Significance of Commitment, Attitude and Mendel Choice of Garden pea (*Pisum sativum)* in His Success Story as the Father of Genetics.

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Abstract: Success in life is central and very crucial to certain key secrets without which its attainment may prove very difficult. This study was therefore conducted to investigate the impact of ten important key secret of success in the emergence of Mendel as the father of genetics with the view of suggesting ways of using these important key secret of success to achieving ones goals and purposes in life. A total of 350 questionnaires were distributed of which 285 were filled out and returned (= 81%). The percentage of completed survey was not significantly different between the respondents in various localities. Of the returned questionnaires, 277 were found to be valid. All the analysis were therefore based on these 277 questionnaires. 100% of the respondents have good background in the field of science. Of the respondents, 50 (18.1%) were pg students, 192 (69.3%) were undergraduate science students, 20 (7.22%) were science teachers in secondary school while 15 (5.42%) were university lecturers.177 (63.9%) were male and 100 (36.1%) were female. The Age of the respondents varies from 18-43years (Mean (28±3years). Total years of experience of the respondent either as a scientist or science students ranged from 10-26 years (mean (13.3±5) years). The most common specialities among the respondent were Microbiology, Medical laboratory science, Botany, Biochemistry and Zoology. The order of increasing of the specialities were Zoology < botany <Medical laboratory science < Biochemistry < Microbiology. Some 25% of the study population believed his commitment was the reason for his success story,70% believed his choice of the Garden pea is central to his success story while only 5% believed his attitude play a major in his emergence as the father of genetics. In another vein,10% of the respondent believed Mendel is only a good Academician, 60% believed he is a good researcher, Academics and also a successful entrepreneur while 30% believed he is only a good researchers. The study shows that these three secret were properly engineered by mendel and therefore galvanized him to accomplishing his life purpose.

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1.Introduction

Mendel was born in Zechoslovakia (then – known as Heinzendorf) in 1822; into a peasant family. He attended his Augustinian Monastery, Brunn now Bruno where he failed his first examination, and was unable to obtain a teaching Certificate in Natural Science. He was not discourage by his failure, but pressed on until he obtained admission to the University of Vienna to study Science. He later returned to Bruno monastery in 1856 (Adeyemi, 2004).

Gregor Mendel got inspiration to study inheritance from his professors at University of Vienna and also his colleagues because they discovered he had interest in inheritance due to the similarities he observed in families. Since human generations take 20-25years, he turned his attention to the garden peas. He started his experiment in 1856 in Bruno Monastery garden for 10years before he could publish his results in the proceedings of the Bruno society for Natural History in 1866. He sent his experiment to the then well known scientist karl Von Nageli, who advised him to work more and give more evidence to justify the acceptance of his findings. He tried his hands on other plants like *Hieracium* species. This plant forms "seeds" without true meiosis and thus he could not justify his earlier conclusions. He reared bees, wasps and mice and experimented with other plants, but could not justify his earlier results, hence he died as a confused, disappointed scientist in 1884

(Adeyemi, 2004). After his death, his work was rediscovered in 1900 and his contributions were then put into basic laws of inheritance Monohybrid inheritance and Dihybrid inheritance. Before Mendel, many misconceptions clouded people's thinking about heredity. Two of the most prevailing errors were particularly misleading. The first was that, one parent contributed most to an offspring's inherited features; Nicolaas hartsoeker, one of the earliest microscopists, contended in 1694 that it was the male, by way of a fully formed "homunculus" inside the sperm. Another deceptive notion was the concept of blended inheritance, the idea that parental traits become mixed and forever changed in the offspring, as when blue and yellow pigment merge to give green on a painter's palette (Hartwell et al., 2008). However, Mendel experiments was able to lay these myths to rest by providing precise, and verifiable answers to such important misconceptions. This research work was therefore intended to investigate which of the ten secrets of success influence his emergence as the father of genetics **2.Materials and Methods**

2.1.Subjects and data collection

This research work was assessed by means of questionnaires. The target sources of information were postgraduate student, science students and some science teachers both in secondary school and in Olabisi Onabanjo University, Ago-Iwoye, Ogun State. In all, 50 postgraduate students, 200 science students, 20 science teachers and 15 science lecturers responded to our questions. The questionnaire was prepared by Thomas Benjamin Thoha based on comments received from past literatures and also from pilot study. The final questionnaires included two parts. First, subjects demographics; and second, basic knowledge of who Mendel was, identification of which of the ten secrets of success namely commitment,focus,attitude,choice,rapport,desire, goals,fearlessness,purpose and believe influence mendel success story after reading through his brief profile that was also part of our questionnaires. The respondent were also instructed on how to choose correct answer(s).

3.Statistical Analysis

Data were analyzed using SPSS version 15.0. The data were presented as Mean±S.D. The null hypothesis was rejected anytime the $p<0.05$.A descriptive hypothesis was used to analyze the responses and the number of time each of the respondents choose answer were calculated and expressed as a percentage of the total number of the respondent to that question.

