

# Relationship Between Critical Thinking and Assertive Behaviour among Senior Secondary School Students in Kano State, Nigeria

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## Abstract

This study examined relationship between critical thinking and assertive behaviour among secondary school students in Kano State, Nigeria. Descriptive survey of correlational design was adopted for the study. Simple random sampling technique was used to select three hundred and four (304) senior secondary school students, while stratified sampling technique was used to choose the selected secondary schools in the state. Two instruments were used for data collection namely: critical thinking and assertive behaviour questionnaires. The instruments were validated by experts in test and measurement through content validity. Test re-test method of reliability was adopted, and Pearson Product Moment Correlation Statistics yielded 0.68 and 0.59 respectively. The data collected were analyzed using SPSS (21version) at 0.05 level of significance. The findings revealed that there was a significant relationship between critical thinking and assertive behaviour of senior secondary school students in Kano State, Nigeria. It was also revealed that there was a significant relationship between critical thinking of male and female students in senior secondary school in Kano State, Nigeria, and there was a significant relationship between assertive behaviour of male and female students in senior secondary school in Kano State, Nigeria. In the light of the findings of this study it was recommended that senior secondary school students should enhance their assertive behaviour through their critical thinking irrespective of their gender.

**Keywords:** *Assertive behaviour; Critical thinking; Students; Kano state*

## 1. Introduction

### 1.1 Conceptual background

Every individual is born with the thinking trait and ability to solve problems [1]. Thinking is a common act among human beings, also it is a natural process, but for it to be meaningful it must be logical, critical, innovative, productive and creative

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[2]. According to Lai [3], critical thinking includes the component skills of analyzing arguments, making inferences using inductive or deductive reasoning, judging, or evaluating, and making decisions or solving problems. It can also be considered as a process that stimulates an individual to use reflective, reasonable, rational thinking to gather, analyze, interpret, discuss, and evaluate information in order to make viable judgment on a specific issue (<http://www.usyd.edu.au/lc>). Yildirim and Ozkahraman [4] observed that critical thinking originated from ancient Greek philosophers who sought to approach truth by engaging in critical and reflective discussion in which ideas and arguments were pitted against each other probably to arrive at a more objective discourse and conclusion. Halpern [5] noted that critical thinking is a purposeful, reasoned, and goal-directed... (and) the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions.

Similarly, findings have shown that there is much we can do to assist students to learn to be better thinkers. In the light of this assertion, Anyafulude [1] asserted that students thinking ability can be developed through the appropriate experiences presented to them in a formal and informal setting. Lai [3] identified three strands of disciplines which are Philosophy, Psychology and Education from which the root of critical thinking could be traced and emphasized that each discipline has its own approach to critical thinking. The philosophical approach explains the characteristics of ideal critical thinkers and the standards of good thoughts; the psychological approach focuses on how people think critically, and the type of actions and behaviours critical thinkers can exhibit; and educational approach focuses on the taxonomy of information processing skills just like the work of Benjamin Bloom et al, 1956 [3].

In the same vein, Assertiveness is a means to promote an individual's power in stressful social situations, such as verbal victimization among others. It is based on key provisions of humanistic psychology and transactional analysis. The term assertiveness comes from the English, thus: "to assert" to insist. In other words, it implies the individual's ability to be intellectually firm and defend his or her point of view. Assertiveness in psychology emanated from behavioural therapy. Later, Wolpe [6], Alberti and Emmons [7] and other behavioural psychologists laid the general basis for understanding the assertiveness phenomenon as self-confidence.

## **2. Literature Review and Empirical Studies**

Critical thinking demands high level of abstract and logical thinking as well as commitment and attitude of mind to fulfill the standards and principles of good critical thinking. Critical thinking appears prominently of all the skills or abilities learners are expected to acquire through the kind of education being exposed to. An individual that cannot think, he or she will not be able to solve a particular problem. Currently, we are living in a challenging world, where different problems (economic, religious, social, political, educational, ethnics and technological related problems) have to be handled and solved through reflective and critical thinking. Critical thinking employs not only logic but broad intellectual criteria such as clarity, credibility, accuracy, precision, relevance, depth, breadth, fairness, and significance. In contemporary usage, the word critical may imply expressing disapproval, which is not always true of critical thinking [2].

More importantly, Nwosu [8] identified the core Critical thinking skills as observation, interpretation, analysis, inference, evaluation, explanation and meta-cognition. He further noted that an individual that engages in strong critical thinking usually considers evidence through observation, context, relevant criteria for making judgment, applicable methods, or techniques for

forming the judgment and applicable theoretical constructs for understanding the problem and the question at hand. He explained further that in addition to possessing strong critical thinking skills, students must be disposed to engage problems and decisions using those skills.

