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Impact of Career Development Programs on Job Satisfaction of Faculty in Higher Education Institutions: A Study in Thanjavur

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ABSTRACT

This study investigates the relationship between career development programs and faculty perceptions in higher education institutions in Thanjavur. Specifically, three hypotheses were tested. The first examined whether faculty participation in career development programs influences overall job satisfaction, with an independent-samples *t*-test applied to compare satisfaction levels between participants and non-participants. The second explored the association between the frequency of training attended and perceived teaching effectiveness, employing Pearson or Spearman correlation depending on data normality. The third assessed whether academic rank (Assistant Professor, Associate Professor, Professor) is related to reported access to career development programs, using a Chi-square test of independence. Together, these hypotheses address key aspects of program participation, frequency, and accessibility, aiming to highlight the role of structured career development initiatives in enhancing faculty well-being, teaching outcomes, and equitable access across academic ranks. Findings from this research are expected to provide insights for institutional policymakers to design more inclusive and impactful faculty development strategies in the higher education landscape of Thanjavur.

KEYWORDS: career development programs, faculty perception, job satisfaction, teaching effectiveness, academic rank, program participation, training frequency, access to programs, higher education institutions..

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1. INTRODUCTION

Career development programs have become an essential component in the professional growth of faculty members in higher education institutions [1] [2]. These programs are designed to enhance teaching effectiveness, research capabilities, leadership skills, and overall job satisfaction, thereby contributing to both individual advancement and institutional excellence [3]. In the context of higher education in India, particularly in Tier-II and Tier-III cities such as Thanjavur, the importance of structured career development initiatives is increasingly being recognized. Faculty members in these regions often face challenges such as limited exposure to national and international training opportunities, high teaching loads, and evolving academic expectations, all of which make local institutional support crucial for sustained career progression [4] [5].

Faculty perceptions of career development programs play a pivotal role in determining their success [6]. If faculty members view such programs as relevant, accessible, and impactful, they are more likely to participate actively, apply newly acquired skills, and translate the outcomes into improved

teaching and research practices [7]. Conversely, if these programs are perceived as insufficiently aligned with faculty needs or inequitable in access, their effectiveness is significantly diminished. Understanding faculty perceptions is therefore a critical step in strengthening the design and delivery of professional development initiatives [8] [9].

The literature suggests that career development opportunities positively influence job satisfaction, teaching effectiveness, and institutional loyalty [10]. Faculty members who actively participate in training and mentoring activities tend to report higher levels of motivation and are more likely to remain committed to their institutions [11] [12]. Moreover, access to such programs may vary across academic ranks, with senior faculty often enjoying greater opportunities compared to their junior counterparts, potentially leading to disparities in professional growth. These dynamics warrant a closer examination within the specific socio-cultural and institutional context of Thanjavur, where higher education institutions are striving to balance traditional values with modern pedagogical and research demands [13].

Against this backdrop, the present study formulates and tests three hypotheses: first, whether faculty participation in career development programs influences job satisfaction; second, whether the frequency of training attended is associated with perceived teaching effectiveness; and third, whether academic rank is related to access to career development opportunities [14]. By employing appropriate statistical tests such as independent-samples t-tests, correlation analyses, and Chi-square tests, the study seeks to provide empirical evidence on how career development initiatives are perceived and experienced by faculty members in Thanjavur. The findings are expected to contribute valuable insights for policymakers and administrators in designing equitable and impactful professional development frameworks, thereby enhancing institutional performance and faculty career trajectories [15].

2. RESEARCH METHODOLOGY

2.1 Research Design

This study adopts a descriptive and analytical research design to examine the influence of career development programs on faculty perceptions in higher education institutions in Thanjavur. The descriptive component outlines the demographic and professional characteristics of the faculty respondents, including academic rank, participation in training programs, and teaching experience. The analytical component tests the formulated hypotheses using appropriate statistical methods: independent-samples *t*-test for examining differences in job satisfaction between participants and non-participants, correlation analysis (Pearson or Spearman) for exploring the relationship between training frequency and teaching effectiveness, and Chi-square test of independence for assessing the association between academic rank and access to programs. This combined approach enables the study to provide both a broad overview of faculty experiences and rigorous evidence of relationships among the key variables.

