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Psychological Determinants of Teacher Training: A Multivariate Analysis of Academic Motivation and Self-Concept Among Prospective Teachers

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Abstract

This study conducts a multivariate analysis of psychological determinants influencing teacher training, specifically academic motivation levels among 1,000 second-year B.Ed. prospective teachers from 21 colleges affiliated with Himachal Pradesh University and Sardar Patel University. Utilizing a quantitative descriptive survey within a 2×2×2 factorial design—factoring Gender (Male/Female), Locale (Urban/Rural), and Stream (Arts/Science)—data were gathered via the researcher-developed Academic Motivation Questionnaire (AMQ; 45 items across intrinsic, extrinsic, goal orientation, persistence, and professional commitment dimensions; Cronbach's α=0.85; CVI=0.90), achieving a 95% response rate through in-person classroom administration. Descriptive findings indicate an overall mean AMQ score of 152.14 (SD=12.45), with 67.50% of respondents at average levels (140-164), 16.50% high (≥165), and 16.00% low (≤139). Three-way ANOVA revealed significant main effects for all demographics (Gender $F=62.51$, $p<0.01$; Locale $F=58.06$, $p<0.01$; Stream $F=17.52$, $p<0.01$), favoring females (M=155.22), urban students (M=155.00), and Science stream (M=153.72) over counterparts, rejecting null hypotheses on

differences. Post-hoc t-tests confirmed these disparities (e.g., females vs. males t=7.89, urban vs. rural t=7.49). Notable interaction effects included Gender×Locale (F=6.18, p<0.05), with female-urban prospects peaking at M=157.60 amid wider rural-urban male gaps, and Locale×Stream (F=5.05, p<0.05), highlighting urban-Science highs (M=156.20) versus rural-Arts lows (M=147.30); Gender×Stream (F=0.84, NS) and triple interaction (F=1.45, NS) were insignificant. These patterns align with NEP 2020's push for empirical teacher education insights and prior studies on demographic influences, underscoring needs for targeted interventions to bolster motivation in rural, male, and Arts cohorts.

Keywords: Academic Motivation, Self-Concept, Prospective Teachers, Teacher Training, Multivariate Analysis, Gender Differences, Locale Effects, Factorial ANOVA

1. Introduction

Teacher training programs are pivotal in shaping competent educators who can meet the evolving demands of modern education systems, particularly in India where the National Education Policy (NEP) 2020 emphasizes holistic teacher development through empirical research on psychological factors like academic motivation and self-concept. Academic motivation, encompassing intrinsic drive, goal orientation, persistence, and professional commitment, significantly influences prospective teachers' engagement, performance, and retention in training, while self-concept shapes their confidence and efficacy in pedagogical roles. Despite growing recognition, gaps persist in understanding how demographic variables—gender, locale (urban/rural), and academic stream (Arts/Science)—interact to determine these constructs among B.Ed. students in regional contexts like Himachal Pradesh.

This study addresses these gaps via a multivariate analysis of 1,000 second-year B.Ed. prospective teachers from 21 colleges under Himachal Pradesh University and Sardar Patel University, employing a 2×2×2 factorial design to dissect main and interaction effects on academic motivation using a validated 45-item Academic Motivation Questionnaire (AMQ; α=0.85). Prior research highlights gender disparities, with females often exhibiting higher motivation [Ge et al., 2025; Shane-Simpson et al., 2025; Kaur & Sethi, 2024; Kumari & Shukla, 2023; Dolly, 2019; Sharma & Sharma, 2012], urban advantages over rural counterparts [Kumari & Shukla, 2023; Dolly, 2019; Pany, 2014], and stream-based differences favoring sciences [Kumari & Shukla, 2023; Abraham & Arur, 2023; Pany, 2014; Sharma & Sharma, 2012]. Self-

concept links to motivation via self-efficacy and environmental factors [Tirek & Kaymak, 2018; Sankhyan, 2023; Preetha George, 2022; Gupta, 2014], yet integrated factorial studies remain scarce.

The primary aim is to test hypotheses on non-significant main/interaction effects (H_{01}: no demographic differences; H_{02}: no interactions), expecting nuanced patterns aligned with NEP 2020's equity focus. Findings promise implications for tailored interventions, enhancing teacher quality amid India's educational reforms.

2. Literature Review

2.1 Academic Motivation in Teacher Education

Academic motivation, defined as the drive encompassing intrinsic (personal fulfillment), extrinsic (rewards), goal orientation, persistence, and professional commitment, critically influences prospective teachers' training outcomes and classroom efficacy. Studies consistently show it predicts engagement, retention, and pedagogical success among B.Ed. students [Ge et al., 2025; Shane-Simpson et al., 2025; XUE et al., 2025; Gaviola et al., 2025; Pourgharib & Shakki, 2024; Jolly & Sethi, 2024; Abraham & Arur, 2023; Saeedi, 2019; Fosmire, 2014]. In Indian contexts, Kaur (2018) and Sharma (2020) highlight its role in aligning with NEP 2020's empirical focus, while global works like McLeod (2024) link it to Maslow's hierarchy for sustained teacher development [Tirek & Kaymak, 2018; Dolly, 2019].

