

Divergent Ways of Thought: Scientific Attitude among Working and Non-Working Scheduled Caste Women

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Abstract

Today's in the AI world, a scientific attitude is a most crucial factor for women, especially backward-class women, because in the 20th century, they were backward in our society. The main idea of the research work was to evaluate the scientific attitude among Scheduled Caste (SC) women with respect to their occupation (working and non-working women). A Total of 303 SC women's data were collected from the South 24 Parganas district in West Bengal (India) through a simple random sampling technique. The results revealed from the analysis that a significant difference in scientific attitude persisted between working and non-working women of the SC group. The conclusion of the study is that occupation plays a vital role in developing a scientific attitude in women.

Introduction

In the 21st century, developing an inquiry mindset is an important aspect for every woman. In today's contemporary world, people are mostly influenced by material desires. However, such needs have no definitive end. At this point, a scientific attitude helps women differentiate between what is truly important and what is not. Basically, a scientific attitude refers to a woman's logical, questioning and objective approach toward life. This becomes especially significant for backward-class women, especially those belonging to the SC group. A SC women progress economically, educationally, and socially, it contributes significantly

to the nation and helps to better society. Sekar and Mani (2013) defined scientific attitude as a mental process that influences people's approach and communication with the world around them (Berkmans & Renuka, 2024). So, a scientific attitude is important for enhancing logical thought and changing the mindset of SC women towards life (Husain & Khan, 2024).

Review of Literature

Hunashal and Hemanthakumar (2013) found in their study that the independent variables had a positive influence on the dependent variable. Similarly, Berkmans and Renku (2025) reported a positive and significant relationship between scientific attitude and attitude towards science among tenth-grade students. Banerjee and Sarkar (2022) also observed a significant positive relationship among the studied variables. However, Chandel (2016) found no significant difference between rural and urban students; nevertheless, boys demonstrated a higher level of scientific attitude compared to girls.

Based on the above discussion, it can be concluded that no prior study has specifically examined the scientific attitude among Scheduled Caste (SC) women. Therefore, this represents a significant research gap.

Operational Definition

Scientific Attitude

Scientific attitude can be regarded as a complex of values and norms that is held to be binding on the scientists (Pitafi & Farooq, 2012; Spronken-Smith, 2009).

In this study, Scientific attitude refers to, way of scientifically thinking of an individual.

Objectives

1. To find the level of Scientific Attitude of SC Women.
2. To compare the differences between working and non-working status in the Scientific Attitude among SC women.

Hypothesis

H₀1: There is no significant difference in the Scientific Attitude between working and non-working status among SC women.

Analysis & Interpretation of the Data

Objectives 1

Table 1. level of Scientific Attitude of women of backward classes.

Variable	Score Range	Z Score	Frequency	Percentage	Status
Scientific Attitude					
SC (N= 303)	Above 86	Above 1σ	40	6.5%	High
	71 to 86	-1σ to 1σ	223	36.0%	Average
	Below 71	Below -1σ	40	6.5%	Low

Interpretation

Table 1 presents the scientific attitude levels of SC women; 36.0% belong to the average category, 6.5% to the high category, and 6.5% to the low category.

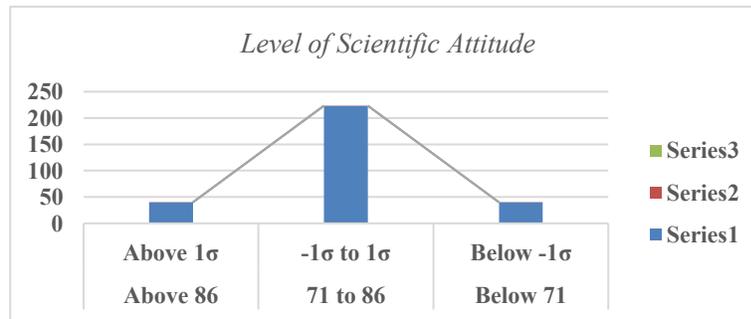


Fig 1: Level of Scientific Attitude among SC Women

Objective 2

Table 2. Group Statistic in the Scientific Attitude of Working and Non-Working SC women

Scale: Scientific Attitude		N	Mean	Std. Deviation	Std. Error Mean
Cast	Variations				
SC	Working	46	82.78	8.268	1.219
	Non-Working	257	77.92	7.321	.457

Table 2 reveals a slight difference in the scientific attitude scores between working (M=82.78, SD=8.268, N=46) and non-working (M=77.92, SD=7.321, N=257) SC women. To assess the statistical significance of this difference, an independent samples t-test was performed, and the results are shown in the following table.

Table 3 Independent Samples -t test for Scientific attitude of backward classes women (SCs, STs, and OBCs)_ Working and Non-working wise

Scale: Emancipation of Women		Levene's Test for Equality of Variances			t-test for equality of means				Remarks
Cast	Variations		F	Sig	t	df	Sig. (2 tailed)	Mean Difference	
SC	working vs. non-working	Equal variances assumed	0.955	0.329	4.068	301	0.000	4.864	*Significant at the 0.05 level

Interpretation

Among Scheduled Caste (SC) women, the t-test results indicate the analysis of Levene's test for equality of variances (**Table 3**), where the F value is 0.955 with a corresponding p value is 0.329 ($p < .05$), so equal variances can be assumed. **Table 3** further demonstrates that, in the case of the scientific attitude difference between working and non-working women SC group, the calculated $t_{(301)}$ value is 4.068 and 'p' value is 0.000 ($p < .05$). Therefore, the t-test result is statistically significant at the 0.05 level, indicating a significant difference in scientific attitude between working and non-working SC women.

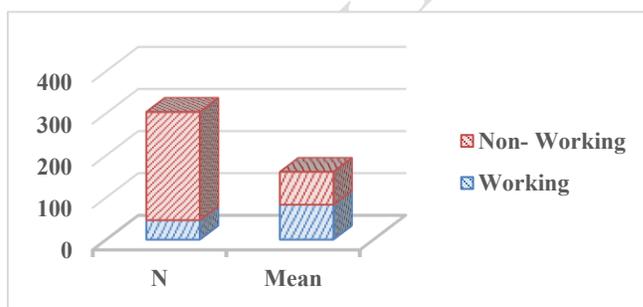


Fig 2: presents the mean difference between working and non-working scores

Discussion

The present study aimed to examine the role of scientific attitude with respect to the working and non-working Scheduled Caste (SC) women. The findings *exposed* that most of the women belong to an average level of scientific attitude. Also found, significant variation was observed between working and non-working women, which means working women revealed a higher level of scientific attitude than those who are non-working SC women. This may be



emphasised to their greater possibilities to various experiences, problem-solving capabilities, and instant decision-making capabilities in both professional and social settings.

The findings further explained that working employees play a vital role in fostering a logical thinking and questioning mind, an evidence-oriented mind among SC women. A higher level of scientific attitude, women not only developed their critical thinking and curiosity but also improved their transparency, cause and effect relationship and self-confidence. (Husain & Khan, 2024). Hence, concluded from the findings that a scientific attitude is a major factor in helping develop the openness of the mind, unique ideas and divergent thought of SC women.

Conclusion

The major target of the article was to evaluate the role of scientific attitude based on their working and non-working Scheduled Caste (SC) women. The results of the study show that most of the women show a moderate level of scientific attitude; also, working women show a higher level of scientific attitude compared to those who are non-working SC women. The study concludes that a scientific attitude plays a significant role in overall development among SC women.



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