ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS | Volume VIII Issue II February 2023

Personality Traits as a Determinant of Mathematics Trainee-Teachers on Career Choice in Tertiary Institution Ekiti state

Abiodun A. Popoola, Oginni O. I. and Akinola A. S.

Department of Science Education, Faculty of Education, Ekiti-State University, Ado-Ekiti, Ekiti-State, Nigeria.

Received: 10 February 2023; Revised: 21 February 2023; Accepted: 24 February 2023; Published: 26 March 2023

Abstract: - This study examined the influence of personality traits as determinant of Mathematics trainee teachers on their choice of career in the teaching profession. It specifically investigated how teachers' personality traits influence their choice of teaching career in secondary schools in Ekiti State. The study adopted descriptive research of correlational design type. The population for this study comprises all the trainee-teachers in tertiary education in Ekiti State. The sample consist of 600 participants which were selected using multi-stage sampling procedure. The instrument used for this study was a questionnaire on personality traits and career choice. Five personality inventory on career choice was used to collect data for the study. Face and content validity of the instrument was ascertained and the reliability of the instrument was carried out. The reliability coefficient of 0.67 was obtained using cronbach alpha, the coefficient was high and therefore adjudge reliable for the study. The instrument was admistered on the respondents in the selected tertiary institution. The data were analyzed using frequency count, percentages and chi-square analysis.. The result revealed that personality traits of Mathematics trainee –teacher influenced their choice of teaching as a career. Mathematics trainee teachers with relevant personality traits shown interest in teaching Mathematics than Mathematics trainee teachers of other personality traits. This investigation concluded with suggested recommendation that school counsellor should encourage Mathematics trainee teacher to accept taking teaching job after their programme instead of looking for other job and better develop interest in Mathematics. School authority and government should create conducive environment that can allow manifestation of relevant personality traits in Mathematics trainee teacher.

Keywords: personality traits, Trainee, Career Choice.

I. Introduction

The perception of individual about Mathematics are unique and different, the perceptual differences might have been as a result of the nature, scope and the multi-various definitions used to describe Mathematics. There is no generally acceptable definition of Mathematics but depending on individual's perception and view about the subject. According to Odili (2006), Mathematics is a body of knowledge, a collection of techniques, methods and the product of human activity for solving problems. Badmus (2017) opined that Mathematic is the study of quantity, structure, logic and space. However, Mathematics could be described as the science of structure, order and relation that involve elementary practices of counting, measuring and describing the shape of objects. It is imperative to note that Mathematics is a broad and sensitive subject that need to be taught by commensurable personality trained and certificated teachers.

Personality traits reflect human characteristics, pattern of thought and behavior. Personality is a stable set of characteristics and tendencies that determine those similarities and difference in the psychological behaviors of people that have continuity in time and that may or may not be easily understood in terms of social and biological pressure of the immediate situation alone (Walinga and Strangor, 2007). Personality traits describes aspects of a person's life, the individuals characteristics pattern of behaviors, thoughts and feeling. Traits are relatively constant, they do not usually change, traits are also bipolar, they are one extreme or the other. Personality traits may be describe as relatively consistent general behaviors patterns that an individual exhibits in most situations.

The quality of Mathematics education of any country may depend on the quality of Mathematics teachers personality traits. Mathematics teacher needs to possess knowledgeable personality traits and other unavoidable relevant personality traits. Esan (2017) listed seven personality traits that are crucial in the life of Mathematics teachers as follows: Mathematics teachers as a reservoir of knowledge; destiny facilitator; role model; innovator; provider of inducement per excellent; inventor and evaluator. However, a reservoir is an artificial lake where water is stored for supplying portable water for people's use. This definition described the position that a occupies teacher in the field of knowledge at academic premises. Mathematics teachers are expected to be fully parked with Mathematics knowledge so that he will be as source of solution to all likely Mathematics problems. The role of Mathematics teacher is more than writing of lesson note and actual presentation in the classroom but also giving the word of encouragement, moral and serve as an example worthy of emulation for their learners.

Mathematics teacher as an innovator: by being a game changer through injector of new ideas for solving problems. Mathematics teacher needs to be eager to make positive changes in the life of students. Mathematics teacher as provider of inducement per excellence by motivating his students in Mathematics class. Teaching Mathematics required that the teacher love to teach and

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS | Volume VIII Issue II February 2023

transcend the strength by ensuring that record is is provided for students action. Therefore, a good Mathematics teacher must not use harsh words or condemn learners in this category.