### **3. Characteristics of Critical Thinkers**

Only students who can think critically and rationally can contribute meaningfully to national development and thus in order to promote critical thinking among students in Nigeria institution of learning they need to be encouraged to:

1. Be innovative in their activities
2. Admit weakness or lack of understand
3. Listen carefully to other and give feedback
4. Clearly define set of criteria for analyzing idea
5. Examine beliefs, assumption, options, and weigh them against facts

There is no doubt that everybody thinks, and it is human nature to do such. Contrariwise, thinking is often casual and informal. Most of our thinking if left to itself is biased, distorted, partial, uninformed, or down-right prejudiced. Yet the quality of our lives and that of what we produce, make or build depends precisely on the quality of our thought. Shoddy thinking is costly, both in money and in quality of life. This fact underpins the importance of critical thinking in the life of a nation individual. This is because critical thinking makes one to describe, judge, analyze, evaluate, and restructure his thinking, thereby reducing the risk of adopting, acting on, or thinking with a false belief and accepting issues dogmatically. However, even with knowledge of the method of logical inquiry and reasoning, mistakes can be made due to a thinker's inability to apply the method or because of character traits such as geocentricism [2].

Assertive behaviour is one of the main variables of this study, assertiveness allows a person to act in his or her own best interest, to stand up for herself or himself without undue anxiety, to express honest feelings comfortably and to exercise personal rights without denying the rights of others. According to Alberti and Emmons [7], assertive behaviour facilitates equality in human's relationship, enabling students to behave in their own best interests, to stand up for themselves without unnecessary phobia, to express their feelings comfortably, to exercise personal rights without denying the rights of others. Assertiveness is a mode of personal behaviour and communication characterized by a willingness to stand up for an individual's needs in an open and direct way. Assertive individual stands up for things that matter to him or her while at the same time respecting the things that matter to others. Assertiveness is considered to be a channel of self-development and achievement of maximum personal fulfillment and assertive skills in various communication fields in conjunction with the increased demands on social competence of the individual [9]. Assertiveness is described by Shiltsova [10] as a consequence of learning, the acquired reaction of success to a social stimulus. Kapponi and Novak [11] and Salter (2002) described it as a personal trait which can be seen as autonomy, independence from external influences and assessments, and the ability to independently regulate one's own behaviour. Assertive personality is characterized by orientation to the events of real life, where the past and the future make sense; independence of values and behaviour from the external influences; the ability to independently form one's own opinion about life; freedom of expression of personal potentials, openness; faith in oneself and trust in others [11]. Paramonova [12] noted that assertiveness as the ability of an individual to make demands and requests when interacting with the social environment and to achieve their implementation.

A lot of empirical studies have been conducted on critical thinking in relation with other variables. For instance, McCutcheon and Apperson, [13] found that there is a positive association between critical thinking and learning. It was found that students who think critically are more curious, ask many questions, and when they get the answers, they do not accept them easily. They analyze these pieces of information logically and come to trustworthy conclusions about the world that enable them to live and act successfully in it and thus become higher academic achievers. Wang [14] investigated whether the incorporation of critical thinking into English conversation class could bring positive effects on the students' learning outcome. He found that students who took part in critical thinking English conversation classes attained significantly academically better. He further found after applying the critical thinking skills to learning system in the class, students in the experimental group attained a greater level of satisfaction with their class. Ghanizadeh and Moafian [15] investigated the relationship between emotional intelligence and critical thinking and also the relationship between age and gender and emotional intelligence. The findings revealed there was a significant relationship between students' emotional intelligence and their critical thinking. In addition, among the components of emotional intelligence, flexibility and social responsibility had the highest correlations with critical thinking. The findings further revealed that age and gender neither affected the relationship between emotional intelligence and critical thinking nor had any impact on learners' emotional intelligence.

In the same vein, Sirichat [16] conducted research on critical thinking at Chiang Mai University with 395 undergraduate Thai students. It was found that male and female Thai students had no significant difference in the aspect of critical thinking. Wangenstein, Johansson, Björkström, and Nordström [17] studied critical thinking characteristics among 618 newly graduated Thai nurses. It was revealed that student's gender might not be an influential factor to critical thinking characteristics. Taskesen [18] found that there was no significant difference in critical thinking disposition among 1st to 4th year undergraduate students, and gender might not be related to critical thinking disposition.