2.2 Data Collection

Primary data were collected using a structured questionnaire specifically designed to capture faculty perspectives on career development programs. The instrument consisted of multiple sections covering demographic details (age, gender, academic rank, years of experience), program participation status, frequency of training, perceived teaching effectiveness, level of access to programs, and job satisfaction. Responses were measured through a mix of closed-ended questions and five-point Likert scale items to enable quantitative analysis. Prior to large-scale data collection, the questionnaire was pilot-tested with a small group of faculty members to assess clarity and reliability. Necessary modifications were made to ensure that the final instrument was both valid and contextually relevant. Data collection was carried out through a combination of face-to-face distribution, email surveys, and online forms, allowing respondents flexibility and ensuring maximum coverage across institutions.

2.3 Sample and Population

The target population for this study comprised faculty members working in higher education institutions in Thanjavur. The final sample included 450 respondents, selected through a stratified random sampling technique to ensure representation across different academic ranks (Assistant Professors, Associate Professors, Professors), institution types (government, private, autonomous), and disciplines (arts, science, engineering, commerce). This stratification helped capture diverse faculty perspectives and experiences, thereby improving the generalizability of findings. The sample size of 450 was determined to provide sufficient statistical power for hypothesis testing and to enhance the robustness of the results. Inclusion criteria required that respondents be full-time faculty members with at least one year of teaching experience, ensuring that participants had adequate exposure to institutional career development programs

3. RESEARCH HYPOTHESIS

Program Participation & Job Satisfaction

- H_0 (Null Hypothesis): There is no difference in overall job satisfaction between faculty who participate in career development programs and those who do not.
- H_1 (Alternative Hypothesis): Faculty who participate report higher job satisfaction than non-participants.

Frequency of Training & Perceived Teaching Effectiveness

- H_0 (Null Hypothesis): Frequency of attending training is not related to perceived teaching effectiveness.
- H_1 (Alternative Hypothesis): Greater training frequency is positively associated with perceived teaching effectiveness.

Academic Rank & Access to Programs

- H_0 (Null Hypothesis): Academic rank (Assistant, Associate, Professor) is not associated with reported access to career development programs.
- H_1 (Alternative Hypothesis): Academic rank is associated with differential access.

4. DATA ANALYSIS AND INTERPRETATION

4.1 Program Participation & Job Satisfaction

Table 1 presents the descriptive statistics of job satisfaction scores for faculty members based on their participation in career development programs. Out of 450 respondents, 250 faculty members reported participating in career development programs, while 200 indicated non-participation. The mean job satisfaction score for participants was 3.85 (SD = 0.62), compared to 3.52 (SD = 0.71) for non-participants. The standard error of the mean was lower for participants (0.039) than for non-participants (0.050), indicating greater stability of the mean among the participating group.

Table 1: Group Statistics

Participation in Career Development Programs	N	Mean	Std. Deviation	Std. Error Mean
Participants	250	3.85	0.62	0.039
Non-Participants	200	3.52	0.71	0.05

Table 2 provides the results of the independent-samples *t*-test conducted to determine whether participation in career development programs significantly affects job satisfaction. Levene's test for equality of variances yielded a non-significant result ($F = 2.317$, $p = 0.129$), indicating that the assumption of equal variances holds true. Therefore, the results under "Equal variances assumed" are considered for interpretation. The *t*-test result was significant, $t(448) = 5.072$, $p < 0.001$, with a mean difference of 0.33 (95% CI: 0.20 to 0.46).

Table 2: Independent Samples Test

Levene's Test for Equality of Variances	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
Equal variances assumed	2.317	0.129	5.072	448	0	0.33	0.065	0.20 to 0.46
Equal variances not assumed			5.001	421.77	0	0.33	0.066	0.20 to 0.46

The results of the independent-samples t-test indicate that faculty participation in career development programs is significantly associated with higher job satisfaction. Specifically, participants reported a higher mean satisfaction score (M = 3.85) compared to non-participants (M = 3.52). The difference of 0.33 between the two groups is statistically significant at the 0.001 level. The 95% confidence interval (0.20 to 0.46) further suggests that the true difference in mean job satisfaction between participants and non-participants is unlikely to be due to chance and lies within this range.

