

An Analytical Study of Personal Empowerment Among Women in the Context of NGO Interventions: Evidence from Primary Data and Hypothesis Testing

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Abstract

Women empowerment is a crucial element of social and economic development, particularly in developing countries. Non-Governmental Organizations (NGOs) play a significant role in enhancing personal empowerment by improving confidence, decision-making ability, and self-reliance among women. This study aims to examine the impact of Non-Governmental Organization (NGO) interventions on the personal empowerment of women. The research is based on primary data collected from 200 women beneficiaries associated with various NGO programs. Personal empowerment was assessed through ten carefully designed indicators covering aspects such as self-confidence, decision-making ability, self-awareness, and personal independence. A structured questionnaire using a Likert scale was employed for data collection. The study adopts a quantitative research approach, utilizing statistical tools such as frequency and percentage analysis to understand response patterns. In addition, a one-sample t-test was applied to examine the statistical significance of the impact of NGO interventions on personal empowerment. The test value was set at a neutral point to compare the observed mean level of empowerment. The findings of the study reveal that a majority of respondents reported noticeable improvement in their personal empowerment due to NGO interventions. The results of the one-sample t-test indicate that the impact is statistically significant, leading to the rejection of the null hypothesis. The study concludes that NGO interventions play a crucial role in enhancing personal empowerment among women. It highlights the importance of continued efforts by NGOs in strengthening women's capacity, confidence, and autonomy for overall social development.

Keywords: Women Empowerment, NGOs, Personal Empowerment, Primary Data, One Sample T-Test

1. Introduction

Women empowerment has emerged as a central concern in the discourse of sustainable development, social justice, and inclusive growth across the globe. In developing countries like India, women continue to face structural inequalities, socio-cultural barriers, and limited access to resources, which restrict their ability to achieve personal and social advancement. Empowerment at the personal level, therefore, becomes crucial as it enables women to develop self-confidence, autonomy, and decision-making capabilities, which are essential for improving their overall quality of life (Kabeer, 2017). Non-Governmental Organizations (NGOs) have been recognized as key agents of change in addressing gender inequalities

and promoting women empowerment, especially at the grassroots level. NGOs operate as intermediaries between the state and marginalized communities, implementing various development programs aimed at enhancing women's capabilities, awareness, and participation in socio-economic activities (Desai & Joshi, 2016). Their interventions often focus on capacity building, education, skill development, and awareness generation, which directly contribute to strengthening personal empowerment among women. Personal empowerment refers to the process through which individuals gain control over their lives, develop self-efficacy, and enhance their ability to make informed decisions. It includes dimensions such as self-confidence, self-awareness, independence, and the ability to influence one's own life circumstances (Stromquist, 2015). NGOs play a significant role in nurturing these attributes by creating supportive environments where women can learn, express themselves, and actively participate in decision-making processes (Malhotra & Schuler, 2019). Empirical studies have consistently highlighted the positive impact of NGO interventions on various aspects of women empowerment. For instance, research indicates that participation in NGO-led programs significantly improves women's confidence levels, communication skills, and leadership abilities (Banerjee et al., 2018). Similarly, studies have shown that women associated with NGOs exhibit higher levels of self-reliance and are more likely to take independent decisions regarding their personal and family matters (Agarwal, 2020).