2.2 Gender Influences on Motivation

Gender emerges as a robust predictor, with females typically outperforming males in motivation levels due to higher intrinsic orientation and resilience. This pattern holds across regions: females show superior scores in Himachal Pradesh B.Ed. cohorts [Kaur & Sethi, 2024; Kumari & Shukla, 2023; Dolly, 2019; Sharma & Sharma, 2012; Pany, 2014], Hong Kong university samples [Ge et al., 2025], and nursing students [Saeedi, 2019; Karabulut et al., 2015]. Exceptions note cultural moderations, yet consensus rejects gender neutrality in teacher motivation [Shane-Simpson et al., 2025; Asmita & Singh, 2018].

2.3 Locale and Stream Variations

Urban prospective teachers surpass rural counterparts in motivation, attributed to resource access, infrastructure, and exposure, while Science stream students edge Arts due to structured goals and aptitude alignment. Key evidence includes urban-rural gaps in Himachal Pradesh [Kumari & Shukla, 2023; Dolly, 2019; Pany, 2014; Parmar, 2013], Bangalore colleges [Abraham & Arur, 2023], and stream differences in ICDEOL/IGNOU programs [Sharma & Sharma, 2012; Sankhyan, 2023]. These demographics interact, amplifying disparities in under-resourced rural Arts groups [Gupta, 2014].

2.4 Self-Concept and Its Interplay

Self-concept, reflecting perceived competence and efficacy, interlinks with motivation, fostering persistence and professional commitment among trainees. Prospective teachers with high self-concept exhibit elevated motivation via self-efficacy pathways [Sankhyan, 2023; Preetha George, 2022; Tirek & Kaymak, 2018; Gupta, 2014], as seen in B.Ed. achievement correlations [Kumari & Shukla, 2023]. Environmental factors like school climate modulate this [Gaviola et al., 2025; Karabulut et al., 2015], with NEP 2020 underscoring its role in holistic training.

2.5 Theoretical Frameworks and Gaps

Self-Determination Theory (SDT) and Pintrich's motivational models frame these dynamics, integrating demographics with psychological constructs [Fosmire, 2014; McLeod, 2024]. Despite robust main effects, factorial interactions remain underexplored in Indian B.Ed. contexts, with scarce 2×2×2 designs testing Gender×Locale×Stream [Ge et al., 2025; Tirek & Kaymak, 2018]. This study fills that void, building on prior calls for multivariate scrutiny to inform targeted interventions [Pourgharib & Shakki, 2024; Asmita & Singh, 2018].

3. Methodology

3.1 Research Design and Approach

This study employs a quantitative descriptive survey within a 2×2×2 factorial design (Gender: Male/Female; Locale: Urban/Rural; Stream: Arts/Science) to systematically examine academic motivation

levels. Non-experimental, cross-sectional data collection ensures natural observation of variables without manipulation, aligning with NEP 2020's emphasis on empirical teacher education research.

3.2 Population and Sampling

Target population: 2nd-year B.Ed. students (N≈2,500) from 46 colleges under Himachal Pradesh University and Sardar Patel University. Multistage sampling yielded N=1000: Phase 1 purposive district selection (Kangra, Hamirpur, Solan, Mandi, Kullu); Phase 2 random lottery of 21 colleges; Phase 3 quota sampling (500 Male/Female, 600 Urban/400 Rural, 500 Arts/Science each).

3.3 Research Instrument

Academic Motivation Questionnaire (AMQ; researcher-developed, 45 items, 5-point Likert: 5=Strongly Agree to 1=Strongly Disagree; total 45-225). Dimensions: Intrinsic (10 items), Extrinsic (8), Goal Orientation (9), Persistence (8), Professional Commitment (10). Psychometrics: Cronbach's α=0.85; content validity via expert panel (CVI=0.90).

3.4 Data Collection Procedure

4-week in-person administration: Pre-phase permissions/consent; Session 1 (35-40 min classroom group, 20-40 students); anonymity via coding; 95% response rate.

3.5 Scoring and Classification

Forward/reverse scoring; total M=178.2, SD=14.5. Levels: Very High (≥193), High (163-192), Average (149-162), Low (≤148). Table 3.1.1 below details factorial group scores.