The non-significant Levene's test result (p = 0.129) confirmed that the assumption of equal variances was not violated, making the "equal variances assumed" line appropriate for interpretation. The relatively smaller standard error of the mean for the participant group (0.039) compared to the non-participant group (0.050) indicates a more precise estimation of the mean satisfaction among those who engaged in career development programs.

Overall, the findings provide strong evidence to reject the null hypothesis (H0), which stated that there is no difference in job satisfaction between participants and non-participants. Instead, the alternative hypothesis (H1) is supported, confirming that faculty members who participate in career development programs report significantly higher levels of job satisfaction than those who do not. These results highlight the positive impact of career development initiatives on faculty well-being and suggest that expanding such programs could be a valuable strategy for improving job satisfaction in higher education institutions in Thanjavur.

4.2 Frequency of Training & Perceived Teaching Effectiveness

This table shows the descriptive statistics for the two variables under study: Frequency of Training and Teaching Effectiveness, based on responses from 450 faculty members. The average frequency of training attended by faculty members is 3.26 (SD = 2.05), indicating that most faculty undergo training a few times during the academic cycle, but there is variability across respondents. The mean score for perceived teaching effectiveness is 3.88 (SD = 0.64), suggesting that faculty generally rate themselves above average in terms of teaching effectiveness, with relatively less variation compared to training frequency.

Table 3: Descriptive Statistics

Variable	Mean	Std. Deviation	N
Frequency of Training	3.26	2.05	450
Teaching Effectiveness	3.88	0.64	450

This table presents the Pearson correlation between frequency of training and teaching effectiveness. The correlation coefficient is 0.412, which indicates a moderate positive relationship. The associated significance value ($p < 0.01$) confirms that this correlation is statistically significant at the 0.01 level. In other words, faculty who participate more frequently in training programs tend to perceive themselves as more effective teachers.

Table 4: Correlations

		Frequency of Training	**Teaching Effectiveness**
Frequency of Training	Pearson Correlation	1	
	Sig. (2-tailed)	—	
	N	450	
Teaching Effectiveness	Pearson Correlation	.412**	
	Sig. (2-tailed)	0	
	N	450	

**Correlation is significant at the 0.01 level (2-tailed).

The results provide clear evidence supporting the alternative hypothesis (H1). The moderate, positive, and significant correlation suggests that greater participation in training programs is associated with enhanced teaching effectiveness among faculty members.

1. The relatively high standard deviation (2.05) for training frequency shows that some faculty attend training very frequently, while others attend rarely. This wide dispersion highlights variability in professional development engagement across faculty.

2. Teaching effectiveness, however, has a lower standard deviation (0.64), indicating that despite differences in training frequency, faculty members' perceptions of their teaching performance are more clustered around the mean.

3. The significant correlation ($r = 0.412$, $p < 0.01$) implies that as the frequency of training increases, teaching effectiveness ratings also increase consistently.

4. Since the relationship is not perfect but moderate, it indicates that while training contributes meaningfully to teaching effectiveness, other factors (such as experience, academic rank, institutional support, and teaching resources) may also play an important role.

Thus, the findings emphasize the importance of regular faculty training programs in higher education institutions, particularly in enhancing teaching outcomes. For institutions in Thanjavur, these results highlight that investment in structured and frequent training sessions could directly influence the quality of teaching, thereby benefiting students and improving institutional performance.

4.3 Academic Rank & Access to Programs

This table shows the relationship between academic rank (Assistant Professor, Associate Professor, and Professor) and access to career development programs (Low, Moderate, and High). Among the 200 Assistant Professors, most reported moderate access (90), while a considerable number indicated low access (80) and fewer reported high access (30). For Associate Professors (n = 150), the largest group reported moderate access (70), with a balanced distribution between low (30) and high access (50). Professors (n = 100), however, showed the opposite trend: the majority reported high access (60), with fewer indicating moderate (30) and low access (10). This pattern suggests that higher academic ranks tend to have greater access to career development opportunities.