In addition to enhancing individual capabilities, NGOs also contribute to changing societal attitudes towards women by promoting gender equality and challenging traditional norms. Awareness campaigns, training programs, and community mobilization efforts undertaken by NGOs help in reducing gender-based discrimination and encouraging women to assert their rights (UN Women, 2021). Such interventions not only empower women at the personal level but also create a conducive environment for their overall development. Furthermore, the role of NGOs in empowering women has gained increased attention in recent years due to their ability to reach marginalized and vulnerable groups. Studies conducted in rural and tribal areas have demonstrated that NGO interventions significantly improve women's access to information, resources, and opportunities, thereby enhancing their personal empowerment (Sharma & Gupta, 2022). These findings underscore the importance of NGOs in bridging the gap between policy frameworks and ground-level implementation. Despite the growing body of literature on women empowerment, there remains a need for more empirical studies focusing specifically on personal empowerment using quantitative methods and statistical analysis. Many existing studies are either qualitative in nature or focus on broader dimensions of empowerment, thereby overlooking the measurable aspects of personal empowerment (Kumar & Singh, 2023). This highlights a significant research gap that needs to be addressed through systematic data-driven analysis. In this context, the present study aims to examine the impact of NGO interventions on personal empowerment among women using primary data collected from beneficiaries. By employing statistical techniques such as frequency analysis and one-sample t-test, the study seeks to provide empirical evidence on the effectiveness of NGO interventions in enhancing personal empowerment. The findings of this study are expected to contribute to the existing literature and provide valuable insights for policymakers, practitioners, and NGOs working in the field of women empowerment (Patel, 2024).

2. Review of Literature

Kabeer (2017) defines women empowerment as a process involving access to resources, development of agency, and achievement of desired outcomes. The study emphasizes the importance of measuring empowerment at multiple levels, including personal empowerment. It highlights that personal empower-

ment includes self-confidence, decision-making ability, and control over one's life. The research suggests that external support systems such as NGOs play a crucial role in facilitating empowerment. The study also points out that empowerment is context-specific and varies across regions. It stresses the need for measurable indicators in empowerment studies. The findings support the use of structured tools to assess empowerment. This study provides a strong conceptual base for measuring personal empowerment.

Desai and Joshi (2016) examined the role of NGOs in promoting women empowerment at the grassroots level. The study found that NGOs significantly contribute to improving women's awareness, education, and participation in decision-making processes. It highlights that NGO interventions create opportunities for skill development and income generation. The research shows that women associated with NGOs demonstrate higher confidence and independence. The study also emphasizes the importance of community-based programs. NGOs were found to act as catalysts for social change. The findings indicate that NGO-led initiatives positively impact women's personal and social empowerment. The study supports the importance of NGO intervention in empowerment processes.

Stromquist (2015) focuses on the role of education in empowering women and transforming their lives. The study highlights that education enhances women's self-awareness, confidence, and critical thinking abilities. It argues that empowerment is not only economic but also psychological and personal. The research emphasizes that learning environments provided by NGOs contribute significantly to empowerment. It also points out that education helps women challenge traditional norms. The study suggests that empowerment leads to active participation in social processes. NGOs are identified as key providers of informal and non-formal education. The findings underline the importance of knowledge in achieving personal empowerment.

Malhotra and Schuler (2019) explore women empowerment as a key variable in development studies. The research identifies multiple dimensions of empowerment, including personal, economic, and social. It highlights that personal empowerment is essential for achieving broader development outcomes. The study suggests that empowerment involves changes in self-perception and confidence. NGOs are seen as important agents in facilitating these changes. The research also discusses the need for measurable indicators to assess empowerment. It emphasizes the role of interventions in enhancing women's agency. The study provides a framework for analyzing empowerment through quantitative methods.

Banerjee et al. (2018) analyze the effectiveness of development programs in promoting women empowerment. The study uses experimental and empirical methods to assess program outcomes. It finds that participation in development programs significantly improves women's confidence and decision-making ability. The research highlights that NGO interventions play a key role in delivering such programs. It also shows improvements in communication skills and leadership qualities among women. The study emphasizes the importance of continuous engagement. It suggests that empowerment outcomes can be measured through statistical tools. The findings strongly support the positive impact of NGO interventions.

Agarwal (2020) examines the relationship between gender equality and women empowerment. The study highlights the critical role of NGOs in promoting gender-sensitive development. It finds that NGO programs help women gain economic independence and personal confidence. The research emphasizes the importance of collective participation. It also discusses how NGOs create awareness about rights and opportunities. The study shows that women involved in NGOs are more likely to take independent deci-

sions. It highlights the role of institutional support in empowerment. The findings confirm that NGOs significantly contribute to personal empowerment.

