

Research Paper

## Influence of Birth-Order and Socioeconomic Status on Self-Efficacy Among Pre-Service Teachers in Manipur

Sanasam Rakesh Singh<sup>1\*</sup>, Dr. Chirom Shantikumar Singh<sup>2</sup>,

Dr. Ningthem Sijagurumayum<sup>3</sup>, Dr. Khangembam Promila Devi<sup>4</sup>

### ABSTRACT

This study aimed to investigate the influence of birth order and socioeconomic status (SES) on self-efficacy among pre-service teachers in Manipur, India, to determine whether these factors significantly predict differences in self-efficacy domains (student engagement, instructional practices, and classroom management). A comparative statistical analysis was conducted using descriptive statistics, independent samples t-tests, ANCOVA (controlling for SES), multiple regression (testing SES × birth order interaction), and the Mann-Whitney *U* test. The sample consisted of 306 pre-service teachers, with self-efficacy measured through standardized scales. No significant differences in self-efficacy were found between first-born and later-born individuals across all domains ( $p > 0.05$ , Cohen's  $d < 0.07$ ). However, SES showed a small but statistically significant effect ( $p < 0.05$ ). The interaction between SES and birth order was non-significant ( $p > 0.45$ ), indicating that birth order did not moderate the relationship between SES and self-efficacy. Birth order does not appear to influence self-efficacy in this population, whereas SES plays a more substantial role. These findings suggest that interventions aimed at enhancing self-efficacy among pre-service teachers should prioritize addressing socioeconomic disparities rather than birth order dynamics. The study aligns with broader research questioning the robustness of birth order effects (Harris, 1998; Rohrer et al., 2015) and reinforces SES as a key predictor of psychological outcomes (Sirin, 2005).

**Keywords:** Birth Order, Self-Efficacy, Pre-Service Teachers, Socioeconomic Status, Manipur

Self-efficacy, defined as an individual's belief in their ability to successfully perform specific tasks (Bandura, 1997), plays a critical role in shaping teacher effectiveness and classroom practices. Among pre-service teachers, self-efficacy is particularly important as it influences their confidence, instructional strategies, and classroom management skills, all of which are essential for fostering positive learning environments. Research has identified three key subscales of teacher self-efficacy; Student Engagement,

<sup>1</sup>Research Scholar, Department of Teacher Education, Manipur University, Imphal, Manipur

<sup>2</sup>Assistant Professor, D.M. College of Teacher Education, Imphal, Manipur

<sup>3</sup>Faculty, Department of Teacher Education, Manipur University, Imphal, Manipur

<sup>4</sup>Faculty, Department of Teacher Education, Manipur University, Imphal, Manipur

\*Corresponding Author

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Instructional Practices, and Classroom Management (Tschannen-Moran & Woolfolk Hoy, 2001). These subscales collectively reflect the multifaceted nature of teaching and provide a framework for understanding how pre-service teachers perceive their readiness to address classroom challenges.

While prior research has explored factors such as training and experience (Tschannen-Moran & Hoy, 2007), less is known about how birth order and socioeconomic status (SES) influence self-efficacy in pre-service teachers. Birth order theory suggests that first-borns may develop stronger leadership traits (Sullo way, 1996), whereas later-borns may excel in social adaptability (Leman & Bjornberg, 2010). However, empirical findings remain inconsistent (Rohrer et al., 2015).

### ***Significance of the Study***

This study holds significant relevance in the context of teacher education, particularly in Manipur, where socioeconomic diversity and family dynamics play an influential role in shaping the beliefs and attitudes of future educators. Understanding how birth order and socioeconomic status (SES) influence self-efficacy can help teacher educators, policymakers, and institutions design more equitable training environments.

In Manipur, where educational resources vary widely by SES, understanding these dynamics is critical for equitable teacher preparation. In the present study, we examined the influence of birth order and SES on the self-efficacy of pre-service teachers in Manipur to address the gap by asking:

### ***Research Question:***

- *“Does birth-order and socioeconomic status (SES) influence preservice teachers’ self-efficacy in Manipur across student engagement, instructional practices, and classroom management, independent of parental socioeconomic status?”*

## **METHODOLOGY**

### ***Design***

The study employed a cross-sectional design, where the sample was selected using convenience sampling.

### ***Participants***

The sample consisted of 306 pre-service teachers enrolled in a 2-year Bachelor of Education (B.Ed.) program. (Bachelor of Education) programs at teacher education institutions in the valley districts of Manipur. This included 150 first-borns and 156 later-borns. Inclusion criteria required participants to be actively pursuing teacher education, with no exclusions based on age, gender, or socioeconomic status.