Mathematics teachers as an inventor: this is done by creating or designing something that is not in existence before but important to the need of the learners. A Mathematics teacher becomes an inventor when he is able to arrive at the new method, strategy and technique that can be used to impact both concrete and abstract concept to the learners successively. Mathematics teacher as an evaluator to this would be actualized when he worth of the students through quantitative and qualitative nears; to decide the amount of value. Consciously or unconsciously, a mathematics teacher is an evaluator in the teaching industry. In every assignment, he undertake, he find out the level of success or progress he has made. This enable him to ascertain the effectiveness of materials and methods he has employed in teaching mathematics.

Mathematics trainee-teachers are students receiving Mathematics training in university faculty of education, college of education or equivalent in tertiary institution. Mathematics-trainee-teachers are expected to be approachable knowledgeable, skillful, open-minded, optimistic, creative, passionate, loving so as to be able to teach their students effectively and refine their raw material into self-dependent citizens. Strong (2017) opined that the Mathematics teacher is the representative of content and the school. How a teacher present himself makes an impression on administrators, colleagues, parents and students. Strong (2017) highlighted the following positive qualities of teachers. Assumes ownership for the classrooms and the student's success, use personal experiences as examples in teaching. Responds to students with respect, even in difficult situation. A good teacher is also expected to have positive dialogue and interactions with students outside the classroom, maintain a professionalism at all times., maintain confidential trust, respect, admits mistake and corrects immediately.

Edwin (2020), highlighted five personality traits which include: openness to experience, conscientiousness, extraversion, agreeableness and neuroticism.

Openness to experience, – people who like to learn new things and enjoy new experiences usually score high marks in openness to experience include traits like being insightful and imaginative and having a wide variety of interests.

Conscientiousness – people that have degree of conscientiousness are reliable and prompt traits includes being organized, methodic and thorough.

Extraversion – extraverts get their energy from interacting with others, while introverts get their energy from within themselves. extraversion includes the traits of energetic talk, talkative and assertive.

Agreeableness – these individuals are friendly, cooperative and compassionating people with low agreeableness may be more distant. Traits include being kind, affectionate and sympathetic.

Neuroticism – neuroticism is also sometimes called emotional stability. This dimension relates to ones emotional stability and degree of negative emotions people that score high on neuroticism often experience emotional instability and negative emotion. Traits include being moody and tense.

Traits are characteristics that transfer from parents to the offspring. Personality is the attribute of individual that make him unique and different from others individuals. Personality traits are characteristics of an individual that make him unique. Potential personality traits of Mathematics teacher are in word personality traits of mathematics teachers which its degree of active may be as a result of heredity and environment factors. Owuamanam (2012) listed two principal schools of thought showing the existence of man personality traits: - hereditarianism and environmentalist. The hereditary favoured the claimed the nature or heredity was the sole determinant of the child's development. This means that all personality traits were transmitted through genes from generation to generation and environment was of little consequence. While the environmentalist believes that a person's whole being was shaped by how and in what circumstances he was raised or nurtured. People were born genetically equal and that later differences among them were only a result of different environment opportunities. The researcher noticed that the points made by these two schools of thought showing that the relevant personality traits of mathematics teachers could efficiently and effectively contribute to development of mathematics if mathematics teachers could create conducive environment opportunities that can influence the training and the improvement of personality traits of Mathematics teachers.

Learners who are conscientious are organized and have a strong sense of duty. They are dependable, disciplined and achievement focused. Understanding teachers' personality traits is a great way to start journey torward self-discovery. According to Richrdson and Arker (2010) personality styles need to be recognized to meet individual students needs. Understanding personality traits allow scholars to be proactive deducing better fit for the Mathematics teacher personality influenced the students interest and performance in Mathematics.