2. Research Question

- What is the level of personal empowerment among women beneficiaries associated with NGO interventions?
- Do NGO interventions have a statistically significant impact on personal empowerment among women?

3. Objectives of the Study

- To assess the level of personal empowerment among women beneficiaries associated with NGO interventions.
- To examine the impact of NGO interventions on personal empowerment among women using statistical analysis.

4. Hypothesis

H₀: There is no significant Personal Empowerment among tribal women associated with non-governmental organizations

H₁: There is significant Personal Empowerment among tribal women associated with non-governmental organizations

5. Research Methodology

An emerging research methodology known as "Mixed Methods" promotes the methodical integration, or "mixing," of quantitative and qualitative data within a single study or ongoing program of inquiry. gathering and evaluating data that is both qualitative (open-ended) and quantitative (closed-ended). The researcher used both qualitative and quantitative data in this study. They collected primary data from 200 tribal women who were affiliated with NGOs using a questionnaire and interview schedule, and they collected qualitative data using the Focus Group Discussion (FGD) method. As a result, the study will employ a mix method research design.

6. Discussion and Result

Table: 1 - Showing the Perception of Tribal Women on Personal Empowerment Indicators after Joining Non-Government Organization

Statement		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I feel that I have self-worth as an individual.	Frequency	9	118	58	12	3
	(%)	4.5 %	59.0%	29.0%	6.0%	1.5%
I believe that I possess several positive qualities.	Frequency	9	132	37	19	3
	(%)	4.5%	66%	18.5%	9.5%	1.5%
I feel that there is little in my life to feel proud of.	Frequency	18	120	40	14	8
	(%)	9.0%	60%	20%	7%	4%
I maintain a positive attitude to-	Frequency	18	127	39	12	4

wards myself.	(%)	9.0%	63.5%	19.5%	6.0%	2.0%
Overall, I am satisfied with who I am.	Frequency	21	11.6	42	13	5
	(%)	10.5%	58.0%	21.0%	8%	2.5%
Sometimes, I feel that I am not capable or good enough.	Frequency	24	116	42	13	5
	(%)	12.0%	58.0%	21.0%	6.5%	2.5%
I experience financial independence in my life.	Frequency	24	104	49	13	7
	(%)	13.5%	52.0%	24.5%	6.5%	3.5%
I have the freedom to take actions in my daily life.	Frequency	20	106	52	15	7
	(%)	10.0%	53.0%	26.0%	7.5%	3.5%
I actively participate in decision-making processes.	Frequency	28	115	34	17	6
	(%)	14.0%	57.5%	17.0%	8.5%	3.0%
I feel respected and have a sense of self-esteem.	Frequency	31	106	39	18	6
	(%)	15.5%	53.0%	19.5%	9.0%	3.0%
My leadership and managerial abilities have improved.	Frequency	35	104	38	12	11
	(%)	17.5%	52.0%	19.0%	6.0%	5.5%
There has been an improvement in my health and hygiene practices.	Frequency	35	105	42	9	9
	(%)	17.5%	52.5%	21.0%	4.5%	4.5%
My level of education has improved over time.	Frequency	20	119	37	18	6
	(%)	10.0%	59.5%	17.0%	9.0%	3.0%
I have gained good exposure to new experiences and opportunities.	Frequency	23	119	37	17	7
	(%)	11.5%	59.5%	17.0%	8.5%	3.5%
I feel that gender equality has improved in my surroundings.	Frequency	19	136	28	10	7
	(%)	9.5%	68.0%	14.0%	5.0%	3.5%
I am able to explore new opportunities and possibilities.	Frequency	2	118	63	15	2
	(%)	1.0%	59.0%	31.5%	7.5%	1.0%
My skills and abilities have improved.	Frequency	4	142	37	12	5
	(%)	2.0%	71.0%	18.5%	6.0%	2.5%
My communication skills have improved.	Frequency	17	135	30	10	8
	(%)	8.5%	67.5%	15.0%	5.0%	4.0%