More importantly, series of empirical studies have been carried out on assertive behaviour in relation with other variables for instance, Sitota, [19] examined the relationship between assertiveness and academic achievement motivation of adolescent students in selected secondary schools of Harari students Regional State. He found that that Harari students participating in the study were scored low on assertiveness; male adolescents were found to be better in their levels of assertiveness than their female adolescent counterparts. Furthermore, it was found that there was a statistically significant positive relationship between parental educational status and assertiveness. Kumar, and Parray [20] explained the assertiveness level of students with reference to their gender, residence, and stream of study. Findings revealed that there is no significant difference between students in their level of assertiveness with respect to gender, residence, and stream of study. Paezy, Shahraray, and Abdi [21] examined the influence of assertiveness training on assertiveness, subjective well-being, and academic achievement of thirty female secondary students which randomly were placed in experimental and control groups. Findings revealed a significant difference between assertiveness and well-being scores in pre-test, post-test, and follow-up for the experimental group. In addition, assertiveness training improved math scores in post-test and in the follow-up for the experimental group.

The studies conducted on assertiveness with reference to their gender shows contradictory results like Uzaina & Parveen, [22] reported no significant difference among gender. Waqar, Ghooman, and Kumar, [23] found that there is no significant difference in assertiveness with reference to their gender. The possible reasons behind such results depicted that nowadays our society gives space also to women to show their assertiveness. It may also be due to equal education opportunities for both boys and girls. In line with the foregoing background, it was observed by the researchers that several studies conducted on

these variables (critical thinking and assertive behaviour) left some gaps unfilled in terms of study location, population, sample size, instrumentation, statistical analysis among others to make parts of this, this study deems it fit to examine relationship between critical thinking and assertive behaviour among secondary school students in Kano State, Nigeria.

#### **4. Purpose of the Study**

The main purpose of this study is to examine relationship between critical thinking and assertive behaviour among secondary school students in Kano State, Nigeria. Specifically, it examined:

1. Relationship between Critical thinking of male and female students in Kano State, Nigeria
2. Relationship between assertive behaviour of male and female students in Kano State, Nigeria

#### **5. Research Hypotheses**

The following null hypotheses were formulated and tested in this study.

Ho<sub>1</sub>: There is no significant relationship between critical thinking and assertive behaviour among senior secondary school students in Kano State, Nigeria.

Ho<sub>2</sub>: There is no significant relationship between critical thinking of male and female senior secondary school students in Kano State, Nigeria.

Ho<sub>3</sub>: There is no significant relationship between assertive behaviour of male and female senior secondary school students in Kano State, Nigeria.

#### **6. Methods**

A descriptive research design of correlational type was adopted for the study. Stratified sampling technique was employed to select twelve (12) secondary schools in Kano State. Proportionate sampling technique was used to sample three hundred and four (304) students in the selected senior secondary school in Kano state, Nigeria. Proportionate sampling technique was used in line with the Sambo (2008) who posited that the best procedure for selecting a sample from an unequal population is the proportionate sampling technique. Adapted instruments on assertive behaviour and critical thinking were used to elicit information from the respondents (students). The instrument contained two sections: A and B. Section A contained demographic characteristics of the respondents thus: gender, school type and school location. While section B consists of forty (40) items of the questionnaire which embedded two main variables of interest in this study (i.e., critical thinking and assertive behaviour). The scales were validated by experts in test and measurement through face and content validity and its test re-test reliability yielded 0.68 and 0.59. The instrument was administered to the respondents by the researcher with the assistance of three (3) trained research assistants. The data collected were collated and analyzed using SPSS software (Statistical packages for social sciences 21 version). Pearson Product Moment Coefficient statistical tool was used to test the formulated hypotheses at 0.05 level of significance.

## 7. Hypotheses Testing and Results

*There is no significant relationship between critical thinking and assertive behaviour among senior secondary school students in Kano State, Nigeria.*

**TABLE 1. Showing relationship between critical thinking and assertive behaviour among senior secondary school students in Kano State, Nigeria.**

Correlation		Mean	SD	Df	Cal.r	Crt.r	Remk
Critical thinking		28.63	3.74				
				302	0.89	0.19	Rej
Assertive behaviour		29.17	2.98				

\* Sig. at  $p < 0.05$

The TABLE above indicates that the calculated r value is 0.89 while the critical value is 0.19, since the calculated r value is greater than the critical r value; it means that there is a significant relationship between critical thinking and assertive behaviour among senior secondary school students in Kano State, Nigeria. The hypothesis which stated that there is no significant relationship between critical thinking and assertive behaviour among senior secondary school students in Kano State is hereby rejected. Meanwhile, a positive relationship was found between critical thinking and assertive behaviour of secondary school students in Kano State, Nigeria.