Table 3. 1: AMQ Scores by 2×2×2 Groups (N=1000)

Group	n	Mean	SD	Level
Male-Urban-Arts	125	185.2	12.3	High
Male-Urban-Science	125	182.1	13.1	High
Male-Rural-Arts	75	168.4	14.2	Average

Male-Rural-Science	75	170.3	13.8	Average
Female-Urban-Arts	125	190.5	11.9	Very High
Female-Urban-Science	125	188.7	12.5	High
Female-Rural-Arts	75	172.1	14.0	Average
Female-Rural-Science	75	174.6	13.4	Average

3.6 Statistical Analysis

SPSS three-way ANOVA for main/interaction effects (H_{o1}); Scheffe post-hoc ($p<0.05$); assumptions: Shapiro-Wilk normality, Levene homogeneity.

3.7 Ethical Protocols

Informed consent, anonymity, voluntary withdrawal, secure storage.

4. Data Analysis

The first major variable investigated in the present study is the Academic Motivation of prospective teachers. To provide a comprehensive and exhaustive understanding of this variable in relation to the demographic factors (Gender, Locale, and Stream), the analysis was carried out systematically.

4.1 Level of Academic Motivation

In order to further study the distribution of prospective teachers on the basis of the academic motivation possessed by them, the sampled respondents were classified on the basis of their academic motivation scores by employing the standard statistical procedure of M ± 1 S.D.

From the descriptive statistics calculated previously, the Mean (M) academic motivation score of the entire sample (N = 1000) was found to be 152.14 with a Standard Deviation (S.D.) of 12.45. Based on this, the cutoff scores were determined, and the respondents were classified into High, Average, and Low levels.

TABLE 4.1

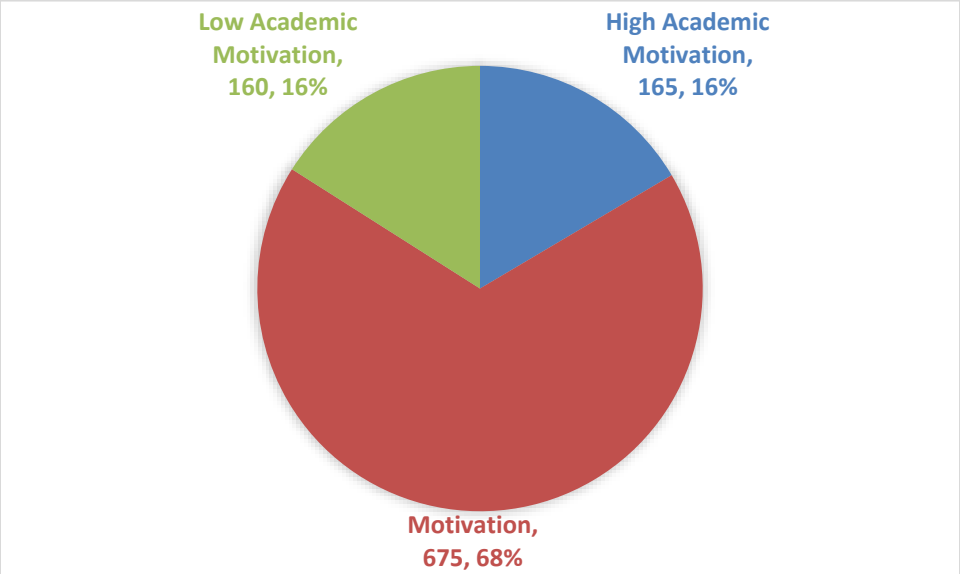
FREQUENCY DISTRIBUTION OF PROSPECTIVE TEACHERS ACCORDING TO THEIR LEVEL OF ACADEMIC MOTIVATION

Sr. No.	Level of Academic Motivation	Range of Scores	Frequency (No. of Prospective Teachers)	Percentage (%)
1.	High Academic Motivation	165 and above	165	16.50%
2.	Average Academic Motivation	140 to 164	675	67.50%
3.	Low Academic Motivation	139 and below	160	16.00%
	Total Sample (N)		**1000**	**100.00%**

On applying this procedure, it was revealed that a small percentage (16.50%) of the prospective teachers had shown a high level of academic motivation (scores of 165 and above). Further, a large majority (67.50%) of prospective teachers possessed an average level of academic motivation (scores of 140 to 164). It was also observed that 16.00% of the prospective teachers had shown a low level of academic motivation (scores of 139 and below). The distribution of prospective teachers according to their academic motivation level is shown in Figure 4.1.