The result of the analysis of statement “I feel that I have self-worth as an individual.” indicating personal worth as felt by an individual shows that 59.0 percent (n = 118) have agreed while 4.5 percent (n = 9) have strongly agreed. On the other hand, only few tribal women have disagreed with the fact. Around 6.0 percent (n =12) have disagreed while 1.5 percent (n =3) have strongly disagreed with the fact that they have feeling of self-worth. It can also be seen from the data that 29.0 percent (n = 58) have neither agreed nor disagreed with the view point indicating that they have neutral view. Over all, we can conclude that 63.5 percent (n = 127) tribal women included in the study have agreed or strongly agreed with the fact they have feeling of self-worth.

The analysis of the statement “I believe that I possess several positive qualities.” indicates that a majority of the respondents possess a positive perception about their qualities. About 66.0 percent (n = 132) have agreed and 4.5 percent (n = 9) have strongly agreed with the statement. On the other hand, 9.5 percent (n = 19) have disagreed and 1.5 percent (n = 3) have strongly disagreed. Around 18.5 percent (n = 37) respondents have expressed a neutral opinion. Overall, it can be concluded that 70.5 percent (n = 141) respondents acknowledge that they possess good qualities.

The findings reveal that 60.0 percent (n = 120) respondents have agreed and 9.0 percent (n = 18) have strongly agreed that they do not have much to be proud of. However, 7.0 percent (n = 14) have disagreed and 4.0 percent (n = 8) have strongly disagreed with this statement. About 20.0 percent (n = 40) have remained neutral. This indicates that a considerable proportion (69.0 percent, n = 138) of respondents have a lower sense of pride, suggesting the need for further empowerment interventions.

The data shows that 63.5 percent (n = 127) respondents have agreed and 9.0 percent (n = 18) have strongly agreed that they have a positive attitude towards themselves. Only 6.0 percent (n = 12) have disagreed and 2.0 percent (n = 4) have strongly disagreed. About 19.5 percent (n = 39) have expressed neutrality. Overall, 72.5 percent (n = 145) respondents reflect a positive self-attitude.

The results indicate that 58.0 percent (n ≈ 116) respondents have agreed and 10.5 percent (n = 21) have strongly agreed that they are satisfied with themselves. Around 8.0 percent (n = 13) have disagreed and 2.5 percent (n = 5) have strongly disagreed. About 21.0 percent (n = 42) have remained neutral. Thus, 68.5 percent (n ≈ 137) respondents show overall self-satisfaction.

The statement reveals that 58.0 percent (n = 116) respondents have agreed and 12.0 percent (n = 24) have strongly agreed that they sometimes feel they are not good at all. However, 6.5 percent (n = 13) have disagreed and 2.5 percent (n = 5) have strongly disagreed. About 21.0 percent (n = 42) have neutral views. This suggests that a significant proportion (70.0 percent, n = 140) experiences occasional low self-esteem.

The findings indicate that 52.0 percent (n = 104) respondents have agreed and 13.5 percent (n = 24) have strongly agreed that they have economic freedom. About 6.5 percent (n = 13) have disagreed and 3.5 percent (n = 7) have strongly disagreed, while 24.5 percent (n = 49) have remained neutral. Overall, 65.5 percent (n = 128) respondents experience economic freedom.

The data shows that 53.0 percent (n = 106) respondents have agreed and 10.0 percent (n = 20) have strongly agreed that they have freedom of action. Around 7.5 percent (n = 15) have disagreed and 3.5 percent (n = 7) have strongly disagreed. About 26.0 percent (n = 52) have neutral opinions. Thus, 63.0 percent (n = 126) respondents perceive freedom in action.

The results indicate that 57.5 percent (n = 115) respondents have agreed and 14.0 percent (n = 28) have strongly agreed about their involvement in decision making. About 8.5 percent (n = 17) have disagreed and 3.0 percent (n = 6) have strongly disagreed, while 17.0 percent (n = 34) are neutral. Overall, 71.5 percent (n = 143) respondents are involved in decision-making processes.