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS | Volume VIII Issue II February 2023

Statement of the Problem

The researchers observed that most of Mathematics trainee teachers that are usually going for teaching practice in secondary schools were not originally choose education as their course. Some of them found themselves in education based on one reason or the others, but interest career potentiality play some important roles in the career choice of trainees- teachers. No matter how good a Mathematics curriculum is, if there is no well-trained, competent, quality and motivated teachers, school stake holders may not achieve the desired stated objectives and goals .There is uncertainty about personality traits that can determine trainee- teacher's career(Richardson & Arker, 2010) Choice in tertiary institution. Students seeking admission to the university seem to be more interested in some courses outside education and some who come into education may not be primarily interested in courses that would prepare them for teaching. It is probably when they could not be admitted into their dream course that, most of them accept to be admitted into faculty of education offered courses such as guidance and counseling education, Adult education, psychology education, technology, nursery and primary education and mathematics education might have not originally made education courses as their first choice of course. A very few of these trainee- teachers offers mathematics due to the fact they have pre-conceived impression that mathematics is abstract and difficult subject. Some of trainee – teachers eventually find themselves study mathematics not primarily because they have personality related to Mathematics teachers but could be as a result of hot cake or Mathematics career in the world labour market. Therefore, there are need for Mathematics teachers who are highly motivated knowledgeable, competent, conscientiousness and dedicated Mathematics teachers who teach rather than cheat who encourage in the students the spirit of inquiry and creativity, Mathematics teachers with intellectual background and professional preparation and training adequate for their assignment today and in the future. Mathematics is a sensitive subject, teachers with unkind, destructive aggressiveness, over anxiety and others similar personality traits can find it difficult to teach Mathematics no matter how intelligent, contents super mastered and adequate preparation it may be. One of the qualities of good Mathematics teachers is effective communication skill. Hence, for efficient and effective Mathematics teaching good communication skill of Mathematics teachers is very important considerable personality Communication (i.e. message and feedback) within a group as means of contribution or participation which by and large benefit the group in term of knowledge gained. The problem of this study is to find out whether personality traits could be the determinant of the Mathematics teaching as a career.

Purpose of the Study

The purpose of this study was to find out whether personality traits could influence Mathematics trainee teachers choice of teaching as a career in tertiary institution in Ekiti state.

Research Objectives: The objectives that guided this study are to:

i. examine the influence of openness to experience personality trait of Mathematics trainee teachers on the choice of teaching as a career.;
ii. determine the influence of conscientious personality trait of Mathematics trainee-teachers on the choice of teaching as a career;
iii. find out if the level of agreeableness personality trait of Mathematics trainee teachers can influence their choice of teaching as career.;
iv. determine the influence of degree of extraversion personality trait of Mathematics trainee-teachers on their choice of teaching as a career;
v. determine whether or not temperament personality trait condition of Mathematics trainee- teacher's on their choice of teaching as a career.

Research Hypotheses

In other to find solution to the research question raised the following hypotheses were formulated to guide the study

1. There is no significant relationship in the level of openness to experience personality traits and career choice of Mathematics teacher.
2. There is no significant relationship in the degree of conscientiousness personality traits and career choice of Mathematics teachers.
3. There is no significant relationship in the level of agreeableness personality traits and career choice of Mathematics teachers.
4. There is no significant relationship in the degree of extraversion personality traits and career choice of Mathematics trainee-teacher
5. There is no significant relationship in the rate of temperament personality traits and career choice of Mathematics trainee-teacher

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS | Volume VIII Issue II February 2023

II. Methodology

This study adopted descriptive research of correlational design type, aimed at finding out personality traits as determinant of mathematics trainee- teacher career choice in tertiary institution in Ekiti state. The design is considered appropriate because it focuses on the observation and perception of existing situation without manipulating any of the variables. Some personality traits variables such as: openness to experience personality, conscientiousness personality and temperament personality were measured alongside career choice in order to find out whether there is relationship among them. The population of this study consist of all mathematics trainee teachers In Ekiti state. The population of mathematics trainee teachers in Ekiti state tertiary institutions was found to be 4562 Mathematics trainee teachers. The sample comprised 600 respondents for this study. The research instrument used was a questionnaire on personality traits and career choice adapted from five personality inventory and teacher Quiz on career choice (TQC) designed by the researcher. Face and content validity of the instrument was ascertained and the reliability of the instrument was carried out. The reliability coefficient of 0.67 was obtained using cronbach alpha, the coefficient was high and therefore adjudge reliable for the study. All the hypotheses formulated were tested at 0.05 level of significance.

III. Results

Hypotheses 1; There is no significant relationship in the level of openness to experience personality traits and career choice of Mathematics teachers.