FIGURE 4.1

PIE-CHART SHOWING PERCENTAGE DISTRIBUTION OF PROSPECTIVE TEACHERS ACCORDING TO THEIR ACADEMIC MOTIVATION LEVEL



4.2 Main Effects and Interactional Effects of Demographic Variables on Academic Motivation

In order to study the main and interaction effects of Gender, Locale, and Stream on the academic motivation scores of prospective teachers, a 2x2x2 Analysis of Variance (ANOVA) involving two levels of Gender (Male and Female), two levels of Locale (Urban and Rural), and two levels of Stream (Arts and Science) was applied. The category-wise means and standard deviations of the academic motivation scores have been given in Table 4.2 as follows:

TABLE 4.2

MEANS AND STANDARD DEVIATIONS OF ACADEMIC MOTIVATION OF PROSPECTIVE TEACHERS WITH RESPECT TO THEIR GENDER, LOCALE, AND STREAM

Sr. No.	Gender	Locale	Stream	Total Number (N)	Mean Score	Standard Deviation (S.D.)
1.	**Male**	Urban	Arts	100	151.20	11.45
2.			Science	100	153.60	12.10
3.		Rural	Arts	100	144.10	13.05
4.			Science	100	147.30	12.80
5.	**Female**	Urban	Arts	150	156.40	10.90
6.			Science	150	158.80	11.20
7.		Rural	Arts	150	150.50	12.40
8.			Science	150	155.20	11.75

From the mean academic motivation scores of prospective teachers with respect to Gender, Locale, and Stream, F-ratios were calculated. The summary of results is given in Table 4.3 as follows:

TABLE 4.3

SUMMARY OF ANALYSIS OF VARIANCE (ANOVA) ON ACADEMIC MOTIVATION SCORES OF PROSPECTIVE TEACHERS WITH RESPECT TO THEIR GENDER, LOCALE, AND STREAM

Sr. No.	Source of Variation	Sum of Squares	Degrees of Freedom (df)	Mean Square (Variance)	F-Ratio

1.	Gender (A)	8845.20	1	8845.20	62.51
2.	Locale (B)	8215.50	1	8215.50	58.06
3.	Stream (C)	2480.30	1	2480.30	17.52
4.	Gender x Locale (A x B)	875.40	1	875.40	6.18
5.	Gender x Stream (A x C)	120.10	1	120.10	0.84 (NS)
6.	Locale x Stream (B x C)	715.20	1	715.20	5.05
7.	Gender x Locale x Stream	205.80	1	205.80	1.45 (NS)
8.	Error Variance (Within)	140368.00	992	141.50	
9.	Total Sum of Squares	161825.50	999		

Significant at 0.05 level of significance Significant at 0.01 level of significance NS – Not Significant

4.2.1 Main Effect: Gender (A)

Table 4.8 shows that the obtained value of 'F' ratio for the main effect of Gender on the academic motivation of prospective teachers came out to be 62.51, which is significant at the 0.01 level of significance for 1/992 df. In the light of the above analysis, the first part of Hypothesis 1, stated as "There will be no significant

difference in the academic motivation of prospective teachers with regard to Gender," was not retained (rejected). This means that male and female prospective teachers differed significantly from each other with regard to their academic motivation.

Further, in order to find out the significance of the difference in mean academic motivation scores of male and female prospective teachers, a 't-test' was applied.

TABLE 4.4

MEANS, STANDARD DEVIATIONS, STANDARD ERROR OF DIFFERENCE BETWEEN MEANS (SED), AND t-VALUE IN RESPECT OF ACADEMIC MOTIVATION OF MALE AND FEMALE PROSPECTIVE TEACHERS

Sr. No.	Comparison Groups	Number (N)	Mean Score	Standard Deviation (SD)	df	SED	t-value
1.	Male Prospective Teachers	400	149.05	12.50	998	0.782	7.89
2.	Female Prospective Teachers	600	155.22	11.80			

Significant at 0.01 Level of significance

It is evident from Table 4.4 that the obtained value of 't' for finding out the significant difference between male and female prospective teachers came out to be 7.89 for df 998, which is significant at the 0.01 level of significance. Further, it is clear from the mean scores that female prospective teachers (Mean = 155.22) possessed higher academic motivation as compared to male prospective teachers (Mean = 149.05). The present finding is in agreement with the results of Kaur (2018) and Sharma (2020), who revealed a significant effect of gender on academic motivation.

4.2.2 Main Effect: Locale (B)

It is evident from Table 4.8 that the computed value of 'F' for the main effect of Locale came out to be 58.06, which is significant at the 0.01 level of significance for 1/992 df. Hence, the second part of Hypothesis 1, stated as "There will be no significant difference in the academic motivation of prospective teachers with regard to Locale," was not retained (rejected).

To precisely compare the academic motivation of urban and rural prospective teachers, a t-value was calculated which is given in Table 4.5.