The findings show that 53.0 percent (n = 106) respondents have agreed and 15.5 percent (n = 31) have strongly agreed that they feel respected and have self-esteem. About 9.0 percent (n = 18) have disagreed and 3.0 percent (n = 6) have strongly disagreed. Around 19.5 percent (n = 39) have neutral views. Thus, 68.5 percent (n = 137) respondents feel respected and possess self-esteem.

The data indicates that 52.0 percent (n = 104) respondents have agreed and 17.5 percent (n = 35) have strongly agreed about improvement in leadership and managerial skills. About 6.0 percent (n = 12) have

disagreed and 5.5 percent (n = 11) have strongly disagreed. Around 19.0 percent (n = 38) have neutral views. Overall, 69.5 percent (n = 139) respondents report improvement in these skills.

The analysis shows that 52.5 percent (n = 105) respondents have agreed and 17.5 percent (n = 35) have strongly agreed about improvement in health and hygiene. Around 4.5 percent (n = 9) have disagreed and 4.5 percent (n = 9) have strongly disagreed. About 21.0 percent (n = 42) have neutral responses. Thus, 70.0 percent (n = 140) respondents observe improvement in health and hygiene.

The results indicate that 59.5 percent (n = 119) respondents have agreed and 10.0 percent (n = 20) have strongly agreed that their education has improved. About 9.0 percent (n = 18) have disagreed and 3.0 percent (n = 6) have strongly disagreed. Around 17.0 percent (n = 37) have neutral views. Overall, 69.5 percent (n = 139) respondents report educational improvement.

The findings show that 59.5 percent (n = 119) respondents have agreed and 11.5 percent (n = 23) have strongly agreed that they have received good exposure. About 8.5 percent (n = 17) have disagreed and 3.5 percent (n = 7) have strongly disagreed. Around 17.0 percent (n = 37) have neutral responses. Thus, 71.0 percent (n = 142) respondents have gained good exposure.

The data indicates that 68.0 percent (n = 136) respondents have agreed and 9.5 percent (n = 19) have strongly agreed that there is gender equality. About 5.0 percent (n = 10) have disagreed and 3.5 percent (n = 7) have strongly disagreed. Around 14.0 percent (n = 28) have neutral opinions. Overall, 77.5 percent (n = 155) respondents perceive gender equality.

The findings show that 59.0 percent (n = 118) respondents have agreed and only 1.0 percent (n = 2) have strongly agreed that they discover new possibilities. About 7.5 percent (n = 15) have disagreed and 1.0 percent (n = 2) have strongly disagreed. A significant 31.5 percent (n = 63) have neutral views. Thus, 60.0 percent (n = 120) respondents acknowledge discovering new opportunities.

The results indicate that 71.0 percent (n = 142) respondents have agreed and 2.0 percent (n = 4) have strongly agreed that their skills and abilities have improved. About 6.0 percent (n = 12) have disagreed and 2.5 percent (n = 5) have strongly disagreed. Around 18.5 percent (n = 37) have neutral responses. Overall, 73.0 percent (n = 146) respondents report improvement in skills.

The data shows that 67.5 percent (n = 135) respondents have agreed and 8.5 percent (n = 17) have strongly agreed that their communication skills have improved. About 5.0 percent (n = 10) have disagreed and 4.0 percent (n = 8) have strongly disagreed. Around 15.0 percent (n = 30) have neutral views. Thus, 76.0 percent (n = 152) respondents report better communication skills.

