Intraversion, Extraversion and Academic Achievement in Biology of Students of IX Standard

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Personality Traits

Personality psychology is a branch of psychology which studies personality and individual differences. One emphasis in this area is to construct a coherent picture of a person and his or her major psychological processes. Another emphasis views personality as the study of individual differences, in other words, how people differ from each other. A third area of emphasis examines human nature and how all people are similar to one other. These three viewpoints merge together in the study of personality.

The pioneering American psychologist, Gordon All port (1937) described two major ways to study personality, the homothetic and the idiographic. Homothetic psychology seeks general laws that can be applied to many different people, such as the principle of self-actualization, or the trait of extraversion. Idiographic psychology is an attempt to understand the unique aspects of a particular individual.

Philosophical assumptions

Many of the ideas developed by the historical and modern Personality Theorists stem from basic philosophical assumptions they hold. The following five categories are some of the most fundamental philosophical assumptions where theorists disagree:

Freedom versus Determinism

The debate over whether we have control over our own behavior and understand the motives behind it (Freedom), or if our behavior is basically determined by some other force over which we might not have control (Determinism). We may merely respond to external forces like government, parents, professors, the economic system, etc; or we may even be constrained to behave in certain ways by our genetics, upbringing, etc. The causation may be probabilistic and therefore indeterminate.

Heredity versus Environment

Personality is thought to be determined largely by either genetics and/or heredity, or by environment and experiences, or both. There is evidence for all possibilities. Ruth Benedict was one of the leading anthropologists that studied the impact of one's culture on the personality and behavioral traits of the individual.

Uniqueness versus Universality

The argument is over whether we are all unique individuals (Uniqueness) or if humans are basically similar in their nature (Universality).

Proactive versus Reactive

Do we primarily act through our own initiative (Proactive), or do we react to outside stimuli (Reactive)?

Optimistic versus Pessimistic

Finally, whether or not we can alter our personalities (Optimistic) or if they remain the same throughout our whole lives (Pessimistic).

Personality theories

Critics of personality theory claim that personality is "plastic" across time, places, moods, and situations. Changes in personality may indeed result from diet (or lack thereof), medical effects, significant events, or learning. However, most personality theories emphasize stability over fluctuation.

Trait theories

According to the Diagnostic and Statistical Manual of the American Psychiatric Association, personality traits are "enduring patterns of perceiving, relating to, and thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts." Theorists generally assume that a) traits are relatively stable over time, b) traits differ among individuals (e.g. some people are outgoing while others are shy), and c) traits influence behavior.

The most common models of traits incorporate three to five broad dimensions or factors. The least controversial dimension, observed as far back as the ancient Greeks, is simply extraversion vs. introversion (outgoing and physical-stimulation-oriented vs. quiet and physical-stimulation-averse).

Gordon All port delineated different kinds of traits, which he also called dispositions. Central traits are basic to an individual's personality, while secondary traits are more peripheral. Common traits are those recognized within a culture and thus may vary from culture to culture. Cardinal traits are those by which an individual may be strongly recognized.

Raymond Cattell's research propagated a two-tiered personality structure with sixteen "primary factors" (16 Personality Factors) and five "secondary factors." A different model was proposed by Hans Eysenck, who believed that just three traits - extraversion, neuroticism and psychotics - were sufficient to describe human personality. Differences between Cattell and Eysenck emerged due to preferences for different forms of factor analysis, with Cattell using oblique, Eysenck orthogonal, rotation to analyse the factors that emerged when personality questionnaires were subjected to statistical analysis. Today, the Big Five factors have the weight of a considerable amount of empirical research behind them. Building on the work of Cattell and others, Lewis Goldberg proposed a five-dimension personality model, nicknamed the "Big Five":

Extraversion - outgoing and stimulation-oriented vs. quiet and stimulation-avoiding Neuroticism - emotionally reactive, prone to negative emotions vs. calm, imperturbable,

optimistic Agreeableness - affable, friendly, conciliatory vs. aggressive, dominant, disagreeable Conscientiousness - dutiful, planful, and orderly vs. laidback, spontaneous, and unreliable Openness to experience - open to new ideas and change vs. traditional and oriented toward routine Trait models have been criticized as being purely descriptive and offering little explanation of the underlying causes of personality. Eysenck's theory, however, does propose biological mechanisms as driving traits, and modern behavior genetics researchers have demonstrated a clear genetic substrate to them. Another potential weakness with trait theories is that they lead people to accept oversimplified classifications, or worse offer advice, based on a superficial analysis of one's personality. Finally, trait models often underestimate the effect of specific situations on people's behavior. It is important to remember that traits are statistical generalizations that do not always correspond to an individual's behavior.

Problem Restated

1. To what type do the teachers belong?
2. What is the extent of Academic Achievement in Tamil of the students of standard IX?
3. Is there any correlation between personality type and Academic achievement in Biology?

Objectives of the Study

The objectives of the study pertain to

1. Assessing the personality type of the students of standard IX chosen for the study.
2. Measuring the degree of Academic Achievement in Biology of the students.
3. Structuring a tool for assessing the personality type of the students.

Sample

The sample consist of 140 pupils studying in standard IX in Government, Management and Corporation schools located in Madurai District.

Instrumentation

The tool employed for the study namely personality type is abridged version of Jung.

Analysis

Hypothesis-1

Null hypothesis: There exists no significant difference in the mean scores of Personality type among the students of IX standard belonging to Government Higher secondary school and Aided Higher Secondary school.

Table 1 Difference among Students due to Type of Institution

Type of institution	N	Mean	SD	"t" value	Significance
Government	70	46.79	7.84	0.98	NS
Aided	70	45.50	7.75		

df =138 $t_{(0.05)} = 1.96$ $t_{(0.01)} = 2.58$

Report

It is manifest that there exists no significant difference in the mean scores of Personality type among the students of IX standard belonging to Government Higher secondary school and Aided Higher Secondary school.