The null hypothesis is postulated in order to test the significant relationship in the level of openness to experience personality traits and career choice of Mathematics teachers. Table 1 also srevealed the degree of relationship between the two variables.

Table 1: The relationship between the level of openness to experience personality traits of Mathematic trainee- teacher and career choice.

Variable	N	Yes		No		χ^2 cal	χ^2 tab	r- cal
		N	%	N	%			
Openness to experience	600	400	67	200	33	3.94	3.84	0.95
Career choice	600	500	83	100	17			

Table 1 revealed that χ^2 cal > χ^2 table at 0.05 level at significance. Therefore the null hypothesis was rejected. Hence, there is a significant relationship in the level of openness to experience personal traits of trainee- teacher and their choice of teaching as a career. The r-value also revealed that there was very high relationship between level of openness personality trait and career choice.

Hypotheses 2; There is no significant relationship in the degree of conscientiousness personality traits and career choice of Mathematics teachers.

The null hypothesis is postulated in order to test the significant relationship in the degree of consciousness personality traits and career choice of Mathematics teachers. Table 2 also srevealed the degree of relationship between the two variables.

Table 2*: The relationship between the degree of conscientiousness personality traits of Mathematics teacher and career choice.*

Variable	N	Yes		No		χ^2 cal	χ^2 tab	r -cal
		N	%	N	%			
Conscientiousness	600	398	66	202	34	3.94	3.841	0.95
Career choice	600	500	83	100	17			

Table 2 revealed χ^2 cal > χ^2_{tab} at 0.05 level of significance, therefore the null hypothesis is rejected. Hence there is significant relationship between the degree of consciousness personality traits and career choice in mathematics. This implies that most of Mathematics trainee teachers that possessed high degree of conscientiousness personality traits developed interest to take Mathematics teaching profession as a career. The r-value also revealed that there was very high relationship between degree of conscientiousness personality trait and career choice.

Hypothesis 3; There is no significant relationship in the level of agreeableness personality traits as career choice not Mathematics teachers.

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS | Volume VIII Issue II February 2023

The null hypothesis is postulated in order to test the significant relationship in the level of agreeableness personality traits and career choice of Mathematics teachers. Table 3 also srevealed the degree of relationship between the two variables.

Table **3:** The relationship between the level of agreeableness personality traits of Mathematics teacher and career choice.

Variable	N	Yes		No		χ^2 cal	χ^2 tab	r -cal
		N	%	N	%			
Agreeableness	600	390	65	210	35	3.94	3.841	0.95
Career choice	600	500	83	100	17			

Table 3 revealed that χ^2 cal $> \chi^2$ tab at 0.05 level of significance, hence the null hypothesis is rejected. Therefore, there is significant relationship in the level of agreeableness personality traits and Mathematics teachers as a career choice. Also, there was high relationship between the level of agreeableness personality of Mathematics trainee-teacher and the Mathematics teaching profession as a career.

Hypotheses 4: There is no significant relationship between the degree of extraversion personality traits and career choice of Mathematics trainee-teacher.

The null hypothesis is postulated in order to test the significant relationship in the degree of extraversion personality traits and career choice of Mathematics teachers. Table 4. also revealed the degree of relationship between the two variables.

Table 4**:** The relationship between the degree of extraversion personality traits of Mathematics teacher and career choice.

Variable	N	Yes		No		χ^2 cal	χ^2 tab	r -cal
		N	%	N	%			
Extraversion	600	421	70	179	30	3.94	3.841	0.95
Career choice	600	500	83	100	17			

Table 4 revealed that χ^2 cal $> \chi^2$ tab at 0.05 level of significance, therefore the null hypothesis was rejected. Hence, there is significant relationship in the degree of extraversion personality traits of Mathematics trainee-teachers and their choice of Mathematics teaching profession as a career. Also, there was high relationship between the degree of extraversion personality of Mathematics trainee-teacher and the Mathematics teaching profession as a career.

Hypotheses 5: There is no significant relationship between the rate of temperament personality traits and career choice of Mathematics trainee-teacher

The null hypothesis is postulated in order to test the significant relationship in the rate of temperament personality traits and career choice of Mathematics teachers. Table 5. also srevealed the degree of relationship between the two variables.

Table 5**:** The relationship between the rate of temperament personality traits of Mathematics teacher and career choice.

