# ATTITUDE TOWARDS LEFT-HANDEDNESS AS PERCEIVED BY SELECTED SECONDARY SCHOOL STUDENTS IN KOGI STATE

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**Abstract**
*It is believed that the average population of human beings all over the world has the right hands categorical in operations that involve dexterity. Despite this, a limited proportion has the left-hand as dominant. In many cultures all over the world, different causes have been attributed to left-handedness and attitude towards left-handedness. In this study, the researchers investigated the perception of secondary school students in Kogi State towards left-handedness. Stratified and simple random sampling technique was adopted to 360 respondents consisting of 100 each from co-education, males and females secondary schools. The "Attitude Towards Left-handedness Questionnaire (ATLHQ) was administered to the respondents to collect relevant data. The t-test statistics was used to test four generated null hypotheses. The findings showed that there was no significant difference between male and female respondents, while there were significant differences between the respondents based on religion, age group and type of hand in their perception of attitude towards left-handedness. Based on the findings, it was recommended that professional counsellors in Nigeria should educate the public on left-handedness, government at all tiers should enlighten the citizenry on left-handedness and the non-left-handers should not see the left-handers as a disadvantaged group of people.*

**Key Words: -** Attitude, Towards and Left-Handedness

**Introduction**

The belief of most people is that average population of human beings all over the world has right hands categorical or dominant in operations that involves dexterity. This not withstanding, a limited proportion have the left hand as predominant social and psychological literature reports have shown that handedness may either be genetically or psychologically determined. For instance, according to Ankett 1964 as reported in Payne, 1982 pure right-handers are assumed to be dominant homozygotes (having two "genes" for right handedness) pure left-handers recessive homozygotes (having two "genes" for left-handedness) and mixed handers heterozygotes (having one "gene" for left and one for right handedness).

In many cultures, all over the world, different causes have been attributed to left-handedness and attitude towards left-handedness. According to Payne (1982), from the research carried out in the Northern part of Nigeria, almost half of the respondents concerned with the idea that left-handedness is genetically determined. According to Bakare (1974), most of the men in the Southern part of Nigeria believe that left-handedness develops if parents are lazy or careless in their child rearing. While women on their own believe that left-handedness occurs as a result of some medical problems during pregnancy and allow incidence of left-handedness is to be predicated in Nigeria in the areas where strong Islamic taboos operate. A left-handed person is someone who has left dexterity. In other words, a left-handed person finds it more convenient to use the left-hand in doing things generally and especially when engaged in doing things that require more energy like lifting of bulky things, cutting trees and grasses, throwing of stones, cultivation of lands e.t.c. While right-handedness on the other hand is the opposite of left-handedness, someone having his/her right-hand as predominant is said to be right-handed. And a person who can use both the right and left-hands equally is referred to as an **ambidextrous** person.

According to (Ganong, 1987; & William, 2001), in right-handed individuals who constitute 91% of the human population, the left-hemisphere is the dominant or categorical hemisphere. In approximately 30% of left-handed individuals, the left-hemisphere is the categorical hemisphere. However, in the remaining 70% of left-handers, the right-hemisphere is the categorical hemisphere.

In Nigeria, the attitude of many people towards left-handedness is negative because of the cultural pressure which ultimately leads to the forcing of left-handers to use the right-hand for skilled uni-manual acts (Bakare, 1974). Furthermore, our elders especially in the Yoruba land do not support the idea of a junior person giving things to his/her elder with the left-hand even though the junior person is a left-hander. The belief is that since the left-hand in most cases is used for clearing the anus after toileting, then such a hand is not ideal for eating or presenting things to an elderly person.

According to Philip and Richard (1999; 745-746), an attitude is a positive or negative evaluation of people, objects and ideas. Attitude is a frame of mind that persists over time and predisposes the holder to view things from a particular angle and with a particular point of view. Attitudes are learned through experience and socialization but can be changed (Erubu, 2008).

According to available literature and experience, some children in the society who are left handed are seen as being abnormal and this has affected the way they interact with other children in the society, especially in relation to the school setting and invariably. This has some effects on their academic performance. The senior secondary school students in (SSS 1-3) were used for the study by the researchers on the consideration that most of the students at this level are mature and would have had much interaction to be aware of events occurring in their environment.