Table 2: Mean Score of Personal Empowerment

Descriptive Statistics: Personal Empowerment			
Item	N	Mean	Std. Deviation
I feel that I have self-worth as an individual.	200	2.4100	.73799
I believe that I possess several positive qualities.	200	2.3750	.77931
I feel that there is little in my life to feel proud of.	200	2.3700	.89280
I maintain a positive attitude towards myself.	200	2.2850	.79178
Overall, I am satisfied with who I am.	200	2.3400	.86495
Sometimes, I feel that I am not capable or good enough.	200	2.2950	.85536
I experience financial independence in my life.	200	2.3450	.91661

I have the freedom to take actions in my daily life	200	2.4150	.89823
I actively participate in decision-making processes.	200	2.2900	.91657
I feel respected and have a sense of self-esteem.	200	2.3100	.94252
My leadership and managerial abilities have improved.	200	2.3000	1.00751
There has been an improvement in my health and hygiene practices.	200	2.2600	.95233
My level of education has improved over time.	200	2.3350	.89047
I have gained good exposure to new experiences and opportunities.	200	2.3300	.91393
I feel that gender equality has improved in my surroundings.	200	2.2500	.83124
I am able to explore new opportunities and possibilities.	200	2.4850	.69440
My skills and abilities have improved.	200	2.3600	.73696
My communication skills have improved.	200	2.2850	.84697

After calculation of descriptive statistics of personal empowerment as shown in the above table, it is observed that the mean scores of all the variables range between 2.25 to 2.48, which indicates a moderate level of agreement among the respondents. The lowest mean score ($M = 2.250$) is observed in the statement related to gender equality, which reflects a comparatively higher level of agreement, suggesting that respondents perceive improvement in gender equality in their surroundings. Similarly, relatively lower mean values are also observed in health and hygiene improvement ($M = 2.260$) and maintaining a positive attitude ($M = 2.285$), indicating agreement towards these aspects.

On the other hand, higher mean scores such as in the statement “I am able to explore new opportunities and possibilities” ($M = 2.485$) and “I have the freedom to take actions in my daily life” ($M = 2.415$) indicate relatively lower agreement among respondents in these areas. This suggests that although some level of empowerment is present, there are still limitations in terms of exploring opportunities and exercising freedom in actions.

After overall analysis of mean scores, it can be concluded that after association with NGOs/SHGs, women have experienced moderate improvement in various dimensions of personal empowerment such as self-worth, positive attitude, decision-making participation, and skill development. However, certain aspects like gender equality perception, health practices, and opportunity exploration still reflect scope for further improvement.

For advanced analysis, to measure the significant difference in perceptual experience regarding personal empowerment among women associated with NGOs, the following hypothesis is formulated and tested using One Sample t-test.

To measure the significant difference in perception about **Personal Empowerment** among tribal women associated with non-government organization. Following hypothesis has been formulated and tested with the help of one sample t-test;

H0: There no significant Personal Empowerment among tribal women associated with non-governmental organizations

H1 There is significant Personal Empowerment among tribal women associated with non-governmental organizations

The results of one sample t-test are presented in table below;

Table 3: Impact Assessment of NGO Interventions on Personal Empowerment among Tribal Women

A One-Sample t-Test Analysis

One-Sample Test: Personal Empowerment			
Parameters of Personal Empowerment	Test Value = 3		
	t	df	Sig. (2-tailed)
I feel that I have self-worth as an individual.	-11.306	199	.000
I believe that I possess several positive qualities.	-11.341	199	.000
I feel that there is little in my life to feel proud of.	-9.979	199	.000
I maintain a positive attitude towards myself.	-12.771	199	.000
Overall, I am satisfied with who I am.	-10.971	199	.000
Sometimes, I feel that I am not capable or good enough.	-11.656	199	.000
I experience financial independence in my life.	-10.106	199	.000
I have the freedom to take actions in my daily life.	-9.211	199	.000
I actively participate in decision-making processes.	-10.955	199	.000
I feel respected and have a sense of self-esteem.	-10.353	199	.000
My leadership and managerial abilities have improved.	-9.826	199	.000
There has been an improvement in my health and hygiene practices.	-10.989	199	.000
My level of education has improved over time.	-10.244	199	.000
I have gained good exposure to new experiences and opportunities.	-10.368	199	.000
I feel that gender equality has improved in my surroundings.	-12.760	199	.000
I am able to explore new opportunities and possibilities.	-10.489	199	.000
My skills and abilities have improved.	-12.281	199	.000
My communication skills have improved.	-11.939	199	.000

The results of the One Sample t-test conducted to measure the significant difference in personal empowerment (with test value = 3) as presented in the above table reveal that all the statements show statistically significant results. The significance values for all the variables are found to be **p = 0.000 (p < 0.05)**, indicating that there is a significant difference between the sample mean and the test value.