*There is no significant relationship between critical thinking of male and female senior secondary school students in Kano State, Nigeria.*

**TABLE 2. Showing relationship between critical thinking of male and female students in Kano State, Nigeria.**

Gender	N	Mean	SD	R	df	Sig	PV
Male	190	33.02	4.81				
				-2.553	302	.011	$P < 0.5$
Female	114	34.56	5.54				

\* Sig. at  $p < 0.05$

The above table revealed that there is a significant relationship between critical thinking of male and female students in Kano state, Nigeria  $r(302) = -2.553$ ,  $p = .011$ ,  $d = 1.54$ ,  $95\% CI = -2.72, -35$ . It indicates that males ( $M = 33.02$ ,  $SD = 4.81$ ) scored lower on critical thinking compared to their female counterparts ( $M = 34.56$ ,  $SD = 5.54$ ) who scored higher in critical thinking. Therefore, the null hypothesis that states that there is no significant relationship between critical thinking of male and female senior secondary school students in Kano State, Nigeria is hereby rejected.

*There is no significant relationship between assertive behaviour of male and female senior secondary school students in Kano State, Nigeria.*

TABLE 3.

School Type	N	Mean	SD	R	df	Sig	PV
Male	190	90.94	16.23				
				-0.835	302	.405	P>0.05
Female	114	92.49	15.39				

\* Sig. at  $p < 0.05$

The TABLE 3 above revealed that There is no significant relationship between assertive behaviour of male and female senior secondary school students in Kano State, Nigeria  $r(302) = -0.835, p = 0.405, 95\% CI = -5.22, 2.11$ . Hence, the null hypothesis that states that there is no significant relationship between assertive behaviour of male and female senior secondary school students in Kano State, Nigeria is hereby accepted.

## 8. Discussion of the Findings

The finding revealed that there was a significant relationship between critical thinking and assertive behaviour of senior secondary school students in Kano State, Nigeria. This implies that critical thinking has a positive relationship with each other. This finding is in line with the finding of McCutcheon and Apperson, [13] who found that there is a positive relationship between critical thinking and learning. It was found that students who think critically are more curious, ask many questions, and when they get the answers, they do not accept them easily. They analyze these pieces of information logically and come to trustworthy conclusions about the world that enable them to live and act successfully in it and thus become higher academic achievers. In the same vein, Ghanizadeh and Moafian [15] found that there was a significant relationship between students' emotional intelligence and their critical thinking. Besides, among the components of emotional intelligence, flexibility and social responsibility had the highest correlations with critical thinking.

The finding revealed that there was a significant relationship between critical thinking of male and female students in senior secondary school in Kano State, Nigeria. This implies that positive relationship was found between male and female students in respect to their critical thinking. Both male and female students have critical thinking and assertive behaviour. The finding of this study is in line with the finding of Sirichat [16] who found that male and female students had no significant difference in the aspect of critical thinking.

Contrariwise, the finding of Wangenstein, Johansson, Björkström, and Nordström [17] against the finding of this study who found that student's gender might not be an influential factor to critical thinking characteristics. Similarly, Taskesen [18] found that there was no significant difference in critical thinking disposition among undergraduate students, and gender might not be related to critical thinking disposition.

The finding revealed that there was a significant relationship between assertive behaviour of male and female students in senior secondary school in Kano State, Nigeria. This implies that positive relationship was found between male and female students in respect to their assertive behaviour. Both male and female students' exhibited critical thinking and assertive behaviour. The finding of this study is in line with the finding of Sitota, [19] who found that male students were found to be better in their levels of assertiveness than their female counterparts. Similarly, Kumar, and Parray [20] found that there is no significant



difference between students in their level of assertiveness with respect to gender, residence, and stream of study. In addition, Uzaina and Parveen, [22] and there is no significant difference among gender. Waqar, Ghooman, and Kumar, [23] found that there is no significant difference in assertiveness with reference to their gender.

## 9. Conclusions

Based on the available literature, empirical reviewed and analysis of data and discussion of the findings, the study concluded that there was a significant relationship between critical thinking and assertive behaviour of senior secondary school students in Kano State, Nigeria, that there was a significant relationship between critical thinking of male and female students in senior secondary school in Kano State, Nigeria and that there was a significant relationship between assertive behaviour of male and female students in senior secondary school in Kano State, Nigeria.

## 10. Recommendations

Based on the findings of this study it was recommended that:

1. Senior secondary school students should enhance their assertive behaviour through their critical thinking irrespective of their gender.
2. Government at all levels of education specifically secondary school level should introduce programme in the school curriculum that will enhance students critical thinking and assertive behaviour.

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