### ***Instruments***

The 12-item Teachers’ Sense of Efficacy Scale (TSES) (Tschannen-Moran & Woolfolk Hoy, 2001) was used to measure self-efficacy in student engagement, instructional practices, and classroom management, on a 9-point Likert scale (1 = "Nothing" to 9 = "A Great Deal"). The TSES has been demonstrated to have good internal consistency, with Cronbach’s alpha values ranging from 0.80 to 0.90 overall and 0.70-0.85 for subscales (Tschannen-Moran & Woolfolk Hoy, 2001; Klassen et al., 2009; Duffield et al., 2019).

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For determining socioeconomic status, the Kuppaswamy Socioeconomic Status scale was used (Radhakrishnan & Nagaraja, 2023), with SES distribution categorized as follows: Upper I, Upper Middle II, Lower Middle III, Upper Lower IV, and Lower V, based on education, occupation, and monthly income.

Birth Order: Self-reported (first-born vs. later born).

### **Procedure**

The present study aimed to examine the influence of Birth order and SES on self-efficacy beliefs among preservice teachers in Manipur, using the Tschannen-Moran & Hoy (2001) Self-Efficacy scale. The data collection was carried out in the following steps:

**First, a preliminary survey** was conducted to identify the number of teacher education colleges located in the valley districts of Manipur and to collect information regarding the enrollment size, which would help determine the potential number of respondents and plan the logistics of data collection.

**Second, informed consent** was obtained from the principal to seek approval for conducting the study among their students. The purpose and academic of the research nature of the research were clearly explained to them.

**Third, a convenient date** and time were fixed for the administration of the measure in consultation with the principals and the concerned teacher educators. The researchers ensured that the data collection process would not disrupt regular classroom activities.

**Fourth, the 12-item measure of self-efficacy scale** was administered to the participants in their classroom setting. They were briefed on the purpose of the study and assured that their responses would remain confidential and anonymous. **Informed consent** was obtained from each participant. Clear instructions were provided on how to respond to each item using the provided response options. The researchers emphasized that there were no right or wrong answers and that participants should indicate the response that best represented their personal beliefs or attitudes. On average, the administration of the scale took about 10-20 minutes to complete. The researchers remained present throughout the session to address any doubts and to ensure that all items were completed independently. The data were collected in a **cross-sectional design**, representing a single point in time, with **convenience sampling**, selecting participants who were readily available and willing to take part in the study.

### **Data Analysis**

The study used the following statistical techniques:

1. Descriptive Statistics: Mean comparison by birth order.
2. Inferential Statistics (Independent t-tests: birth order differences in self-efficacy).
3. ANCOVA: Controlled for SES
4. Mann-Whitney U: Birth order differences in self-efficacy.
5. Multiple Regression: Tested SES  $\times$  birth order interactions.
6. Effect Sizes: Cohen's  $d$  and partial  $\eta^2$ .

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**RESULTS**

**Research Question:**

*“Does birth order and Socio-economic status (SES) influence pre-service teachers’ self-efficacy in Manipur across student engagement, instructional practices, and classroom management, independent of parental socioeconomic status?”*

**Table No. 1 Descriptive Statistics: Mean and Standard Deviation (SD) comparison by Birth Order**

Self-efficacy	First-born (Mean)	± SD	Later-Born (Mean)	± SD	Mean difference
<b>Student Engagement</b>	6.87	±1.24	6.92	±1.18	-0.05
<b>Instructional Practices</b>	6.95	±1.31	7.02	±1.25	-0.07
<b>Classroom Management</b>	6.80	±1.28	6.85	±1.22	-0.05

Table 1 above presents the mean scores and standard deviations (SD) of self-efficacy domains (Student Engagement, Instructional Practices, and Classroom Management) for first-born and later-born pre-service teachers. The mean differences between the two groups are minimal (ranging from -0.05 to -0.07), with later-born individuals scoring slightly higher in all domains. The small SD values (±1.18 to ±1.31) indicate consistent responses within each group. The negligible mean differences suggest that birth order alone does not significantly influence self-efficacy.

**Table No.2 Independent Samples t-test Results for Birth Order Differences in Self-Efficacy**

Self-efficacy Domain	t-value	df	p-value	Mean Difference (First-Later)	95% confidence level	Cohen’s d
<b>Student Engagement</b>	-0.32	304	0.75	-0.05	[-0.32,0.22]	0.04
<b>Instructional practices</b>	-0.45	304	0.65	-0.07	[-0.03,0.21]	0.05
<b>Classroom Management</b>	-0.29	304	0.77	-0.05	[-0.33,0.23]	0.03

Table 2, the t-test results confirm the lack of statistically significant differences between first-born and later-born groups across all self-efficacy domains. All p-values (0.75, 0.65, 0.77) exceed the 0.05 threshold, and the 95% confidence intervals for mean differences include zero. Cohen’s d values (0.03–0.05) further indicate trivial effect sizes, reinforcing that birth order does not meaningfully impact self-efficacy.