From available literature, it has been seen that most of the previous studies focused on left-handedness related areas – for instance, Bakare, (1974) and Payne, (1982) conducted a research on left-handedness for writing; Schwartz (1977), the study was based on left-handedness and high risk pregnancy; Annett & Manning (1990) based their research on reading and a balanced polymorphism for laterality and ability; Coren & Halpern (1991), the study was conducted on left-handedness: a marker for decreased survival fitness; Ellis & Marshall (1988), they carried out their research on hand preference in a normal population, while War (2003) conducted a research on human handedness and scalp hair whorl direction developed from a common genetic mechanism. And thus, some gaps are created by the previous researchers in the area of study especially in Nigeria in which most researches on left-handedness has been restricted to the extreme

Northern and Southern parts of Nigeria. The present study has been carried out in Kogi State which is situated in the middle-belt region of the country, previous studies has also shown that the psychological dimension of left-handedness has been neglected and that the left handed people have not been given proper recognition in the society. And hence, there is the need to explore new focus area such as the views of secondary school students.

In the study, comparisons were made on the basis of gender, religion, age and type of hand.

**Hypotheses Testing**

Four null hypotheses were formulated and tested at 0.05 alpha level of significance to guide the study.

1. There is no significant difference between male and female secondary school students in Kogi State in their perception of attitude towards left-handedness.
2. There is no significant difference between Christian and Muslim secondary school students in Kogi State in their perception of attitude towards left-handedness.
3. There is no significant difference between the two categories of age groups (14 – 18 years and 19 – 22 years) secondary school students in Kogi State in their perception of attitude towards left-handedness.
4. There is no significant difference between the left-handed and non-left-handed secondary school students in Kogi State in their perception of attitude towards left-handedness.

**Scope of the Study**

This study was limited to SSS 1-3 secondary school students in Kogi State. Nevertheless, the study sampled 179 male and 121 female secondary school students in Kogi State making a total of 300 respondents all together.

## Methodology

**Research Design:** The research design that was adopted for this study was the descriptive survey method. Survey research involves direct contact with a population or sample that has characteristics, personality qualities or attributes, which are relevant to a specific investigation (Hassan, 1998). The researchers adopted the survey method because they are interested in finding out attitude towards left-handedness as perceived by selected secondary school students in Kogi State, and the survey method is relevant to measuring respondents' attitude and perception. So also, the survey method would facilitate making inferences from the data collected.

**Sample and Sampling Procedure**

The target population for this study consisted of all selected senior secondary school students in Kogi State of Nigeria. Three hundred (300) respondents were randomly selected in the secondary schools across the state. The researchers stratified the respondents into different strata of gender, religion, age group and type of hand. The researchers then employed simple random sampling technique to select 300 senior secondary school students consisting of 100 students from co-education schools, 100 students from males and 100 from females secondary schools in Kogi State.

**Psychometric Properties:**

**Validity:** Validity is concerned with the extent to which an instrument measures what it was designed to measure (aune, Welsh & Williams, 2000). The content validity measure was adopted. To establish this, the questionnaire was given to five experts in the Department of Counsellor Education and four medical practitioners for assessment. These experts, following detailed scrutiny, affirmed that the instrument covered the intended content areas and was therefore valid for use.

**Reliability:** According to Hassan (1998), reliability refers to the consistency with which the scores on a test are related to scores on the other test when given the second time under the same condition. When a test instrument yields consistent results when and wherever

administered, the instrument is said to be reliable. The reliability of the instrument used for this research study was determined using the coefficient of stability in the form of test-retest procedure within an interval of four weeks. The Pearson's Product Moment Correlation formula was used in computing the data generated, and it yielded a co-efficient of 0.75. This was considered high enough as a reliability estimate of an instrument of this nature.