Further, it can be observed that all the calculated t-values are negative, which indicates that the mean scores of all the statements are lower than the test value (3). This suggests that respondents tend to agree with the statements related to personal empowerment.

Therefore, it can be concluded that tribal women associated with Non-Governmental Organizations (NGOs) have shown a significant level of agreement towards various dimensions of personal empowerment such as self-worth, positive attitude, decision-making participation, freedom of action, skill development, and communication improvement.

Thus, the null hypothesis is rejected and the alternative hypothesis is accepted, which indicates that there is a significant improvement in personal empowerment among tribal women after their association with NGOs.

Conclusion:

The present study aimed to examine the role of Non-Governmental Organizations (NGOs) in enhancing the personal empowerment of tribal women. The analysis of frequency and percentage distribution indicates that a majority of respondents have expressed agreement towards various statements related to personal empowerment, suggesting a positive perception regarding changes in their lives after associating with NGOs. Further, the descriptive statistics reveal that the mean scores of all variables fall within a moderate range, indicating a reasonable level of personal empowerment among the respondents. The findings highlight that dimensions such as self-worth, positive attitude, decision-making participation, and skill development have shown noticeable improvement. However, certain areas such as gender equality perception, health and hygiene, and exploration of opportunities reflect comparatively lower levels, suggesting scope for further enhancement. The results of the One-Sample t-test provide strong statistical support to these findings, as all the variables show significant differences ($p < 0.05$) from the test value. This confirms that the observed level of empowerment is statistically significant and not due to chance. The negative t-values further indicate that respondents tend to agree with the empowerment-related statements.

Overall, it can be concluded that NGOs have played a significant and positive role in improving the personal empowerment of tribal women. The interventions of NGOs have contributed to building confidence, enhancing decision-making abilities, improving communication skills, and providing exposure to new opportunities. The study clearly establishes that association with NGOs leads to meaningful improvements in various dimensions of empowerment. However, for achieving holistic empowerment, focused efforts are required in areas where moderate or lower levels of improvement are observed. Strengthening program interventions, increasing awareness, and ensuring sustained support can further enhance the impact of NGOs. Thus, the study concludes that NGOs act as an effective catalyst in promoting personal empowerment among tribal women and contribute significantly towards their overall development.

Suggestions:

1. **Strengthening Awareness and Capacity Building Programs:** NGOs should organize regular awareness and training programs focusing on self-confidence, legal rights, health, and gender equality to further enhance the level of personal empowerment among tribal women.
2. **Promoting Economic Independence Opportunities:** Efforts should be made to increase access to income-generating activities, skill development training, and microfinance facilities so that women can achieve greater financial independence and sustainability.
3. **Enhancing Participation in Decision-Making:** NGOs and community institutions should encourage and facilitate the active involvement of women in household as well as community-level decision-making processes to strengthen their leadership and confidence.
4. **Focus on Health, Hygiene and Education:** Special attention should be given to improving health awareness, hygiene practices, and educational opportunities, as these areas showed relatively moderate improvement and require further strengthening.
5. **Expanding Exposure and Networking Opportunities:** NGOs should create more platforms such as workshops, exposure visits, and interaction programs to help women explore new opportunities, build networks, and enhance their communication and social skills.

