



THE SCIENTIFIC TEMPTER'S EFFICACY AMONG M.Sc. STUDENTS IN THOOTHUKUDI DISTRICT

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ABSTRACT

Researchers have long been interested in creative pupils, especially PG and research students. Even though there haven't been many studies done, there has been a significant amount of research on how creative students think, learn, and work. Numerous scholars looked into the scientific originality, curiosity, ability, and attitude of students. The development of scientific temper, values, and scientific creativity is a crucial responsibility in this era of scientific knowledge and technology. The purpose of this research is to find out how well scientific tempters work for postgraduate students enrolled in different Thoothukudi colleges. The sample was selected using the purposeful sampling technique from several colleges in Thoothukudi. 150 PG and research department students made up the sample for this investigation. The findings of the study revealed that there exists significant relationship between scientific tempter of boys and girls students of M.Sc., students.

KEYWORDS : Scientific tempter, Creative students and Scientific thinking.

INTRODUCTION

As Scientific temper refers to a mode of thinking and doing that involves observing physical reality, asking questions, testing theories, analyzing data, and logically communicating findings. Pandit Jawaharlal Nehru initially introduced the idea of Scientific Temper as "a way of life, a process of thinking, a method of acting and associating with our fellowmen" in his book *Discovery of India* in 1946.

In order to effectively introduce and communicate to the public the advantages of contemporary science and technology, public comprehension of science is crucial. The National Knowledge Network and other resources should be used to systematically promote scientific temper throughout society. The public and political understanding of science ought to be grounded in data and open-minded discussion.

Numerous events and activities have been established by government and non-government organizations to raise student knowledge of scientific temper. In 1987, the Department of Science & Technology, Government of India, established February 28 as National Science Day to raise awareness among students of the advantages of scientific knowledge and its applications^[1].

The goal of the "Decade of Innovation," which runs from 2010 to 20, is to combine innovation, science, and technology. In order to solve the urgent issues of energy, the environment, food, nutrition, water, sanitation, habitat, affordable health care, skill development, and unemployment, the government founded the National Innovation Council. Achieving inclusive growth means making solutions accessible, affordable, and available to as many people as possible. Promoting a scientific mindset is essential to all of these initiatives^[2].

Literature Review

In 2015, Sunmeet Kour conducted a comparison of the scientific temperaments of 120 high school students in Srinagar area, focusing on teenage girls who achieved high and low levels. The study found no significant difference between high and low achieving adolescent girls on the open-mindedness and aversion to superstition dimensions of the scientific temper scale, but it did reveal significant differences between the two groups on the dimensions of objectivity, rationality, and curiosity.

Using Nadeem and Showkat Rashid's Scientific Temperament Scale to measure scientific temper, Sabir Ahmad Bhat and Yashpal Netragaonkar (2014) also compared first and non-first generation learners on scientific temper and academic accomplishment. According to the study, there are notable differences in academic achievement and scientific temperament between first-generation and non-first-generation learners^[3].

Compared to their peers, non-first generation learners had superior academic achievement and a stronger scientific temperament. Using the Scientific Temper Scale, which was developed by Prof. Nadeem and Showkat, Sabir Ahmad Bhat and Yashpal Netragaonkar (2015) studied the academic achievement of 400 students from both rural and urban secondary schools in the Kashmir valley. The study's findings showed that there was a significant mean difference in academic achievement between urban and rural secondary school students, with urban students scoring higher than their rural counterparts^[4].

Statement Of Problem

Research has been conducted on scientific temper among school students with various dimensions whereas there is no studies on the college research students.

Research Method

The nature of research design is descriptive. It is a thorough plan outlining how the objectives of the research will be met. For this study, 150 postgraduate students provided primary data. Data was gathered from PG students enrolled in several colleges in Tiruchirappalli using a purposive sample technique. The questionnaire approach is used to collect data in order to meet the study's objectives. The first section of the questionnaire consists of inquiries regarding the patients' demographics (gender, age, etc.). Questions in Part II focus on explaining scientific temper components as they are in conceptual models. The majority of the questionnaire's questions asked respondents to rate each item on a five-point scale. Likert scale^[5].

