



## **A COMPARATIVE STUDY OF SCIENTIFIC TEMPER AMONG TRIBAL AND NON-TRIBAL ADOLESCENTS OF KASHMIR**

**Azad Ahmad Andrabi**, Research Scholar,

*Department of Education, Aligarh Muslim University Aligarh India.*

### ***Abstract***

*The significance of creating scientific temper is plainly established by the way that it is one of our central obligations to create scientific temper and spirit of inquiry by individual resident of India. Article 51 A of our constitution makes it an obligation of each citizen to develop a scientific temper. The present study was undertaken to compare the scientific temper of tribal and non-tribal adolescents of Kashmir. Stratified random sampling technique was employed to select the adolescent students from the different high schools of Anantnag and Kupwara districts of Kashmir. Wani, S. R., and Nadeem, N. A. scientific temper scale was employed to collect data for scientific temper. Independent samples t-test was used to analyse the data. The results were found that the tribal and non-tribal adolescents differ significantly on the measure of scientific temper at 0.01 level of significance. Non-tribal adolescents showed a higher level of scientific temper than tribal students. Further the study revealed that there exist no significant difference between the male and female adolescents on the measure of scientific temper in each group.*

### **Introduction:**

The significance of creating scientific temper is plainly established by the way that it is one of our central obligations to create scientific temper and spirit of inquiry by individual resident of India. Article 51 A of our constitution makes it an obligation of each citizen to develop a scientific temper. Article 51 A of our constitution additionally makes it an obligation of every citizen to create humanism & spirit of enquiry and reform. Our science strategy likewise repeats the same considerations. For creating scientific temper among the pupil, various endeavours are being made by the Government and additionally a few Non Government Organizations. The National Curriculum Framework (NCF) 2005, which is currently considered as the sacred Book of the educational institutes has likewise brought up that sciences, in the same way as the frameworks of math, have their own particular ideas, frequently interconnected through hypotheses and theories, and are endeavours to depict and clarify the natural world. Scientific inquiry includes observation and experimentation to

accept expectations made by hypotheses or theory, which may be supported by experiments and controls. The National Focus Group on 'Showing of Science' recommended steps should be taken to maximisation of experiment based learning in science subjects.

Science not only inspires the spirit of inquisitiveness among the adolescent students but facilitates in inculcating scientific temper. This scientific temper, or exploratory disposition is fundamentally described by the attributes like a healthy suspicion, universalism, free from bias or predisposition, objectivity, receptiveness and quietude, ability to suspend judgment without sufficient confirmation, levelheadedness, constancy and positive approach to disappointment. Regularly, an individual having scientific temper uses scientific methods of science as a part of his/her everyday life decision making procedure, intentionally or unintentionally. Our first Prime Minister, Jawaharlal Nehru was extremely affectionate of utilizing the term "scientific Temper". He was keen that we ought to not learn science externally; i.e. simply the different branches of science. He urged individuals to have scientific temper so they could be better researchers, better citizens and able to representing their individual considerations and activities in a scientific way.

However, despite these efforts, scientific temper did not permeate in society to make any perceptible impact on the national psyche. As Narlikar opined, 'Today we live in a free India that is feeling its way towards economic prosperity. Yet we are still a long way from achieving that scientific outlook which Nehru considered so essential for our future wellbeing' (Narlikar, 2003). Similar concerns were expressed by Bhargava: 'If one were to pick out three or four most important reasons for the country's backwardness or failure in many areas, the lack of scientific temper would be one of them' (Bhargava and Chakrabarti, 2010:277). Nehru's dream about the spread of scientific temper in the country has remained largely unrealised, in spite of significant growth in science and technology in India (Mahanti, 2013).

The present paper aims to compare tribal and non-tribal adolescent of Kashmir India on scientific temper measure. Jammu and Kashmir occupies a special position in the tribal map of India. It is regarded as the homeland of the tribals having a total tribal population of about 81, 45,081, which is 11.9 percent of the State's total population according to Census 2011.

### **Objectives of the study**

The following objectives were formulated for the purpose of proposed investigations.

- 1 To compare the scientific temper of tribal and non-tribal adolescents of Kashmir.
- 2 To compare the scientific temper of male and female adolescents of Kashmir.
- 3 To compare the scientific temper of tribal male and non-tribal male adolescents of Kashmir.

- 4 To compare the scientific temper of tribal female and non-tribal female adolescents of Kashmir.

### Hypotheses

1. There is no significant mean difference between of tribal and non-tribal adolescents of Kashmir on scientific temper.
2. There is no significant mean difference between of male and female adolescents of Kashmir on scientific temper.
3. There is no significant mean difference between of tribal male and tribal female adolescents of Kashmir on scientific temper.
4. There is no significant mean difference between of non-tribal male and non-tribal female adolescents of Kashmir on scientific temper.