Variable	N	Yes		No		χ^2 cal	χ^2 tab	r -cal
		N	%	N	%			
Temperament	600	198	33	402	67	2.84	3.841	0.95
Career choice	600	500	83	100	17			

Table 5 revealed that χ^2 cal $> \chi^2$ tab at 0.05 level of significance, therefore the null hypothesis was rejected. Hence, there is significant relationship between the rate of temperament personality traits and career choice of Mathematics trainee-teacher. This implies that temperament of teachers is significantly related and high to career choice of Mathematics teacher.

IV. Discussion

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS | Volume VIII Issue II February 2023

The result of this study shows that there is significant relationship between Mathematics trainee-teachers' personalities traits such as (Openness to experience, Conscientiousness, Extraversion, Agreeableness) and their career choice which is in agreement with Oyebanji (2016) finding on teachers personality which asserted that in order to ensure competence in the profession the basic qualities that need to be observed in teaching profession are: An ideal teacher must be the loco-parents to students. The teachers are in place of the parents who are suppose to take care of the moral, emotional and psychological aspects of the development of the younger generation under his care. The Mathematics trainee-teachers who have privileged of possessed the five personality traits (openness to experience, agreeableness, and conscientiousness and extraversion) developed interest on Mathematics teaching as career except those who possessed temperament personality trait. Also with extraversions and outstanding teaching experience show more commitment to Mathematics teaching profession upliftment. The result of this finding revealed that those trainee-teachers that possess of good qualities of teacher show interest to take teaching as career than those trainee-teachers who are not.

V. Recommendations

Based on the findings of this study, the researchers hereby make the following recommendations.

1. The personality of good teachers and personality development should be included in all teacher education programs
2. The school counselor should be given counseling to Mathematics training teachers on the role and importance of good personalities on learning and teaching of Mathematics.
3. Government and school authority should provide conducive environment that can stimulate the interest of mathematics trainee-teacher on their chosen of Mathematics teaching as a career.

References

1. Adegoroye A.O.S, Osakinle B.O and Babatunde J.O. (2007) *Human personality, social development, mental health and adjustment.* Adiant printing limited.
2. Amenah O.V. .and Jimoh O.F.(2020) Influence of Mathematics Teachers' personality on students performance In Senior Secondary School Mathematics in Niger State, Nigeria. *International Journal of Innovation, Social &Science education Research* 8 (2) 77-83.
3. Badmus S.J (2017). Influence teachers qualifications on students Mathematics performance and interest. *Journal science and education publishing.* 1 (2) 56-62.
4. Edwin V.T.(2020). Big five personality test traits. Free Psychological test 8(3) June.
5. Esan E.O (2017). The role of the teacher. Published by Superben printing press Ikere- Ekiti Nigeria
6. Ezenweaning A.E (2019). Teaching Mathematics in secondary school, *Journal science and educational publishing*. 3 (2) 32-41.
7. McCrae (2018). Big five personality characteristics http/erything 2comtittle big five personality characteristics
8. Michael A. (2008). *Teacher motivation and incentives in Nigeria.* Longman publishing Lagos
9. Odili G. O. (2016). *Mathematics in Nigeria Secondary Schools: a teaching perspective.* Arachuna publishers, Port Harcourt.
10. Owuamanan O.O (2012). Fundamentals of educational Psychology Boladary publication Ado Ekiti, Ekiti State. Nigeria/
11. Porpat D.F (2009). Perspectives on personality (5^{th} ed). Boston Allyn pearson
12. Steven P.H (2005). Becominga teacher. An introduction to teacher education. Gbemi Shodipo press Ltd. Abeokuta. Nigeria.
13. Richardson R. & Arker E. (2010) Personalities in the classroom. Making the most of them, Kapps Delta P1 46 (2).
14. Strong H.F (2005). Career information in counseling and teaching Boston Allyn and Becon Inc. London.
15. Walinga J. and Strangor C. (2007). Personality and Behaviour Approaches to Measurement. *Introduction to Psychology 1^{st} Canadian Edition*
16. Willian C.C. (2019). Interest and personality inventories monograph series 3.
17. *Wong,* P, Spcipding T.O, Odelic Kleck K and Lin N.O (2010) Anticipated occupational frustration towards effective careers counseling John wiley and sons publisher London.