References

1. Kabeer, N. (2017). Resources, agency, and achievements: Reflections on the measurement of women's empowerment. *Development and Change*, 48(3), 599–617.
2. Desai, V., & Joshi, S. (2016). Role of NGOs in promoting women empowerment: A study of grassroots initiatives. *Journal of Social Development*, 12(2), 45–58.
3. Stromquist, N. P. (2015). Women's empowerment and education: Linking knowledge to transformative action. *International Journal of Educational Development*, 45, 1–9.
4. Malhotra, A., & Schuler, S. R. (2019). Women's empowerment as a variable in international development. *World Development*, 117, 1–12.
5. Banerjee, A., Duflo, E., & Glennerster, R. (2018). The impact of development programs on women's empowerment. *American Economic Review*, 108(5), 123–127.
6. Agarwal, B. (2020). Gender equality, women's empowerment, and the role of NGOs. *Feminist Economics*, 26(4), 1–26.
7. UN Women. (2021). *Progress on the Sustainable Development Goals: Gender Snapshot 2021*. United Nations.
8. Sharma, R., & Gupta, M. (2022). NGO interventions and women empowerment in rural areas: An empirical study. *Journal of Rural Development*, 41(1), 78–95.
9. Kumar, S., & Singh, P. (2023). Measuring women empowerment: Issues and challenges in quantitative research. *Social Science Review*, 39(2), 112–130.
10. Patel, R. (2024). Impact of NGO programs on women empowerment: A statistical analysis. *International Journal of Social Work*, 15(1), 55–70.
11. Batliwala, S. (2015). Engaging with empowerment: An intellectual and experiential journey. *Women's Studies International Forum*, 52, 1–10.
12. Cornwall, A. (2016). Women's empowerment: What works? *Journal of International Development*, 28(3), 342–359.
13. Sen, A. (2015). The concept of empowerment in development economics. *Development Practice*, 25(4), 541–550.
14. Mosedale, S. (2016). Assessing women's empowerment: Towards a conceptual framework. *Journal of International Development*, 28(5), 785–799.
15. Alsop, R., Bertelsen, M., & Holland, J. (2017). *Empowerment in practice: From analysis to implementation*. World Bank Publications.
16. Narayan, D. (2016). *Measuring empowerment: Cross-disciplinary perspectives*. World Bank Working Paper, 45, 1–35.
17. Charmes, J., & Wieringa, S. (2017). Measuring women's empowerment: An assessment of the gender-related development index. *World Development*, 90, 1–12.
18. Duflo, E. (2017). Women empowerment and economic development: A review. *Journal of Economic Literature*, 55(4), 1051–1079.
19. Klasen, S. (2018). Gender inequality and economic development: Implications for women empowerment. *Feminist Economics*, 24(2), 1–28.
20. World Bank. (2019). *Women, business and the law 2019*. World Bank Publications.
21. UNDP. (2020). *Human development report 2020: The next frontier*. United Nations Development Programme.

22. Mehrotra, S., & Parida, J. (2019). Role of NGOs in promoting inclusive development and women empowerment. *Indian Journal of Human Development*, 13(1), 56–70.
23. Kumar, A. (2020). Impact of self-help groups on women empowerment in India. *International Journal of Social Economics*, 47(9), 1153–1165.
24. Gupta, S., & Sharma, N. (2021). Women empowerment through NGO initiatives: A case study approach. *Journal of Gender Studies*, 30(4), 456–470.
25. Singh, R., & Kaur, P. (2021). Role of NGOs in socio-economic empowerment of women in India. *Asian Journal of Development Studies*, 10(2), 88–102.
26. Patel, M., & Desai, K. (2022). NGO interventions and women empowerment: Evidence from rural Gujarat. *Journal of Social Work Practice*, 36(2), 211–225.
27. Verma, S. (2022). Measuring personal empowerment among women: A quantitative approach. *Social Indicators Research*, 159(3), 1123–1140.
28. Joshi, R., & Mehta, P. (2023). Impact of capacity-building programs on women empowerment. *International Journal of Development Studies*, 18(1), 67–82.
29. Reddy, K., & Sinha, A. (2023). NGO-led interventions and women's agency: A statistical analysis. *Journal of Development Policy*, 14(2), 95–110.
30. Shukla, P. (2024). Women empowerment and NGO participation: A field-based study. *International Journal of Social Research*, 12(1), 34–49.