### Method of Research

The sample of the research study included tribal and non-tribal adolescent (male/female) students of 9<sup>th</sup> class in Government schools of Anantnag and Kupwara Districts of Kashmir India, during the academic year of 2013. The investigator visited three educational institutions of district Anantnag and Kupwara and collected the data through stratified random sampling technique. The total number of 564 students was selected out of which 286 adolescents belonged to tribal and 278 belonged to non-tribal communities. The sample was collected by using stratified random sampling technique. The measuring tool for scientific temper in this research study was Wani, S. R., & Nadeem, N. A. (2010) Scientific Temper Scale (2010). It has five dimensions: Curiosity, Open-mindedness, Objectivity, Rationality, and Aversion to Superstition. In order to analyze the data in the light of the objectives and hypotheses framed for this study the mean, SD and independent samples t-tests, were applied.

### Analysis and Interpretation

Table 1

*Comparison of Scientific Temper of tribal and non-tribal adolescents of Kashmir.*

Variable	Category	N	Mean	S. D	t	Df
Scientific Temper	Tribal	286	39.72	3.74	-4.47*	562
	Non-Tribal	278	41.03	3.18		

*\*\*significant at 0.01 level; p < 0.01*

It is clear from table 1 that Non-tribal adolescents had higher (41.03) mean score in scientific temper scale compared to (39.72) tribal adolescents, which was found to be statistically significant using independent samples t-test ( $t = -4.47, 552 \text{ df}, p < 0.01$ ). It indicates that non-tribal students possessed high scientific temper as compared to tribal students. Therefore, the null hypothesis 1 stands rejected.

Table 2

*Comparison of Scientific Temper of male and female adolescents of Kashmir.*

Variable	Category	N	Mean	S. D	t	Df
Scientific Temper	Male	298	40.58	3.38	1.519	562
	Female	266	40.13	3.69		

It is clear from table 2 that male adolescents had almost same (40.58) mean score in scientific temper scale compared to (40.13) female adolescents, which was found to be statistically insignificant using independent samples t-test ( $t = -1.51, 562 \text{ df}, p < 0.05$ ). It can be said that there exists no significant difference between the male and female adolescents under study on scientific temper measure. Here we fail to reject null hypothesis 2.

Table 3 *Comparison of Scientific Temper of tribal male and tribal female adolescents of Kashmir.*

Variable	Category	N	Mean	S. D	t	Df
Scientific Temper	Tribal Male	157	40.04	3.33	1.52	284
	Tribal Female	129	39.35	4.17		

It is clear from table 3 that male adolescents had almost same (40.58) mean score in scientific temper scale compared to (40.13) female adolescents, which was found to be statistically insignificant using independent samples t-test ( $t = -1.51, 562 \text{ df}, p < 0.05$ ). It can be said that there exists no significant difference between the tribal male and tribal female under study on SES measure. Here we fail to reject null hypothesis 3.

Table 4

*Comparison of Scientific Temper of non-tribal male and non-tribal female adolescents of Kashmir.*

Variable	Category	N	Mean	S. D	t	Df
Scientific Temper	Non-tribal Male	141	41.19	3.35	.847	274
	Non-tribal Female	137	40.87	2.99		

It is clear from table 4 that male adolescents had almost same (41.19) mean score in scientific temper scale compared to (40.87) female adolescents, which was found to be

statistically insignificant using independent samples t-test ( $t = -0.847, 274 \text{ df}, p < 0.05$ ). It can be said that there exists no significant difference between the non-tribal students and non-tribal students under study on scientific temper measure. Here we fail to reject null hypothesis 4.

### Conclusion

Tribal population is an integral part of our social fabric. They have lived traditionally live in forests, hills and inaccessible terrain. They have lived as isolated entities for centuries. This seclusion has been responsible for the slower growth of their socio-economic status and cultural development. They are also educationally backward. This study has examined the scientific temper of tribal and non-tribal adolescents of Kashmir. It has been found that the tribal and non-tribal adolescents differ significantly on the measure of scientific temper. Non-tribal adolescents showed a higher level of scientific temper and tribal students. Further the study revealed that there exists no significant difference between the male and female adolescents on the measure of scientific temper in each group. The reason for the poor level of scientific temper among the tribal adolescents may be attributed to the distinct way of life and socio-cultural characteristics of the tribals. The social isolation, poor economic condition, lack of exposure and illiteracy may be some of the issues accounting for lower scientific temper of tribal students as these circumstances do not provide stimulating scientific atmosphere at home and outside to them to develop the scientific temperament in them (Henry and Mishra 2006). It is the prime duty of schools to foster scientific temper of tribal adolescents as they possess low level of scientific temper as compared non-tribal students. Effort should be made to encourage maximum use of innovative teaching learning aids/ instruction materials like audio-visuals aids in science learning which in turn help in developing scientific temper among the students.

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