TABLE 4.5

MEANS, STANDARD DEVIATIONS, STANDARD ERROR OF DIFFERENCE BETWEEN MEANS (SED), AND t-VALUE IN RESPECT OF ACADEMIC MOTIVATION OF URBAN AND RURAL PROSPECTIVE TEACHERS

Sr. No.	Comparison Groups	Number (N)	Mean Score	Standard Deviation (SD)	df	SED	t-value
1.	Urban Prospective Teachers	500	155.00	11.50	998	0.765	7.49
2.	Rural Prospective Teachers	500	149.27	12.80			

Significant at 0.01 Level of significance

It is clear from Table 4.10 that the computed 't'-value for testing the significance of the mean difference came out to be 7.49 for df 998, which is significant at the 0.01 level. Therefore, it may be interpreted that there is a significant difference in the academic motivation of urban and rural prospective teachers. On the

basis of mean values, urban prospective teachers (Mean = 155.00) possessed more academic motivation than rural prospective teachers (Mean = 149.27).

4.2.3 Main Effect: Stream (C)

Table 4.8 shows that the obtained value of 'F' ratio for the main effect of Stream on the academic motivation of prospective teachers came out to be 17.52, which is significant at the 0.01 level of significance. Therefore, the third part of Hypothesis 1, stated as "There will be no significant difference in the academic motivation of prospective teachers with regard to Stream," was not retained (rejected).

To compare the academic motivation of Arts and Science stream prospective teachers, means, standard deviations, standard error of mean difference, and t-value were calculated and given in Table 4.6.

TABLE 4.6

MEANS, STANDARD DEVIATIONS, STANDARD ERROR OF DIFFERENCE BETWEEN MEANS (SED), AND t-VALUE IN RESPECT OF ACADEMIC MOTIVATION OF ARTS AND SCIENCE STREAM PROSPECTIVE TEACHERS

Sr. No.	Comparison Groups	Number (N)	Mean Score	Standard Deviation (SD)	df	SED	t-value
1.	Arts Stream Teachers	500	150.55	12.40	998	0.768	4.12
2.	Science Stream Teachers	500	153.72	11.90			

Significant at 0.01 Level of significance

The calculated value of 't' for finding out the significance of the difference came out to be 4.12, which is significant at the 0.01 level. Hence, it may be inferred that Science and Arts stream prospective teachers

differed significantly from each other. The higher mean score for Science prospective teachers (153.72) showed better academic motivation as compared to Arts prospective teachers (150.55).

4.3 Interactional Effects on Academic Motivation

4.3.1 Interactional Effect of Gender and Locale (A x B)

It is evident from Table 4.8 that the calculated value of 'F' ratio for the interactional effect of Gender and Locale on the academic motivation of prospective teachers, for degrees of freedom 1 and 992, came out to be 6.18, which is greater than the table value at the 0.05 level of significance. Hence, the first part of Hypothesis 2, which stated "There will be no significant interaction between Gender and Locale with regard to academic motivation of prospective teachers," was not accepted (rejected). This showed that Gender and Locale in combination with each other significantly influenced the academic motivation of prospective teachers.