4.Results

A total of 350 questionnaires were distributed of which 285 were filled out and returned (= 81%). The percentage of completed survey was not significantly different between the respondents in various localities. Of the returned questionnaires, 277 were found to be valid. All the analysis were therefore based on these 277 questionnaires. 100% of the respondents have good background in the field of science. Of the respondents, 50 (18.1%) were pg students, 192 (69.3%) were undergraduate science students, 20 (7.22%) were science teachers in secondary school while 15 (5.42%) were university lecturers. 177 (63.9%) were male and 100 (36.1%) were female. The Age of the respondents varies from 18-43years (Mean (28±3years). Total years of experience of the respondent either as a scientist or science students ranged from 10-26 years (mean (13.3±5) years). The most common specialities among the respondent were Microbiology, Medical laboratory science, Botany, Biochemistry and Zoology. The order of increasing of the specialities were Zoology < botany <Medical laboratory science < Biochemistry < Microbiology. The knowledge of the respondent regarding who mendel was? is represented in table 1. The survey questions about the identification of which of the ten secrets of success fit into mendel success story was also shown in table 2. 10% of the respondent believed mendel is only a good Academician, 60% believed is a good researchers,academician and also a successful entrepreneur while 30% believed he is a good researchers only.

Table 1. Knowledge of respondent about who Mendel was?

Respondent	Yes	No
Pg student	100%	_
Science student	100%	_
Science teachers	100%	_
Lecturers	100%	_

P > 0.05* (No significant difference in the responses of the respondents).
F-Value =173.5

Table 2. Responses of the respondent on which of the ten secret of success influences Mendel success story.

Secret of success	N	n	%
Commitment	277	69	25%
Attitude	277	14	5%
Choice of Garden pea	277	194	70%

P value < 0.05*F value=232.1

Table 3. Responses of the respondent on whether Mendel is a good researcher, Academics or successful enterprenuer.

Responses	N	n	%
Good Academics	277	28	10%
Good researches	277	83	30%
Good Academies, Researchers and successful Entrepreneur	277	166	60%

Table 4. Responses of the Respondent on whether Mendel is a role model in genetics alone, sciences, genetics and sciences and/or outside the field of science

Responses	N	n	%
Science	277	28	10%
Genetics	277	194	70%
Science and genetics	277	42	15%
Outside field science	277	14	5%

5.Discussions

This is the first investigation that confirm commitment, attitude and Mendel choice of Garden pea (*Pisum sativum)* as a major secret behind his success story as the father of genetics. Approximately, 97% of the respondent responded well and this is representative enough of the sample population in question. According to this study, 100% of all the valid respondents quite knows mendel and his contributions to the field of genetics and there was no statically significant difference in the respondent responses. This results stressed therefore that any information obtained from this type of respondent are likely to be above 80% correct if not perfect. 70% (194) of the respondent believed that Mendel choice of the garden pea was the reason for his success story as the father of genetics. This result corroborated Hatwell *et al* (2008) who also believed mendel choice of garden pea (*Pisum sativum*) as his experimental organisms was what Mendel did differently from those who preceded him. In his word, he said that the particular anatomy of pea flowers offers Mendel a great advantage in that he was able to obtain a large number of individual within a relatively short growing season. He further explained that, if Mendel had worked with sheep, each mating would have generated only a few offspring and the time between generations would have been several years. 25% of the respondent also believed Mendel personnel commitment to his own interest was the reason for his success. This may be because he was not discourage by the fact that he was

a drop out from Bruno de monastery where he failed as a student and was therefore unable to obtain his planned teaching certificate in natural science (Adeyemi, 2004) but despite this he allows his commitment to serve as a drive to his accomplishment.On the other hand,some 60% of the sample population also recognized Mendel as a good researcher, Academician as well as successful entrepreneur. This may be because of the awareness of the respondents on his role in elucidating the truth about inheritance which definitely corrected a lot of misconceptions that clouded people's thinking about heredity (Adeyemi, 2004). His role as a successful Entrepreneur may be as result of the fact that he created the shoulder's upon which other geneticists climb to see further than him. This no doubt has led to the emergence of many other geneticists. 30% of the respondent believed Mendel is only a good teacher. This may be because he was the first to examined clear cut work on the time story of inheritance (Vermin and Agarwal, 2010). 10% also recognize him as a good academician. This also may not be unconnected to his careful, orderly, simple numerical analysis which he provided in his research work that eventually revealed patterns of transmission that reflect basic laws of heredity (Hartl and Jones, 2010). In conclusion, it is clear that Mendel is a brilliant scientist but his attitude, commitment and choice of garden pea are crucial to his success story even though majority (70%) believed that his choice of the garden pea was what he did differently from those who preceded him.It is therefore important that our choice in life is central and very crucial to what you eventually become in life as revealed by our findings in this research work.

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