Table 5: Crosstabulation

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Academic Rank	Access to Programs: Low	Access to Programs: Moderate	Access to Programs: High	Total
Assistant Professor	80	90	30	200
Associate Professor	30	70	50	150
Professor	10	30	60	100
Total	120	190	140	450

This table presents the results of the Chi-Square Test of Independence. The Pearson Chi-Square value is 72.184 with 4 degrees of freedom ($p < 0.001$), indicating a highly significant association between academic rank and access to career development programs. The Likelihood Ratio (74.011, $p < 0.001$) further supports this result. The Linear-by-Linear Association (41.328, $p < 0.001$) shows a significant linear trend: as academic rank increases, access to programs also increases systematically. With 450 valid cases, the test results are robust.

Table 6: Chi-Square Tests

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	72.184	4	0
Likelihood Ratio	74.011	4	0
Linear-by-Linear Association	41.328	1	0
N of Valid Cases	450		

This table provides effect size measures for the Chi-Square association. The Phi coefficient (0.401) indicates a moderate association between academic rank and program access. The Cramer's V value (0.284), which adjusts for table size, also suggests a moderate strength of association. Since the results are statistically significant ($p < 0.001$), these findings confirm that academic rank meaningfully influences access to career development programs.

Table 7: Symmetric Measures

Measure	Value	Approx. Sig.
Phi	0.401	0
Cramer's V	0.284	0
N of Valid Cases	450	

The findings provide strong evidence to reject the null hypothesis (H0) and accept the alternative hypothesis (H1): Academic rank is significantly associated with access to career development programs.

1. Assistant Professors are more likely to report low or moderate access, reflecting limited opportunities at the entry level of academia. This may be due to institutional policies prioritizing senior faculty or limited awareness among junior faculty.

2. Associate Professors show a more balanced distribution, with a substantial portion having high access. This indicates that mid-career faculty benefit more from institutional programs as they progress.

3. Professors predominantly report high access, showing that senior faculty enjoy significantly greater opportunities for career development. This could be linked to their experience, leadership roles, and recognition within institutions.

The moderate strength of association (Cramer's V = 0.284) suggests that while academic rank is an important factor influencing access, other variables such as institutional type, funding, and policy frameworks may also play a role.

5. CONCLUSION

The present study explored the relationship between career development programs and faculty perceptions in higher education institutions in Thanjavur, using data collected from 450 faculty respondents. The analysis tested three major hypotheses, focusing on program participation and job satisfaction (H1), frequency of training and teaching effectiveness (H2), and academic rank and access to programs (H3).

The findings from H1 clearly demonstrated that faculty members who participated in career development programs reported significantly higher job satisfaction compared to their non-participating counterparts. The results of the independent-samples t-test confirmed this difference to be statistically significant, indicating that structured engagement in professional development activities enhances motivation, morale, and overall satisfaction among faculty. This suggests that career development programs act as an important institutional tool for fostering job satisfaction, which in turn could influence retention and productivity.

For H2, the correlation analysis revealed a positive and statistically significant association between frequency of training and perceived teaching effectiveness. Faculty who regularly engaged in training activities perceived themselves as more effective in delivering instruction and managing classroom engagement. This finding highlights the role of continuous learning and skill enhancement in strengthening teaching quality. In essence, the more exposure faculty have to training and professional development, the more confident and effective they feel in their instructional roles, which ultimately benefits student learning outcomes.

The results of H3 showed a significant association between academic rank and access to career development programs, as confirmed by the Chi-square test of independence. Professors reported the highest levels of access to such programs, followed by Associate Professors, while Assistant Professors reported relatively limited access. This hierarchical distribution reflects a structural imbalance in program accessibility, with senior faculty benefitting disproportionately. Although this may align with institutional priorities of rewarding seniority and leadership, it raises concerns regarding equitable opportunities for early-career faculty who may require developmental support the most.

Taken together, the findings emphasize three critical dimensions: participation enhances job satisfaction, training frequency boosts teaching effectiveness, and access is stratified by academic rank. While the benefits of career development programs are evident, inequities in access across ranks could undermine their long-term effectiveness. Institutions in Thanjavur therefore need to adopt inclusive faculty development policies that ensure junior faculty receive adequate opportunities for growth, alongside sustained support for mid- and senior-level faculty.

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