Hypothesis-2

Null hypothesis: There exists no significant difference in the mean scores of Personality type among the students of IX standard in terms of gender.

Table 2 Difference among Students due to Gender

Gender	N	Mean	SD	"t" value	Significance
Boys	70	46.93	7.93	1.20	NS
Girls	70	45.36	7.65		

df =138 $t_{(0.05)} = 1.96$ $t_{(0.01)} = 2.58$

Report

It is revealed that there exists no significant difference in the mean scores of Personality type among the students of IX standard in terms of gender.

Hypothesis-3

Null hypothesis: There exists no significant difference in the mean scores of Personality type among the students of IX standard in terms of parental education.

Table 3 Difference among Students due to Parental Education

Parental Education	N	Mean	SD	"t" value	Significance
High	92	47.02	7.37	1.76	NS
Low	48	44.46	8.54		

df =138 $t_{(0.05)} = 1.96$ $t_{(0.01)} = 2.58$

Report

It is obvious that there prevails no significant difference in the mean scores of Personality type among the students of IX standard in terms of parental education.

Hypothesis-4

Null hypothesis: There exists no significant difference in the mean scores of Personality type among the students of IX standard in terms of socio economic status.

Table 4 Difference among Students due to Socio Economic Status

Status	N	Mean	SD	"t" value	Significance
High	94	46.99	7.58	1.94	NS
Low	46	44.20	8.21		

df =138 $t_{(0.05)} = 1.96$ $t_{(0.01)} = 2.58$

Report

The t-value indicates that there exists no significant difference in the mean scores of Personality type among the students of IX standard in terms of socio economic status

Hypothesis-5

Null hypothesis: There exists no significant difference in the mean scores of Personality type among the students of IX standard in terms of locality.

Table 5 Difference among Students due to Locality

Locality	N	Mean	SD	"t" value	Significance
Urban	95	47.39	7.40	2.35	S
Rural	45	43.50	8.56		

df =138 $t_{(0.05)} = 1.96$ $t_{(0.01)} = 2.58$

Report

Significant difference in the mean scores of Personality type among the students of IX standard in terms of locality is deciphered at 0.05 level.

Hypothesis-6

Null hypothesis: There exists no significant difference in the mean scores of Achievement in Biology among the students of IX standard belonging to Government Higher secondary school and Aided Higher Secondary school.

Table 6 Difference among Students due to Type of Institution

Type of institution	N	Mean	SD	"t" value	Significance
Government	70	51.50	16.39	0.65	NS
Aided	70	52.64	13.42		

df =138 $t_{(0.05)} = 1.96$ $t_{(0.01)} = 2.58$

Report

There exists no significant difference in the mean scores of Achievement in Biology among the students of IX standard belonging to Government Higher secondary school and Aided Higher Secondary school.

Hypothesis-7

Null hypothesis: There exists no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of gender.

Table 7 Difference among Students due to Gender

Gender	N	Mean	SD	"t" value	Significance
Boys	70	51.64	15.07	0.68	NS
Girls	70	53.36	14.78		

df =138 $t_{(0.05)} = 1.96$ $t_{(0.01)} = 2.58$

Report

There exists no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of gender.

Hypothesis-8

Null hypothesis: There exists no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of parental education.

Table 8 Difference among Students due to Parental Education

Parental Education	N	Mean	SD	"t" value	Significance
High	92	52.02	14.96	0.53	NS
Low	48	53.42	14.86		

df=138 $t_{(0.05)} = 1.96$ $t_{(0.01)} = 2.58$

Report

There exists no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of parental education

Hypothesis-9

Null hypothesis: There exists no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of socio economic status.

Table 9 Difference among Students due to Socio Economic Status

Status	N	Mean	SD	"t" value	Significance
High	94	52.10	14.95	0.75	NS
Low	46	49.61	18.71		

df=138 $t_{(0.05)} = 1.96$ $t_{(0.01)} = 2.58$

Report

There exists no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of socio economic status.

Hypothesis-10

Null hypothesis: There exists no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of locality.

Table 10 Difference among Students due to Locality

Locality	N	Mean	SD	"t" value	Significance
Urban	95	52.97	18.03	0.12	NS
Rural	45	52.62	15.28		

df=138 $t_{(0.05)} = 1.96$ $t_{(0.01)} = 2.58$

Report

There exists no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of locality.

Findings

1. There was no significant difference in the mean scores of Personality type among the students of IX standard belonging to Government Higher secondary school and Aided Higher Secondary school.
2. There was no significant difference in the mean scores of Personality type among the students of IX standard in terms of gender.
3. There was no significant difference in the mean scores of Personality type among the students of IX standard in terms of parental education.

4. There was no significant difference in the mean scores of Personality type among the students of IX standard in terms of socio economic status.
5. There was no significant difference in the mean scores of Personality type among the students of IX standard in terms of locality.
6. There was no significant difference in the mean scores of Achievement in Biology among the students of IX standard belonging to Government Higher secondary school and Aided Higher Secondary school.
7. There was no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of gender.
8. There was no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of parental education.
9. There was no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of socio economic status.
10. There was no significant difference in the mean scores of Achievement in Biology among the students of IX standard in terms of locality.

Suggestion for Further Research

1. The study may be undertaken correlating emotional intelligence and personality type of the students.
2. Similar study may be undertaken to find out the type of personality of the students and Academic achievement in subjects.
3. A study of Academic achievement in relation to personality type and achievement motivation of the students.
4. A study of Academic achievement in relation to individual difference may be taken at different standards.