**Instrumentation/Scoring Procedure**

The major instrument that was used in collecting data for this research was developed by the researchers and it was tagged "Attitude Towards Left-handedness Questionnaire" (ATLHQ). Items on the questionnaire were derived from information obtained from review of related literature. The instrument has two sections, that is, sections "A" and "B". Section "A" contains demographic data while section "B" consisted of items on attitude towards left-handedness. The four-point Likert type response format was adopted for use in section "B", thus:

SA - Strongly Agree (4 points);
A - Agree (3 points);
D - Disagree (2 points);
SD - Strongly Disagree (1 point).

The instrument contained 25 items, the highest possible score any respondent can obtain is 100 (i.e. 4 x 25) while the lowest possible score is 25 (i.e. 1 x 25). Therefore, the range is 75 (i.e. 100 – 25). The mid-point of range is 37.5 (i.e. 75 ÷ 2). The cut-off point is therefore 100 – 37.5 (i.e. maximum score minus the mid-point of the range) or 25 + 37.5 (i.e. the minimum score plus (+) the mid-point of the range), in which either case is 62.5. Thus, respondents who obtained scores from 62.5 to 100 were considered as having positive attitude towards left-handedness whose those who scored below 62.5 were considered not having positive attitude, i.e. they were considered having negative attitude towards left-handedness.

**Method of Data Analysis**

The researchers employed inferential statistics for the data analysis. The t-test statistical tool was employed to test the postulated null hypotheses at 0.05 alpha level of significance. According to (Adana,

1996 and Hassan, 1998), t-test statistics is appropriate for use when the researcher is dealing with two independent groups. Thus, the choice of t-test statistics was considered appropriate for testing all the postulated research null hypotheses in this study.

**Results**

**Hypothesis One:**
There is no significant difference between the male and female students in their attitude towards left-handedness.

**Table 1: Mean Scores, Standard Deviation and T-test according to Gender (Male and Female) between Secondary School Students in Kogi State towards Left-handedness**

| Gender | No | $\bar{X}$ | SD | df | Cal. t-value | Critical t-value |
|---|---|---|---|---|---|---|
| Male | 179 | 64.1453 | 9.849 | | | |
| Female | 121 | 62.4132 | 9.903 | 298 | 1.49 | 1.96 |

$p > 0.05$

The t-test result in table 1 above shows that the calculated t-value is 1.49 which is less than the critical t-value of 1.96 and consequently, the hypothesis is accepted. This denotes that there is no significant difference between the male and female students in their attitude towards left-handedness.

**Hypothesis Two:**
This null hypothesis states that there is no significant difference between Christian and Muslim students as regards their attitude towards left-handedness.

**Table 2: Mean Scores, Standard Deviation and T-test according to Religion (Christian and Muslim) Secondary School Students in Kogi State towards Left-handedness**

| Religion | No | $\bar{X}$ | SD | df | Cal. t-value | Critical t-value |
|---|---|---|---|---|---|---|
| Christian | 267 | 62.7079 | 9.439 | | | |
| Muslim | 33 | 69.4242 | 11.492 | 298 | -3.76 | 1.96 |

$p < 0.05$

The t-test result in table 2 above shows that the calculated t-value is -3.76 which is greater than critical t-value of 1.96 because the negative sign in the calculated t-value is neglected. And as a result of this, the hypothesis is rejected. This connotes that there is a significant difference between Christian and Muslim students as regards their attitude towards left-handedness.

**Hypothesis three:**
This null hypothesis states that there is no significant difference in the attitude of students towards left-handedness between the two categories of age group (14 – 18 and 19 – 22 years).

**Table 3: Mean Scores, Standard Deviation and T-test according to the Age Group (14 – 18 and 19 – 22 years) Secondary School Students in Kogi State towards Left-handedness**

| Age group | No | $\bar{X}$ | SD | df | Cal. t-value | Critical t-value |
|---|---|---|---|---|---|---|
| 14 – 18 years | 236 | 62.7373 | 9.761 | 298 | -2.40 | 1.96 |
| 19 – 22 years | 64 | 66.0662 | 9.995 | | | |

$p < 0.05$

The t-test result in table 3 above shows that the calculated t-value is -2.40 which is greater than the critical t-value of 1.96 because the negative sign in the calculated t-value is neglected. This means that there is a significant difference in the attitude of students towards left-handedness between the two categories of age group (14 – 18 and 19 – 22 years).

