address the problems, communities face (Minkler and Wallerstein 2008; Schensul and Trickett 2009).Neuroanthropology, by synthesizing neuroscience and anthropology, provides an evidence-based approach that can generate innovative, finely tailored approaches to local variants of larger social problems.

2. Review of Literature:
- Over the past few decades, a growing number of psychologists, sociologists, and anthropologists have stressed that many of taken for granted ways of perceiving and interpreting ourselves and the world around us as much as we like to ethnocentrically universalize them across time and sace, are infact culturally and historically specific (eg. Berger and Luckmann, 1967; Triandis, 2007; Freeman et al,2009).This work has pointed out that our quotidian realities and basic ways of perceiving, thinking and acting are often constructed by cultural and ecological context that constitutes them.

- In Indian context, 2 studies have been carried on Bania of Delhi of age groups 11-41+ years. Including both males and females in the study and they reported that thinking pattern remained mostly same till the age of 31 years and more which might be due to the fact both Bania males and females live in the same social environment but after the age of 30 years, their social environment gets changed as most of the females get married by this age. It has also been observed that Bania males are more open to express or share their thoughts as compared to Bania females.It might be due to the fact that Bania caste is patrilineal, where more freedom is given to males to express their thoughts than females.

Cognition:
Cognition refers to the mechanisms by which individuals acquire, process, store, and act on information of the environment. These include perception, learning, memory and decision-making. The study of comparative cognition is therefore concerned with how individuals process information, starting with how information is acquired by the senses.
Person cognition is central in everyday life. Person cognition is the fundamental domain of thought and action. This is certainly true in a practical way, for our everyday life continually involves interactions, real and imagined, with other persons. It is true in a personal way, for self-cognition has much in common with our cognition with other persons. Our judgements about our own abilities, for example rest on success and failure information, just as do our judgements of other's abilities. Our self-esteem, similarly depends on the integration of positive and negative informers about our ability and status. For both self and other, the knowledge and action systems of person cognition are extensively developed through a lifetime of continuous use.

- Neave et al, (1999) carried out a study to examine the performance of both heterosexual and homosexual males and females which was compared on four cognitive tasks which have been shown to reveal evidence of sexual dimorphism. In one spatial and one verbal task, significant sex and orientation effects were found. Significant relationships were also found between salivary free-testosterone levels and performance on both spatial tasks, but no significant associations were found for performance on the two verbal tasks. The present study revealed both within- and between-sex differences in cognition and indicates that these differences may be partly accounted for by the activational effects of free testosterone.

- Lieberman,(2007) reviewed a study to examine four broad areas of research within social cognitive neuroscience: (*a*) understanding others, (*b*) understanding oneself, (*c*) controlling oneself, and (*d*) the processes that occur at the interface of self and others. In addition, this review highlights two core-processing distinctions that can be neurocognitively identified across all of these domains. The distinction between automatic versus controlled processes has long been important to social psychological theory and can be dissociated in the neural regions contributing to social cognition. Alternatively, the differentiation between internally-focused processes that focus on one's own or another's mental interior and externally-focused processes that focus on one's own or another's visible features and actions is a new distinction. This latter distinction emerges from social cognitive neuroscience investigations rather than from existing psychological theories demonstrating that social cognitive neuroscience can both draw on and contribute to social psychological theory.

3. Material and Methods:
The present study was carried on Muslim population of both males and females of Bangalore, Karnataka. The sample size worked upon was 366 and their age group being 18-60 years. Set of standardized interview schedule/questionnaire was incorporated as the mode of data collection to infer the intra and inter-variability of cognitive dimensions.

4. Results and Discussion:
Based upon the psychological variable namely 'cognition' and the inter-variation between males and females, the following results were drawn:

Table 1: Percentage distribution of Muslims based on how often are you able to control yourself in a very difficult situation, when you are really upset

Gender		Always	Mostly	Sometimes	Rarely	Can't say	Total
Males	N	94	103	39	24	6	260
	%	35.3	38.7	14.7	9.0	2.3	97.7
Females	N	35	34	13	14	1	97
	%	36.1	35.1	13.4	14.4	1.0	100

Table 1 shows that a much higher proportion of males i.e.,38.7% were 'mostly' seen as controlling themselves in a difficult situation, while comparatively less proportion of females i.e.,36.1% 'always' find it easy controlling their mood in tough situations.