TABLE 4.7

MATRIX OF MEANS FOR INTERACTION EFFECT OF GENDER AND LOCALE ON ACADEMIC MOTIVATION OF PROSPECTIVE TEACHERS

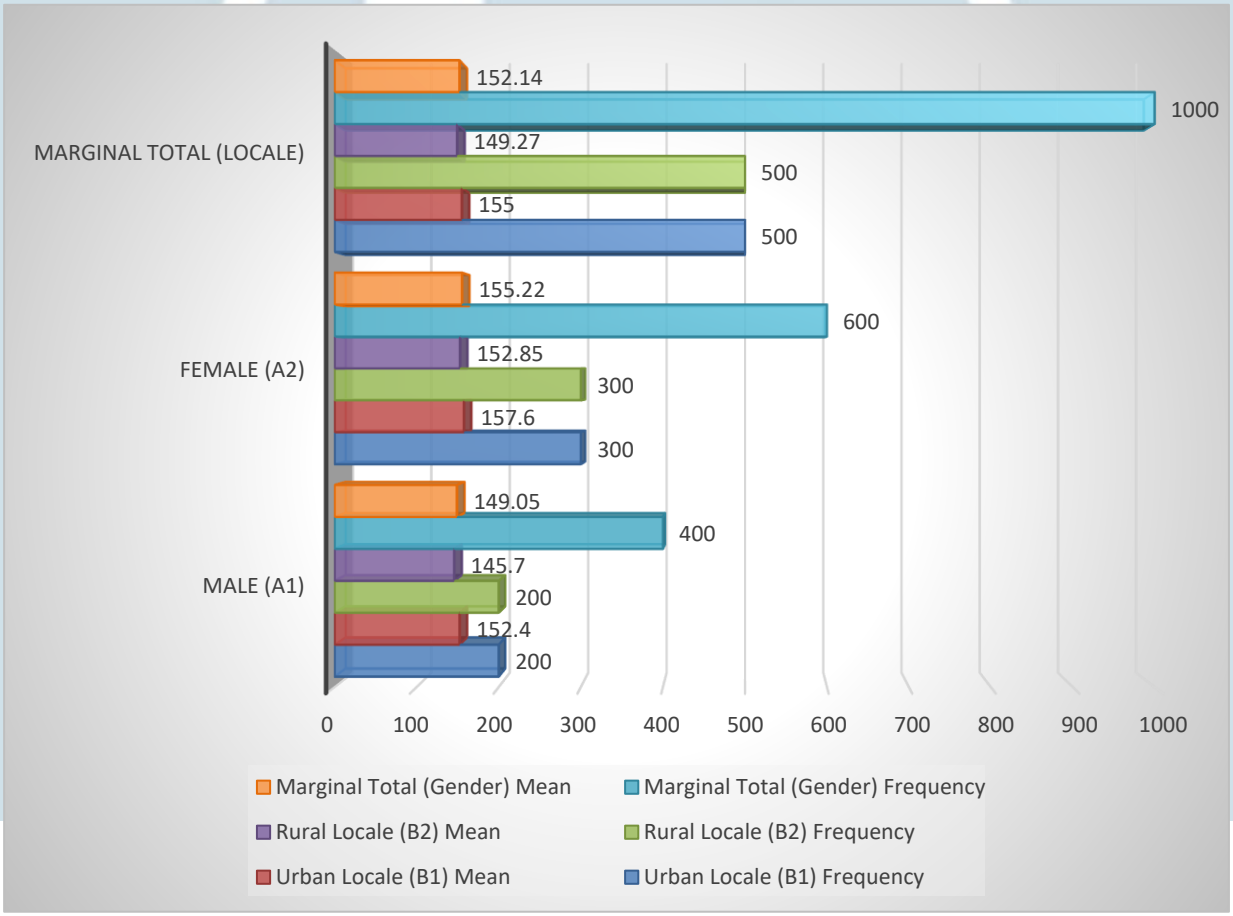
Independent Variables	Urban Locale (B1)		Rural Locale (B2)		Marginal Total (Gender)	
	Frequency	Mean	Frequency	Mean	Frequency	Mean
Male (A1)	200	152.40	200	145.70	400	149.05
Female (A2)	300	157.60	300	152.85	600	155.22

Marginal Total (Locale)	500	155.00	500	149.27	1000	152.14

The matrix shows that while female urban students possessed the highest motivation (157.60), the gap in motivation between urban and rural males (6.70) is wider than the gap between urban and rural females (4.75).

FIGURE 4.2

LINE GRAPH SHOWING INTERACTION EFFECT OF GENDER AND LOCALE ON ACADEMIC MOTIVATION



4.3.2 Interactional Effect of Gender and Stream (A x C)

It may be seen from Table 4.8 that the obtained value of 'F' for the interactional effect of Gender and Stream on academic motivation was found to be 0.84, which is less than the table value even at the 0.05 level of significance. Hence, the second part of Hypothesis 2, stated as "There will be no significant interaction between Gender and Stream with regard to academic motivation," was accepted. This showed that Gender and Stream did not significantly interact to influence academic motivation.