**Hypothesis Four:**
This null hypothesis states that there is no significant difference between the left-handed and non-left-handed students concerning their attitude towards left-handedness.

**Table 4: Mean Scores, Standard Deviation and T-test according to Type of Hands between (Left-handed and Non-left-handed) Secondary School Students in Kogi State towards Left-handedness**

| Type of hands | No | $\bar{X}$ | SD | df | Cal. t-value | Critical t-value |
|---|---|---|---|---|---|---|
| Left handed | 66 | 68.3182 | 12.617 | 298 | 4.69 | 1.96 |
| Non-left-handed | 234 | 62.0726 | 8.503 | | | |

$p < 0.05$

The t-test result in table 4 above shows that the calculated t-value is 4.69 which is greater than the critical t-value of 1.96 and consequently, the hypothesis is rejected. This means that there is a significant difference between the left-handed and non-left-handed students concerning their attitude towards left-handedness.

**Discussion of Findings**

The results of the study showed that secondary school students in Kogi State, Nigeria had similar perception of attitude of people towards left-handedness on the basis of gender. There was, however, a significant difference between Christians and Muslims, age groups 14-18 years and 19-22 years, and left-handed and left-handed respondents in their perception on attitude towards left-handedness.

The first null hypothesis showed that there was no significant difference between male and female secondary school students in their perception of attitude towards left-handedness. This finding corroborates the finding of (Payne, 1980) in which the male and female respondents had the same attitude towards left-handedness. This might be so because the respondents had the same perception of attitude towards left-handedness irrespective of their gender. This finding supports the study carried out by (Bakare, 1974) in which Christian and Muslim respondents differed in their attitude towards left-handedness. However, the outcome of this finding negates the finding of (Payne, 1980) in which the respondents had similar attitude towards left-handedness.

The third null hypothesis showed that difference existed between 14-18 years and 19-22 years respondents in their perception

of attitude towards left-handedness. This finding is in line with the finding of (Bakare, 1974) in which the outcome of the finding revealed that respondents in different age groups had different attitude towards left-handedness. The outcome of this finding might be due to the fact that the attitude of the senior students who fall within age group (19-22 years) towards left-handedness is different from the junior students who fall within age group (14 -18 years) because they are less mature.

The fourth null hypotheses indicated that significant difference existed between left-handed and non-left-handed secondary school students in their perception of attitude towards left-handedness. This finding negates the finding of (Payne, 1980) carried out on attitude towards left-handedness in Nigeria in which the outcome of the study revealed that the respondents both left-handed and non-left-handed had similar responses. However, this finding corroborates the finding of (Bakare, 1974) in which the outcome of the study showed that the responses of the left-handed differed from that of the non-left-handed. The plausible reason for this might be because some of the non-left-handers usually see the left-handers as abnormal people, and this shows in their interaction since some of the non-left-handers do not even wants to associate with the left-handers.

**Conclusion**

Based on the findings of the study and the discussion that followed, the following conclusions were drawn:

1. There is no significant difference between male and female secondary school students in Kogi State in their perception of attitude towards left-handedness.
2. There is no significant difference between Christian and Muslim secondary school students in Kogi State in their perception of attitude towards left-handedness.
3. There is no significant difference between the two categories of age groups (14 – 18 years and 19 – 22 years) secondary school students in Kogi State in their perception of attitude towards left-handedness.
4. There is no significant difference between the left-handed and non-left-handed secondary school students in Kogi State in their perception of attitude towards left-handedness.

**Implications for Counselling/Recommendations**

For adequate information on left-handedness, professional counsellors in Nigeria should educate the public on left-handedness, its causes, problems, etc so as to ameliorate or alleviate the problem of forcing a naturally left-handed child to use the right.

The government at all levels – Federal, State and Local Governments – should enlighten the public on left-handedness through workshops, seminars, e.t.c. to discourage having negative attitude towards the left-handers.

The non-left-handers should not see the left-handers as a disadvantaged group of people.

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