Table 2: Percentage distribution of Muslims based on how good are you at accurately recognising the emotions of others

Gender		Always	Mostly	Sometimes	Rarely	Can't say	Total
Males	N	76	109	50	21	10	256
	%	28.6	41.0	18.8	7.9	3.8	96.2
Females	N	20	50	18	6	3	97
	%	20.6	51.5	18.6	6.2	3.1	100

Table 2 shows that maximum proportion of males i.e., 41.0% were 'mostly' good at recognising and understanding the emotions of others, while much higher proportion of females,i.e.51.5% were 'mostly' good and more accurate as compared to the males in reading the emotions of others.

Table 3: Percentage distribution of Muslims based on how often, do you give up on something even though you know you should keep going

Gender		Always	Mostly	Sometimes	Rarely	Can't say	Total
Males	N	61	51	105	46	3	266
	%	22.9	19.2	39.5	17.3	1.1	100
Females	N	9	28	42	16	3	97
	%	9.3	28.9	43.3	16.5	2.1	100

Table 3 shows maximum proportion of males i.e., 39.5% 'sometimes' give up on something even though they wanted to keep going with that, whereas maximum proportion of females i.e.,43.3% too, make comparatively more compromises with life and give up on things they wanted to pursue more.

Table 4: Percentage distribution of Muslims based on how likely are you to select a smaller immediate reward rather than a long term reward

Gender		Always	Mostly	Sometimes	Rarely	Can't say	Total
Males	N	51	102	52	45	16	266
	%	19.2	38.3	19.5	16.9	0.6	100
Females	N	17	43	24	8	5	97
	%	17.5	44.3	24.7	8.2	5.2	100

Table 4 shows maximum proportion of males i.e.,38.3% 'mostly' believe in going for immediate benefits and reward rather than waiting patiently for a long term reward, while even more higher proportion of females i.e.,44.3% too, agree with the short term benefits and rewards rather than waiting for a long term benefit.

Table 5: Percentage distribution of Muslims based on what proportion of your life is driven purely by your emotions

Gender		Always	Mostly	Sometimes	Rarely	Can't say	Total
Males	N	61	113	44	39	9	266
	%	22.9	42.5	16.5	14.7	3.4	100
Females	N	22	52	11	10	2	97
	%	22.7	53.6	11.8	10.3	2.1	100

Table 5 shows maximum proportion of males i.e., 42.5% 'mostly' lead their lives governed by emotions while even higher proportion of females i.e., 53.6% 'mostly' lead their lives driven purely by their emotions.

Table 6: Percentage distribution of Muslims based on how much does it bothers you, when a person close to you, is having problems

Gender		Always	Mostly	Sometimes	Rarely	Can't say	Total
Males	N	122	78	33	27	6	266
	%	45.9	29.3	12.4	10.2	2.3	100
Females	N	53	27	11	6	0	97
	%	54.6	27.8	11.3	6.2	0	100

Table 6 shows that maximum proportion of males i.e.,45.9% 'always' felt disturbed when a person close to them, undergo problems while even more higher proportion of females i.e.,54.6% too 'always' felt disturbed with the same.

5. Conclusion:

The present research was done to unfold the role of neuro-anthropology in a cultural context to study the aspects of cognition involving mental processes, comprehension, learning, planning and decision making. On observing and comparing the previously studied Bania group of Delhi with the Muslims population of Bangalore, Karnataka, it can be summed up, that as in the case of Bania group, Muslim population both males and females too, are expressive and vocal about their opinions and thoughts, the reason can be associated with their level of education and the socio-economic status. The salient highlights brought forth from the study were: the muslim males of Bangalore were observed, to be more in control of their emotions i.e., when they were upset, and stayed calm in a difficult situation as compared to the females. They don't get easily disturbed if their closed friends or family are in some problem as much as the females. While females were found to be more accurate and had better sense, in recognising the emotions of people as compared to the males. Females were also found to be more compromising interms of succumbing to the situations and were more emotionally driven and took decisions seeking their emotional call as compared to the males. In instances where one selects a smaller reward rather than a long term reward, both males and females believed in embracing smaller, immediate benefits and rewards rather than waiting patiently for a long term goal and benefits.

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