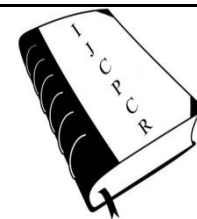




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INCIDENCE AND GENDER DISTRIBUTION OF AMBIDEXTERITY AMONG THE IGBOS OF NIGERIA

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ABSTRACT

The 9 month study was designed to ascertain the incidence and gender distribution of ambidexterity skills among the Igbos. Observations, verbal interviews, questionnaires and tests of motor skills of the hands constitute the research instruments used in the study. In general, about 1.72% of the populations studied were ambidextrous. That is, having the ability to use both limbs (the hands in this case) to execute actions in equal capacity. The results of the study also revealed that females are more likely to be ambidextrous (1.8%) than the males (1.63%). Parental, societal and cultural pressures executed on people who were original left handed accounted for the relatively higher percentage of ambidexterity among the Igbos. Interestingly, most of the people with ambidexterity skills were originally or naturally left handed. Early injury to the right hand (for the originally right handed people) played the least role in converting an individual from right hand dominance to ambidextrousness.

Key words: Ambidexterity, Handedness, Hand-dominance, Ambidextrous, Igbos.

INTRODUCTION

Ambidexterity, the state or quality of being ambidextrous, means being able to use both hands equally well [1]. An ambidextrous individual has the ability to use both hands with equal ease or facility [2], although it could be the feet if the individual is armless. Naturally ambidextrous people are said to be uncommon, with only one out of one hundred people being naturally ambidextrous. To determine ones ambidexterity the degree of versatility with each hand is strictly put into consideration. Some ambidextrous individuals were originally left handed [3], such people learned ambidexterity skills either deliberately, or as occasioned by cultural threats in Igbo land where left handedness is dishonoured or abhorred. Again, based on the fact that tools or devices designed for left handed people are rare, many lefties were forced to learn to use such devices (e.g scissors) right handedly [4]. Such lefties developed motor skills in their non- dominant hand than right handed people who were not under pressure to use left handed models.

Right handed people however, may also display ambidextrous skills due to injury of their right upper limb [5]. Boxing, basketball, martial arts, knitting, typing on a computer, keyboard music, are among the numerous activities that require a great deal of skill in both hands [6]. For the purpose of this study, ambidexterity will be considered to mean the property of being equally skillful with each hand as being defined by Lubatkin et al [7].

The Igbos (one of the three major tribes of Nigeria) live in the South Eastern part of Nigeria. They are densely populated in Abia, Anambra, Ebonyi, Enugu and Imo States of Nigeria, covering an area of 15,800 square miles and with a population of about 30million. The Igbos encourages and tries to promote ambidexterity especially among the males because of its perceived advantaged in local wrestling competitions and expertise in playing local drums during traditional festive periods.

This study is designed to investigate the incidence and gender distribution of ambidexterity among the Igbos

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of Nigeria with a view to ascertaining whether the encouragement the people give to it favours its prevalence when compared with results/reports from other parts of the world.

MATERIALS & METHODS

The study population consists of individuals between the ages of 7 and 60 years who are Igbos resident in South Eastern Nigeria. The two particular age limits were adopted to guard against errors or uncertainties that could occur if an individual below the age of seven who might not have developed significant hand-dominance is considered, or when individuals above 60 years whose hand-dominance in most cases could not be easily determined due to old age, debilitating health or other health anomalies associated with old age are surveyed.

A random sampling method was used to select the subjects who were observed, interviewed verbally, tested and or issued with questionnaires. A total of 2,668 individuals were investigated, and all the data gathered from the subjects constituted the statistical raw data which were analyzed to generate results of the study.

RESULTS

The results as reported in the tables show that a total of 2,668 individuals were investigated, out of which 46 were possessed that ambidexterity skills. When further analyzed, it was shown that the pool of ambidextrals consisted of 19 males and 27 females. Thus, 1.63% of the males were found to be ambidextrous in hand dominance pattern while 1.80% of the females could use both hands in equal capacity.

Table 1. General hand dominance pattern of the Igbos

Hand dominance	Number surveyed	Percentage
Right	2496	93.55
Left	126	4.73
Ambidextrous	46	1.72
Total	2668	100

Table 2. Gender classifications of subjects studied

Gender	Number surveyed	percentage
Male	1168	43.78
Female	1500	56.22
Total	2668	100.00

Table 3. Gender Distribution of the ambidextrous subjects

Gender	Number of Ambidextrous	percentage
Male	19	1.63
Female	27	1.80

$$P_m = \frac{\text{No of Ambidextrous males}}{\text{Total no of males Studied}} = \frac{19}{1168} = 0.0162$$

$$P_f = \frac{\text{Total no of ambidextrous females}}{\text{Total no of females studied}} = \frac{27}{1500} = 0.018$$

$$P = \frac{P_m + P_f}{n_m + n_f} = \frac{0.0162 + 0.018}{1168 + 1500} = 0.0172$$

$$Z = \frac{P_f - P_m}{\sqrt{P(1-p)(\frac{1}{n_f} + \frac{1}{n_m})}} = \frac{0.018 - 0.0162}{\sqrt{0.0172 \times 0.9828 \times (\frac{1}{1500} + \frac{1}{1168})}} = 0.375$$

$$Z_{0.05} = 1.93$$

$$P < 0.001$$

DISCUSSION

The study obviously revealed that ambidexterity in Igbo land is a product of an interface between nature (or heredity for left handedness) and cultural interests strengthened by traditional beliefs (that abhors left handedness). As seen in table (1) about 1.72% of the studied population are ambidextrous. Majority however, claimed they were originally or naturally left handed, but were gradually made to develop ambidexterity skills due to early childhood right hand injuries or parental pressures to change from left handedness to right handedness. Among such people, ambidexterity could best be defined as a mid-way motor skill development of both hands achieved inadvertently by avoiding a perceived unacceptable particular hand dominance pattern(left hand dominance). Investigations carried out showed that parental and societal influences have far reaching effects on an individual's hand dominance, especially changing from left to right, and as a matter of fact, more females than males were affected since the Igbos strongly discourage left hand dominance among the females [7]. Table 3 showed that 1.80% of the females are ambidextrous, as against 1.63% for males. This means that females are more likely to be ambidextrous than males. When the findings of this study are juxtaposed with the results of a previous study on handedness, a thought is quickly provoked on why males are more likely to be left handed than females; and females on the other

hand, are more likely to be ambidextrous than males as shown by this study.

While left hand dominance was found to have a direct relationship with heredity [7], ambidexterity was found to have no direct relationship with heredity: left handedness was however found to be the most predisposing factor to being ambidextrous. Injuries on right hand rather led to outright left hand dominance in most cases. It is the unacceptability threat placed on left handedness in Igbo land especially for females that created the 'Loop hole' for them to be more likely to be ambidextrous than males.

So, while Adrienne [8] puts the percentage of people who are ambidextrous at 1%, the result of this study shows that for the Igbos, the ambidextrous people constitute about 1.72% of the population.

CONCLUSION

Incidence of ambidextrous individuals of Igbo extraction is gender dependent and is being strongly influenced by a cultural belief that abhors left hand dominance (which in most cases predisposes to ambidexterity) more especially among the females.

Ambidexterity is however, encouraged especially among the males for its perceived special importance and advantage in local wrestling competitions and expertise in playing local musical instruments-a skill that attracts the opposite sex to initiate love affairs and contracting of marriages.

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