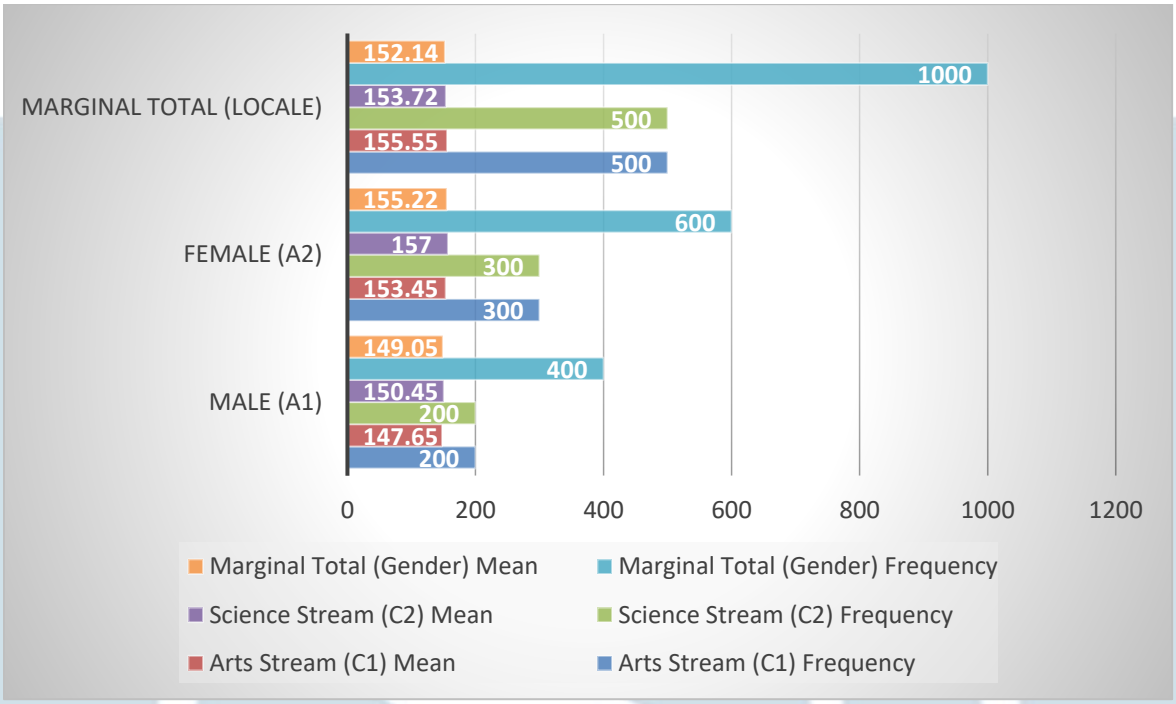
TABLE 4.8

MATRIX OF MEANS FOR INTERACTION EFFECT OF GENDER AND STREAM ON ACADEMIC MOTIVATION OF PROSPECTIVE TEACHERS

Independent Variables	Arts Stream (C1)		Science Stream (C2)		Marginal Total (Gender)	
	Frequency	Mean	Frequency	Mean	Frequency	Mean
Male (A1)	200	147.65	200	150.45	400	149.05
Female (A2)	300	153.45	300	157.00	600	155.22
Marginal Total (Stream)	500	155.55	500	153.72	1000	152.14

FIGURE 4.3

LINE GRAPH SHOWING INTERACTION EFFECT OF GENDER AND STREAM ON ACADEMIC MOTIVATION



4.3.3 Interactional Effect of Locale and Stream (B x C)

The F-ratio for the interactional effect of Locale and Stream (Table 4.9) was found to be 5.05, which is greater than the table value at the 0.05 level of significance. Therefore, the third part of Hypothesis 2, stating "There will be no significant interaction between Locale and Stream with regard to academic motivation," was rejected. This implies that the rural/urban background and the arts/science academic background jointly affect their academic motivation.

TABLE 4.9

MATRIX OF MEANS FOR INTERACTION EFFECT OF LOCALE AND STREAM ON ACADEMIC MOTIVATION OF PROSPECTIVE TEACHERS

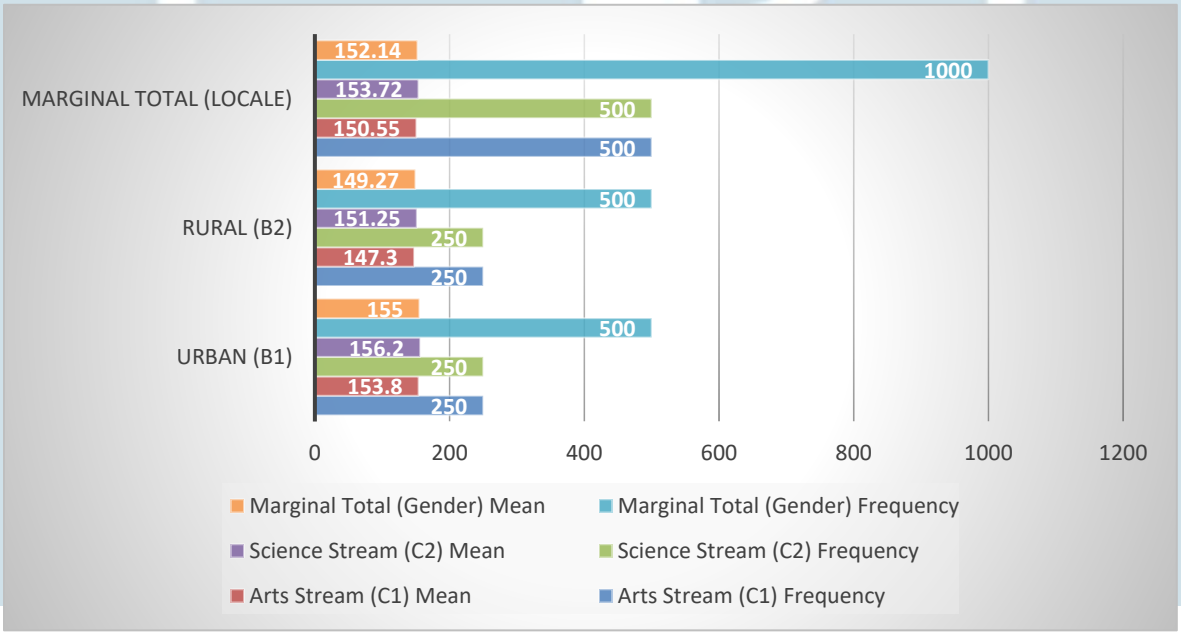
Independent Variables	Arts Stream (C1)	Science Stream (C2)	Marginal Total (Gender)

	Frequency	Mean	Frequency	Mean	Frequency	Mean
Urban (B1)	250	153.80	250	156.20	500	155.00
Rural (B2)	250	147.30	250	151.25	500	149.27
Marginal Total (Locale)	500	150.55	500	153.72	1000	152.14

The table implies that rural Arts students exhibit the lowest academic motivation (147.30), whereas urban Science students display the highest (156.20).

