

Original Article

Laterality: Coffee vs Tea - Is it forensically relevant?

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ABSTRACT

The question of laterality is discussed in this paper pertaining to use of the right or the left hand. Interestingly, some amazing cue is derived which though do not confirm to the projection, yet demonstrate conformity to deviant reasoning leading to promising forensic lead.

Keywords: Laterality, Left-hander, Right-hander, Coffee vs tea, Forensic relevance

INTRODUCTION

The scientific usage of the term 'laterality' imply 'the phenomenon by which in an organism with paired facilities (hands, feet, eyes, ears) the performance of certain task, afferent or efferent, succeeds better on one side than on the other. Laterality defines asymmetrical function. Subjectively, one speaks of hand preference or foot preference, meaning laterality. If preference is not strongly unilateral, i.e., if the performance on both sides is more or less qualitatively comparable, one speaks of 'mixed laterality' or inconsistency. Crossed laterality means that the preference is not ipsilateral for the different facilities'¹.

Some basic unquestionable facts remain.

1. In approximately 95% of right-handed persons the left hemisphere is dominant for speech².
2. Right-handers have been found to be significantly superior with regard to their performance intelligence quotient (IQ), while left-handers and right-handers did not differ in verbal IQ³.
3. Although many theories have been postulated, the etiology of left-handedness is not established with certainty. Heredity, neurological dysfunction, childhood

imitation of another child, personality negativism, a function of birth order (high or low risk) and expression of cerebral dominance are among the many expressed causes^{4,5,6,7}.

MATERIALS AND METHODS

Many a time sinister crimes have taken place and injuries found on the victim are alluding and point towards the left-handedness of the assailant. In a blind case, this simple conjecture proves a boon to the investigating agency. Therefore, this simple socio-biological determinant was selected to bring out the strength of bond between elements of social and biological entity.

Eighteen students of Aligarh Muslim University, Aligarh, India, whose age ranged from 18 to 20 years (mean 19.4 years) and belonged to the same class, were selected for the study. Out of 18 students, 6 were females and 12 were males. In males, eight were known right-handers and four were left-handers. In females, four were right-handers and two were left-handers. To make up the control group for each left-hander, two right-handers were added up in each gender category. This was done arbitrarily to scoop up the balancing figures. The students were told about the experiment though details were left out.

In phase [I], all the 18 volunteering subjects were invited for a cup of tea sitting around a round table. The tea was brought in a large tea pot. In addition, milk and sugar were provided in separate pots for the students to add them as per their desire. It was found that all the right-handers (eight males and four females) mixed sugar in cups rotating spoon in clockwise motion. Among the left-handers (four males and two females), the rotation of spoon was in anticlockwise direction.

In phase [II] of the experiment, the same group of students was invited after a couple of days later for coffee. A deviant behaviour was noticeable and which was not expected in the light of performance given by the left-handers in phase [I]. In this case too, coffee, milk and sugar were brought in separate pots and their hand movements were taken note of. All the right-handers stirred their coffee by the spoon in clockwise direction. However, two left-handers among the male category (50%) stirred their coffee by left hand but in clockwise motion, while one (50%) female left-hander did similarly. This was intriguing. Scientifically speaking 'dominance is the phenomenon in which one cerebral hemisphere plays the major role with regard to a specific function. Dominance is a central function. As a result of crossing of nerve fibers in the central nervous system, the left cerebral hemisphere is the dominant hemisphere for handedness in right-handers and the right hemisphere for left-handers'¹. Since biology alone was unable to establish this effect, presumably there had to be a socio-biological connection. The students were invited to openly discuss their aberration in their behaviour, which of course was considered by the authors to be beneficial for medico-legal theorisation.

The explanation that came out from them was simple, straight forward as if in one voice. It was extemporaneous with no element of pre-formed conspiracy because they were not told about the purpose of the experiment. All the left-handers (two males and one female) who mixed sugar in coffee in clockwise movement spoke in unison that they did it because they thought that coffee is the elitists' beverage, and hence, they deliberately joined their right-handed group as if not to be singled out. Somewhere at the back of their mind there had been the desire to modulate their conduct in conformity with the occasion. For them tea was different. Why it was different they failed to explain.

DISCUSSION

This simple experiment assaulted the authors' reasoning. All of us failed to understand the logic of the left-handers' behaviour. What was comprehensible was that 50% male left-handers and 25% female left-handers displayed unanimity in their behaviour and thought pattern. The statistical significance of the study is a pointer towards the existence of medico-legal nuance, in which conclusion may not be derived at by apparent and visible clues. It could be perilous. Each scene of crime must be examined and analysed by plugging every conceived hole. It must be understood that a meticulous planning of a crime would also obviate signature of hitherto known body defects and concealed attempts of their subversive camouflage. This study also gave us an opportunity to peep through the mind's window and draw conclusion through rigid benign façade. It also unequivocally established that conduct and behaviour are not all time permanent even though biology speaks otherwise. Fortiori it is the cultural imbibitions that influences adaptation.

The study may have many weaknesses in the form of poor sampling, restricted inclusion of socio-biological parameters, geographical and cultural ignorance, still it deserves to be brought to the knowledge of all personnel engaged in medico-legal duty.

COMPETING INTERESTS

The authors declare that they have no competing interests.

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