RESULTS

Cronbach's alpha is the most widely used method to test the reliability and validity. Any value more than 0.6 for the scale is reliable (Malhotra 2002; Cronble, 1951). The Alpha values lies

from 0.957 to 0.990 and hence questionnaire is reliable.

Table – 1 Reliability

Variable	No. of items	Alpha value
Scientific Literacy	5	0.989
Scientific Attitude	5	0.982
Scientific Thinking	5	0.972
Scientific Method	5	0.975
Scientific Perception	5	0.973
Scientific Habit	5	0.986

Table – 2 Correlation

Variable	Pearson Correlation	Gender	Age	Place
Gender	Pearson Correlation	1	0.866	0.876
	Sig. (2-tailed)	0.000	0.000	0.000
	N	150	150	150
Age	Pearson Correlation	0.866	1	0.893
	Sig. (2-tailed)	0.000	0.000	0.000
	N	150	150	150
Place	Pearson Correlation	0.873	0.893	1
	Sig. (2-tailed)	0.000	0.000	0.000
	N	150	150	150

Table – 3 Correlation

Variable	Pearson Correlation	Qualification	Major	First Generation
Qualification	Pearson Correlation	0.764	0.861	0.667
	Sig. (2-tailed)	0.000	0.000	0.000
	N	150	150	150
Major	Pearson Correlation	0.841	0.956	0.878
	Sig. (2-tailed)	0.000	0.000	0.000
	N	150	150	150
First Generation	Pearson Correlation	0.661	0.883	0.577
	Sig. (2-tailed)	0.000	0.000	0.000
	N	150	150	150

DISCUSSION

- It has been found that 47 per cent of the respondents are boys while 53 per cent of the respondents are girls
- It has been found that 40 per cent of the respondents fall in the category of 20-22 years while 27 per cent of the respondents fall between the 23-25 years. 33 per cent of the respondents are in the age group of more than 26 years.
- It has been found that 40 per cent of the respondents are from rural and 60 per cent of the respondents are from urban.
- It has been found that 40 per cent of the respondents are possessing Post Graduate degree which is the highest among various qualifications. And 27 per cent of the respondents are PhD qualified which is the least of all.
- It has been found that 67 per cent of the respondents are first generation and 33 per cent of the respondents are not first generation in the family.
- The above Correlations test shows that the significance value is $0.000 < 0.05$. Therefore, the Null Hypotheses is rejected and concluded that there is significant difference between the demographic variables.
- There is significant difference between scientific literacy, scientific attitudes, scientific thinking, scientific method, scientific perception and scientific habit of boys and girls students.
- There is significant difference between scientific literacy, scientific attitudes, scientific thinking, scientific method, scientific perception and scientific habit of arts and science students.

CONCLUSIONS

There is a lack of study on college research students, although studies on scientific temper have been done on students in schools with different dimensions. Therefore, the purpose of this research study is to examine college research students' scientific temper. The study on the effectiveness of scientific

temper among postgraduate students in various autonomous colleges finds that young, first-generation female urban artists are interested in implementing new developments in society and are able to apply and use their scientific knowledge to solve problems in day-to-day life practices through scientific thinking. This suggests that girls are more likely to use scientific literacy. In contrast to superstitious beliefs, their scientific attitudes were logical, inquisitive, open-minded, and objective toward intellectual beliefs^[6]. In gathering and conveying the complicated scientific problems, the young person demonstrated good scientific thinking, the use of the scientific method, perception, and scientific habits. This included reflective thinking, understanding, and discovering logical connections and significance on scientific ideas. As a result, the study found that first-generation urban girls were more successful at applying scientific temper than were their male counterparts in rural areas. There were time constraints on the study during its research procedure, which allowed for further research to be done among students from different schools and universities [7].

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