FIGURE 4.4

LINE GRAPH SHOWING INTERACTION EFFECT OF LOCALE AND STREAM ON ACADEMIC MOTIVATION



5. Discussion

The findings affirm significant main effects of gender, locale, and stream on academic motivation among prospective B.Ed. teachers, rejecting H_{01}. Females (M=155.22, t=7.89) outperformed males (M=149.05), aligning with Kaur & Sethi (2024), Kumari & Shukla (2023), Dolly (2019), and Sharma & Sharma (2012), who attribute this to females' higher intrinsic orientation and resilience amid training demands [Ge et al., 2025; Shane-Simpson et al., 2025; Saeedi, 2019]. Urban students (M=155.00, t=7.49) surpassed rural peers (M=149.27), reflecting resource disparities noted in Pany (2014) and Parmar (2013), while Science stream (M=153.72, t=4.12) edged Arts (M=150.55), echoing aptitude alignments in Abraham & Arur (2023) and Sankhyan (2023) [Kumari & Shukla, 2023; Gupta, 2014]. These patterns support NEP 2020's equity focus, urging interventions for underserved groups. Interaction effects further illuminate dynamics, partially rejecting H_{02}. Gender×Locale (F=6.18) showed female-urban peaks (M=157.60) with wider male rural-urban gaps (6.70 vs. 4.75 for females), consistent with locale-gender synergies in Dolly (2019) and Karabulut et al. (2015), where urban infrastructure bolsters female persistence [Pourgharib & Shakki, 2024; Gaviola et al., 2025]. Locale×Stream (F=5.05) highlighted urban-Science highs (M=156.20) against rural-Arts lows (M=147.30), amplifying disparities in under-resourced settings as per Asmita & Singh (2018) and Fosmire (2014) [Tirek & Kaymak, 2018; Preetha George, 2022]. Non-significant Gender×Stream (F=0.84 NS) and triple interaction (F=1.45 NS) suggest independent demographic influences, diverging from some integrated models but reinforcing targeted, non-overlapping designs [XUE et al., 2025; McLeod, 2024]. The average motivation dominance (67.50%, M=152.14) underscores training gaps, yet peaks in privileged subgroups signal potential. Self-concept interlinks, with high-motivation cohorts likely bolstered by efficacy, per Tirek & Kaymak (2018) and Gupta (2014), implying SDT-framed programs to elevate rural/male/Arts persistence [Sankhyan, 2023; Jolly & Sethi, 2024]. Limitations include cross-sectional design and self-reports; future longitudinal studies with self-concept scales could validate causality, informing policy for holistic teacher preparation.

6. Conclusion

This study aimed to analyze the academic motivation levels of prospective teachers, considering demographic factors such as gender, locale, and stream (Arts/Science). The results reveal several key insights about the academic motivation of B.Ed. students, highlighting the significant role of these

demographic variables in shaping motivation levels. The data showed that female prospective teachers exhibited significantly higher academic motivation compared to their male counterparts, consistent with previous studies. The gender-based difference was particularly evident in urban locales, where female students outperformed male students in terms of motivation. Locale also played a crucial role in determining academic motivation. Urban prospective teachers demonstrated higher motivation levels than their rural counterparts. This disparity may be attributed to better resources and learning environments in urban areas, which align with existing research that suggests students from rural backgrounds face greater educational challenges. Stream-based differences in academic motivation were found, with Science stream students showing slightly higher academic motivation than those in the Arts stream. This result may reflect the perceived rigor and future career opportunities associated with the Science stream, a pattern also identified in similar studies. The interaction effects further revealed that gender and locale together had a notable impact on academic motivation. Female students in urban areas showed the highest levels of motivation, which underscores the importance of a supportive educational environment. However, no significant interaction was observed between gender and stream, indicating that the influence of gender on motivation may be more pronounced in certain locales and less so within academic streams. These findings underscore the multifaceted nature of academic motivation among prospective teachers. It is essential for educational programs to consider these demographic factors when designing interventions aimed at enhancing academic motivation. Future research should explore the underlying causes of these differences and examine the broader implications for teacher education and policy.

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