**Table No.3 ANCOVA (Controlling for Socioeconomic Status)**

Domain	Birth Order (F)	SES(F)	Partial $\eta^2$ (Birth Order)
<b>Student Engagement</b>	0.10 (p=0.75)	2.45 (p=0.03)	0.001
<b>Instructional Practices</b>	0.20 (p=0.65)	3.12 (p=0.01)	0.002
<b>Classroom Management</b>	0.08 (p=0.77)	1.98 (p=0.04)	0.001

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Table 3, after controlling for socioeconomic status (SES), birth order remains non-significant ( $p$ -values 0.75–0.77), with negligible partial eta-squared values (0.001–0.002). However, SES shows a small but significant influence on self-efficacy ( $p$ -values 0.01–0.04), suggesting that SES may play a more critical role than birth order in shaping self-efficacy.

*Table No.4 Multiple Regression (SES × Birth Order Interaction)*

Interaction	$\beta$ (SES × Birth Order)	p-value
Student engagement	0.04	0.62
Instructional practices	0.07	0.45
Classroom management	0.05	0.58

Table 4 shows that the interaction between SES and birth order is non-significant ( $p$ -values 0.45–0.62), indicating that the relationship between SES and self-efficacy does not vary by birth order. This further diminishes the potential moderating role of birth order in this context.

*Table No.5 Mann-Whitney U Test Results for Birth Order Differences in Self-Efficacy*

Self-Efficacy	Mann-Whitney U	Z-score	p-value	Effect Size (r)
Student Engagement	11245.50	-0.42	0.674	0.02
Instructional Practices	11182.00	-0.52	0.603	0.03
Classroom Management	11238.00	-0.43	0.667	0.02

In Table 5, as a non-parametric alternative to the  $t$ -test, this test aligns with prior results, indicating that no significant differences exist between birth order groups ( $p$ -values: 0.603–0.674). The effect sizes ( $r = 0.02$ – $0.03$ ) are negligible, corroborating the absence of birth order effects.

## DISCUSSION

The study consistently demonstrates that birth order does not significantly influence self-efficacy among pre-service teachers in Manipur, as evidenced by non-significant  $p$ -values, trivial effect sizes, and negligible mean differences across all analyses (Tables 1–5). Socioeconomic Status (SES), however, emerges as a more relevant factor, with small but statistically significant effects (Table 3). These findings align with research suggesting that birth order effects are often overstated and context-dependent (Harris, 1998; Rohrer et al., 2015), while SES is a well-documented predictor of psychological outcomes (Sirin, 2005).

The lack of interaction between SES and birth order (Table 4) further underscores that birth order's role is minimal in this population. Thus, interventions aimed at enhancing self-efficacy in pre-service teachers should prioritize addressing socioeconomic disparities rather than birth order dynamics.

## CONCLUSION

The present study investigated the influence of birth order and socioeconomic status (SES) on the self-efficacy of pre-service teachers in Manipur. The findings revealed that **birth order has no significant effect** on self-efficacy across all three domains—student engagement, instructional practices, and classroom management—indicating that sibling position does not determine teaching confidence in contemporary contexts. In contrast, **socioeconomic status emerged as a significant factor**, suggesting that pre-service teachers

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from higher SES backgrounds possess greater confidence in their teaching abilities. This relationship underscores the ongoing significance of social and economic resources in shaping teacher development.

The absence of a significant interaction between SES and birth order further suggests that **SES operates independently** as a key determinant of self-efficacy. These results align with global research, which emphasizes that economic and educational opportunities have a more direct impact on teacher beliefs and competencies than family social status or hierarchy. The findings also contribute to the growing body of literature questioning the long-held assumption that birth order plays a decisive role in psychological and educational outcomes. From a practical perspective, the study underscores the need for **policy interventions and institutional support** that address SES-related disparities among pre-service teachers. Teacher education programs should prioritize inclusive practices such as financial assistance, mentorship, and resource accessibility to strengthen the confidence of students from disadvantaged backgrounds. Moreover, the **Four-Year Integrated Teacher Education Programme (ITEP)** in India presents an opportunity to incorporate equity-focused strategies that enhance teacher preparedness across socioeconomic groups.

In conclusion, while birth order appears to have minimal relevance to self-efficacy among pre-service teachers in Manipur, **socioeconomic status remains a crucial determinant of teacher confidence and effectiveness**. Addressing these socioeconomic inequalities will be essential for developing a more competent, equitable, and self-assured teaching workforce.

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### ***Conflict of Interest***

The authors declare that there are no conflicting interests regarding the research, authorship, and/or publication of this article.

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